

THE HISTORICAL
PHONOLOGY OF
TIBETAN, BURMESE,
AND CHINESE

NATHAN W. HILL

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The discovery of sound laws by comparing attested languages is the method which has unlocked the history of European languages stretching back thousands of years before the appearance of written records, e.g. Latin *p-* corresponds to English *f-* (*pes*, foot; *primus*, first; *plenus*, full). Although Burmese, Chinese, and Tibetan have long been regarded as related, the systematic exploration of their shared history has never before been attempted. Tracing the history of these three languages using just such sound laws, this book sheds light on the prehistoric language from which they descend. Written for readers with little linguistic knowledge of these languages, but fully explicit and copiously indexed for the specialist, this work will serve as the bedrock for future progress in the study of these languages.

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To John Okell

Noch ist nicht ein einziges Gesetz, vorab kein Lautensprechungsgesetz gefunden worden. Und gerade Lautensprechungsgesetze sind doch die Grundlage jeder Weiterforschung und darum das Ziel, dem vor allen Dingen zuzustreben ist.

(Conrady 1896: viii)

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Note on Abbreviations and Conventions

Tibetan is transliterated in the pre-2015 Library of Congress transliteration system with the following changes: ‘*h*’ rather than apostrophe, ‘*č*’ rather than ‘*c*’, and ‘*j*’ rather than ‘*j*’. Burmese also follows the Library of Congress system, with the exception that ‘*h*’ and ‘*ʔ*’ are used rather than “ and ‘. For Chinese I provide the character followed by Baxter’s Middle Chinese (1992), an Old Chinese reconstruction taken from or compatible with the current version of Baxter and Sagart’s system (2014), and the character number in Schuessler (2009). As in Baxter’s own recent work, for Middle Chinese I use ‘*ae*’ and ‘*ea*’ in place of his original ‘*æ*’ and ‘*ɛ*’. I do not, however, follow him in changing ‘*i*’ to ‘+’. When citing sources originally written in the International Phonetic Alphabet I use ‘*s*’ instead of ‘*f*’ and ‘*č*’ instead of ‘*tʃ*’. Otherwise, the following symbols and abbreviations are used:

*	unattested
√	root
Bur.	Burmese
Chi.	Chinese
fut.	future
Kur.	Kurtöp (<i>apud</i> Hyslop 2011)
MChi.	Middle Chinese
Mon.	Mtsho-sna Monpa, Wenlang dialect (<i>apud</i> Lu 1986)
OBur.	Old Burmese
OChi.	Old Chinese
pres.	present
Rgy.	Rgyalrong
Tib.	Tibetan
OTib.	Old Tibetan
WTib.	Written Tibetan
SBur.	Spoken Burmese
WBur.	Written Burmese
VN	Vietnamese (<i>apud</i> Baxter and Sagart 2014)

Atsi (*apud* Lustig 2010)

Lashi (*apud* Nishi 1999) I make the following orthographic substitutions when citing tones $^{33} > \emptyset$, $^{31} > V$, $^{55} > H$, $^{53} > X$

Achang (*apud* Nishi 1999) I make the following orthographic substitutions when citing tones $^{55} > \emptyset$, $^{31} > H$, $^{35} > X$

Xiandao (*apud* Nishi 1999) I make the following orthographic substitutions when citing tones $^{55} > \emptyset$, $^{31} > H$, $^{33} > X$ ¹

¹ Xiandao also has a 35 tone, which I leave in numeric notation.

Introduction

The goal of this work is to present the sound laws relating Tibetan, Burmese, and Chinese, and to reconstruct the linguistic unity from which these three languages descend, so far as current knowledge permits. Tracing the development of etyma from their primitive origins into the living tongues of today would bring the narrative satisfaction of accompanying a hero through his struggles, but it is dishonest to present historical phonology as the trials of reconstructed forms progressing through sound changes towards an ultimate destiny in history. The end of this journey, the attested corpus of related languages, is fixed, but the original linguistic unity is the protean and mercurial product of research. Rather than presenting reconstructions picked out of the air and discussing their development, I present sound changes in reverse chronological order. I subsequently reiterate these sound changes in chronological order, so that, after seeing how the reconstructions are arrived at, one can see how it is that the reconstructed forms become the attested forms.

My starting point in this study were the cognate sets assembled by Gong (1995), with some amendments from two of my own previous papers (Hill 2012b; 2014a). While it would doubtless be of profit to consult and discuss the cognate proposals of all previous scholars (e.g. Conrady 1896, Houghton 1898, Simon 1929), this toil would in most cases replicate Gong's work, albeit in a more explicit form. In addition, because earlier generations of scholars relied on now outdated reconstructions of Chinese, among their cognate judgements there is as much chaff as grain. A thorough presentation of previous etymological proposals would needlessly expand the girth of the current work at little benefit.

The work of reconstruction here builds from the ground up, making almost no reference to previous reconstructions.¹ In Chapters 1, 2, and 3 a two-part

¹ General works on historical linguistics often present research on the Trans-Himalayan family (also called Indo-Chinese, Tibeto-Burman, or Sino-Tibetan; cf. van Driem 2012) as in keeping with the standards and methods of the discipline at large (e.g. Abondolo 1998: 8, Campbell and Posner 2008: 114). Such authors paint an overly rosy picture; the only available reconstructions, those of Benedict (1972), Peiros and Starostin (1996), and Matisoff (2003, with an expanded and updated version in press), do not predict attested forms and were not arrived at through the comparative method (Chang 1973, Miller 1974, Sagart 2006).

format – first working backwards step by step and then reiterating the changes in chronological order – is repeated respectively for Tibetan, Burmese, and Chinese. The third chapter on Chinese is disproportionately larger (and more derivative) because of the inherent complications in extracting phonetic information from the Chinese written tradition and presenting these complications to a non-sinological audience. The fourth and final chapter sums up the view of the proto-language which the preceding investigation permits. In order to maximize the ease of other investigators in their research, the provision of appendices and indices is here intentionally liberal.

Those friends and colleagues who have assisted me in myriad ways over the decade I have worked on this project are too numerous to single out individually for thanks. Instead, I limit myself to acknowledging my gratitude to the British Academy and the European Research Council for their material support, the University of California at Berkeley for providing an exceedingly pleasant environment for the sabbatical during which I finished the draft of this work, and Helen Barton, my patient and encouraging editor at Cambridge University Press.

§1. Tibetan originated as the language spoken in the Yarlung valley, the cradle of the Tibetan empire (Takeuchi 2012a: 4). Together with the troops of this empire the Old Tibetan language colonized the entire Tibetan plateau, extinguishing almost all of the languages formerly spoken across that territory (Takeuchi 2012a: 6). Evidence is available for three such languages. Most famous is *Žaṅ-žuṅ*, the language of a pre-existing polity in West Tibet and the sacred tongue of the Bon faith. *Žaṅ-žuṅ* is preserved in one bilingual cosmological text, the *Mdzod phug*, and a number of short passages in Bon texts (cf. Martin 2010). The closest living relative of *Žaṅ-žuṅ* is the Darma language of Uttarakhand state in India (Martin 2010: 17–21, 2013). Aside from *Žaṅ-žuṅ*, samples of two Trans-Himalayan languages are preserved among the collection of documents found at Dunhuang. F. W. Thomas, who first published the manuscripts containing these two languages, confusingly dubs them ‘*Žaṅ-žuṅ*’ (Thomas 2011) and ‘*Nam*’ (Thomas 1948); there is no evidence to accept these identifications (Martin 2010: 10, 2013).¹

During the empire’s initial expansion, writing was introduced *c.*650 CE to facilitate administration. In 648 CE the Chinese were asked to send paper and ink to Tibet (Laufer 1918, Pelliot 1961: 6, Lee 1981: 13). Two years later, in 650 CE, dated entries in the *Old Tibetan Annals* begin (cf. Dotson 2009: 83; Takeuchi 2012a: 3), indicating that systematic government record keeping began in this year.

§2. A gap of about one century separates the invention of the Tibetan alphabet and the earliest securely datable extant Tibetan documents. The monument generally recognized as bearing the oldest sample of Tibetan writing (post-763) is a stele inscription which now stands in the former village of *Žol*, in front of the Potala palace in Lhasa.²

¹ For more recent research on these two languages see respectively Takeuchi and Nishida (2009) and Ikeda (2012).

² This stele’s original place of erection was *Ñan-lam Sri*; it was moved by the fifth Dalai Lama, *Ñag-dbañ blo-bzañ rgya-mtsho* (1617–82), as part of his strategy of legitimization (Hazod 2009: 181–4). A bell discovered in *Dpañ-ris* may precede the *Žol* inscription, as it appears to date to the reign of *Khri Lde gtsug brtsan* (704–55) (Lha mchog skyabs 2011).

Van Schaik divides the epigraphic monuments from the period of the Old Tibetan empire into four categories: pillar inscriptions from central Tibet, religious inscriptions from north-eastern Tibet, graffiti from Ladakh and adjoining areas of western Tibet, and inscriptions on bells (2013: 120 note 4). Li and Coblin (1987) and Iwao et al. (2009) anthologize most Old Tibetan inscriptions.

The other cache of Tibetan documents securely assignable to the Tibetan imperial period are wood slips and paper documents excavated at the fort of Miran, which date from the Tibetan occupation (van Schaik 2013: 119). Takeuchi (1997–8) has published a catalogue of the paper manuscripts from Miran; the wood slips await thorough cataloguing and publication.

§3. Old Tibetan continued to function as a lingua franca of commerce and administration in the oasis cities of the Silk Road for some decades after the Tibetan empire lost control of these territories in 850 (Uray 1981, 1988, Takeuchi 1990: 187–9; Takeuchi 2012a: 7–9, 2012b). Thus, non-native speakers of Old Tibetan composed some of the extant Old Tibetan documents found at Dunhuang and in the deserts of Central Asia.

The paper manuscripts preserved in the library cave of Dunhuang generally date from the post-imperial period, although some are of imperial provenance. The library cave was closed during the first half of the eleventh century (Imaeda 2008), and this event, whatever its exact date, serves as a convenient *terminus ante quem* of Old Tibetan literature as a language and textual corpus.

The documents from Dunhuang include historical texts, official documents, foreign literature in translation, divination texts, and a sizable number of canonical Buddhist texts. Both the collections of the Bibliothèque nationale de France (Lalou 1939–61) and the India Office Library, now held at the British Library (de la Vallée Poussin 1962) have been catalogued. Tantric manuscripts held at the British Library were more recently re-catalogued in greater depth (Dalton and van Schaik 2006) and the Stein collection held at the British Library was also recently catalogued (Iwao, van Schaik and Takeuchi 2012). Imaeda et al. (2007) provides the sixty-five best-known and best-studied Tibetan Dunhuang documents in transliteration with complete bibliographic references.

§4. Many texts in the Tibetan Buddhist canon (Bkaḥ ḥgyur and Bstan ḥgyur) were translated during the period of the Tibetan empire, but because they have been subjected to editorial changes in subsequent centuries they are not generally regarded as within the purview of Old Tibetan studies (cf. Harrison 1996). Of comparable status are three edicts from imperial times that are quoted in a historical work, the *Mkhas-paḥi-dgaḥ-ston* by the sixteenth-century historian Dpaḥo gtsug-lag phreṅ-ba (1504–66) (Coblin 1990).

§5. The use of Old Tibetan across and beyond the plateau at the height of the empire in the ninth century set the stage for the break-up into the spoken languages of today, which together constitute the Tibetan language family.

The *Stammbaum* of the Tibetan family is poorly understood. There is a typological tendency for the languages of central Tibet to have phonemic tone as well as relatively simplified syllable structure, whereas the dialects of the periphery lack tone and have complex syllable structure. Individual Tibetan languages are usually classified into groups based on the provinces of Tibet they are spoken in; one reads therefore of ‘Kham dialects’, ‘Amdo dialects’, etc. (Denwood 1999: 23–36, Tournadre and Dorje 2009: 17–20). The identity of such geographic groupings with genetic groupings has never been demonstrated through the tracing of shared innovations, and is best regarded as a heuristic.³

Because Tibetan languages began to diverge from each other some centuries after Old Tibetan was committed to writing, the written system represents an *état de langue* (Old Tibetan) older than that reconstructible via the comparative method (Common Tibetan). As a consequence, for the purposes of this study there is no need to consult data from the Tibetan languages of today.

1.1 Old Tibetan

§6. Old Tibetan has the following consonants: k, g, ṅ, t, d, n, s, z, p, b, m, ts, dz, y, ṛ, r, ḷ, ḷ, l, ḥ, h, w, ^y (cf. Hill 2010b). The characters of the Tibetan script do not quite match these sounds one for one. Thus, the palatalized consonants /tʃ/, /dʃ/, /nʃ/, /sʃ/, and /zʃ/ have their own unitary characters <č>, <ǰ>, <ñ>, <ś>, and <ž>, whereas otherwise /ʃ/ is represented with a separate character <ʃ>, e.g. /bʃ/ is written <by>. The two phonemes /l/ and /t/ are spelled with the digraphs <lh> and <hr>. Finally, the script distinguishes a series of voiceless aspirated obstruents distinct from the plain voiceless obstruents. Originally this distinction was sub-phonemic (Hill 2007). Thus, the script contains the following letters: k, kh, g, ṅ, č, čh, ǰ, ñ, t, th, d, n, p, ph, b, m, ts, tsh, dz, w, ž, z, ḥ, y, r, l, ś, s, h (cf. Figure 1.1). With the exception of the letter ‘ḥ’, the phonetic value of these letters is uncontroversial. I have argued that ‘ḥ’ represents [ɣ] (Hill 2005: 115–18, 2009: 129–31).⁴ The letter <w> originally occurred only as a medial (Uray 1955).

³ J. Sun (2003: 794–7) argues strongly against the value of this heuristic.

⁴ On the phonetic value of this letter also see Preiswerk (2014: 76) and X. Gong (2016b: 143 note 16). Although its reality has received acknowledgement at least since Simon (1938: 272), some scholars fail to transliterate a syllable final *-h*, believing that it represents an orthographic device of no phonetic meaning (e.g. Matisoff 2003: 50, 486 *et passim*, Jacques 2012c: 92). The work of these researchers makes clear that the evidence for the phonetic reality of syllable final *-h* merits repeating. An orthographic final *-h* in WTib. corresponds to a long vowel in Common Tibetan. These long vowels were subsequently lost in most Tibetan languages, but are sporadically reported across the Tibetan linguistic area. Bell writes concerning Central Tibetan that, as a final, ‘³ [-h] is not itself pronounced but lengthens the sound of the vowel preceding it’ (1905: 7). De Roerich also describes this phenomenon in two Tibetan languages: for Central Tibetan he offers the four

Consonants

velars	ཀ <i>k</i>	ཁ <i>kh</i>	ག <i>g</i>	ང <i>n</i> [ŋ]		
palatals	ཅ <i>č</i> [tʃ]	ཆ <i>čh</i> [tʃh]	ཇ <i>j</i> [dʒ]	ཉ <i>ñ</i> [ɲ]		
dentals	ཏ <i>t</i>	ཐ <i>th</i>	ད <i>d</i>	ན <i>n</i>		
labials	པ <i>p</i>	ཕ <i>ph</i>	བ <i>b</i>	མ <i>m</i>		
dental affricates	ཅ <i>ts</i>	ཆ <i>tsh</i>	ཇ <i>dz</i>			
voiced fricatives	ཞ <i>z</i> [ʒ]	ཟ <i>z</i>	འ <i>h</i> [ɣ]			
glides	ཡ <i>j</i>	ར <i>r</i>	ལ <i>l</i>	ཡ <i>w</i>		
voiceless fricatives	ཤ <i>ś</i> [ʃ]	ས <i>s</i>	ཧ <i>h</i>			
null consonant	ཨ <i>q</i> [Ø] or [ʔ]					
Vowels	ཨ <i>a</i>	ཨི <i>i</i>	ཨོ <i>ī</i> [iː]	ཨུ <i>u</i>	ཨེ <i>e</i>	ཨོ <i>o</i>

Figure 1.1 The Tibetan alphabet

The Tibetan alphabet distinguishes five vowels: *a*, *e*, *i*, *o*, *u*. As in most Indic-derived scripts, the vowel ‘*a*’ is implicitly present in any *akṣara*, whereas other vowels are explicitly marked by diacritics.⁵

examples བཀའ་ *bkaḥ* /kā/ ‘order’, ནམ་མཁའ་ *nam mkhaḥ* /nam-kʰā/ ‘sky’ (1931: 299), དགའ་ *dgah* /gā/ ‘delight’, and དམའ་ *dmaḥ* /mā/ ‘low’ (1933: 17); for Lahul he cites the three examples ནམ་མཁའ་ *nam mkhaḥ* /nam-kʰā/ ‘sky’, དགའ་ *dgah* /gā/ ‘delight’, and དམའ་ *dmaḥ* /mā/ ‘low’ (1933: 17). Migot draws attention to the same correspondence between a written final *-h* and a spoken long vowel in dialects of Khams (1957: 455). Sedláček discusses the complicated effects of original final *-h* on tone in Lhasa dialect, and separates this discussion clearly from his treatment of original open syllables (1959: 216–19). Sedláček additionally implies that final *-h* has a segmental realization which he symbolizes in his phonetic transcriptions as [-], for example མཁའ་ *mīah* ‘might, power’ [ŋaː 1155] (1959: 219). Jin confirms the existence of long vowels in Lhasa Tibetan citing the word མཁའ་ *mdah* [daː³] ‘arrow’ (1958: 12). Since in OTib. this letter reflects a velar fricative in other syllable positions and its reflex in Common Tibetan as a syllable final is vowel length, it is reasonable to explain that the loss of the velar fricative in syllable-final position led to compensatory lengthening of the preceding vowel (Hill 2009). As a final piece of evidence in favour of its reality, final *-h* has a correspondence in OChi. which is distinct from open syllables (cf. §38).

⁵ OTib. has two graphic forms of the vowel which is called *gi-gu* in WTib. One of these characters is the same as the WTib. *gi-gu* ། <།>. The other is the mirror image ། <།>, and is thus called the *gi-gu inversé*. Whether this character represents a phonetic reality or not remains controversial (Hill 2010: 116). In this study the *gi-gu inversé* is reflected in the transliteration of textual passages, but is not otherwise considered.

§7. Hill (2010b: 121–2) provides a rudimentary discussion of Old Tibetan phonotactics. In general terms, Old Tibetan requires a minimal CV syllable, permits complex onsets of up to four consonants, and has some tolerance for syllable-final clusters of two consonants. Voicing is distinguished only in immediate pre-vowel position (cf. Sprigg 1974: 261).

1.2 Classical Tibetan

§8. Classical Tibetan differs little phonologically from Old Tibetan. Aspiration emerges as a phonemic contrast, but is still a contrast with a small functional load (Hill 2007). One reflection of the emergence of aspiration as a phonemic contrast is that the distribution of aspirates becomes orthographically stable. The most substantial sound change is *sts-* > *s-* (OTib. ལ་སྟོགས་པ་ *la stsogs pa*, WTib. ལ་སྟོགས་པ་ *la sogs pa* ‘etc.’, OTib. གཏས་ གཏས་ *gstsan*, WTib. གས་ གས་ *gsan* ‘secret’, OTib. གས་ གས་ *gtsan*, WTib. གས་ གས་ *gsan* ‘listen’). The *gigu inversé* disappears from use. The sporadic final *-h* of Old Tibetan disappears in Written Tibetan (OTib. ལ་ *lah*, WTib. ལ་ *la* allative case marker, OTib. བཞེན་ *brlah*, WTib. བེན་ *bla* ‘soul’, OTib. རྟམ་ *hdahs*, WTib. རྟམ་ *hdas* ‘passed’), but continues into Written Tibetan in words of the syllable structure CCV (བཀའ་ *bkah* ‘speech’, མདའ་ *mdah* ‘arrow’).

1.3 The Bodish Languages

§9. Agreement prevails that Tibetan is on the Bodish branch of Trans-Himalayan. Robert Shafer, who introduced this terminology, imagined the Bodish family as consisting of four inner branches (West Bodish, Central Bodish, Southern Bodish, and East Bodish) and three outer branches (Tsangla, Gurung, and Rgyalrong) (1966: 78–123). Shafer considers both Central Bodish and Southern Bodish to be descendants of Old Tibetan (1966: 87). It is unclear whether he believes that Central Bodish and Southern Bodish are genuine sub-groups in their own right, or whether they are convenient geographical labels for discussing the daughter languages of Old Tibetan (cf. Figure 1.2).

Shafer’s scheme contains two major errors: Rgyalrong is now widely recognized to be a sub-branch of the Qiangic family (Jacques 2004b: 3) and Balti and Ladakhi are direct daughter languages of Old Tibetan, just like the other Tibetan languages (*pace* Bielmeier 2004).⁶ Because the relationship of Tsangla and Gurung to Tibetan is not well investigated, these languages are best omitted from the Bodish family. With these adjustments, I previously proposed the *Stammbaum* shown in Figure 1.3 (Hill 2010b: 111). However, this *Stammbaum*

⁶ Because Baltistan and Ladakh were Dardic-speaking before the invasion of the Tibetan empire, Shafer’s West Bodish hypothesis is a historic impossibility (Petech 1977: 5–13).

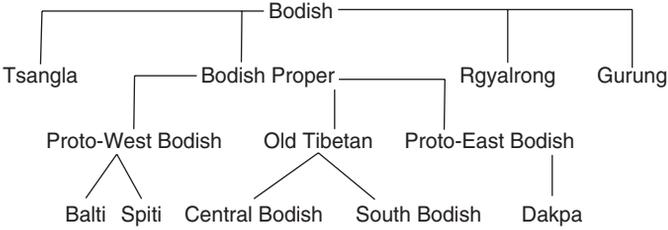


Figure 1.2 Bodish *Stammbaum* (after Shafer 1966: 113)

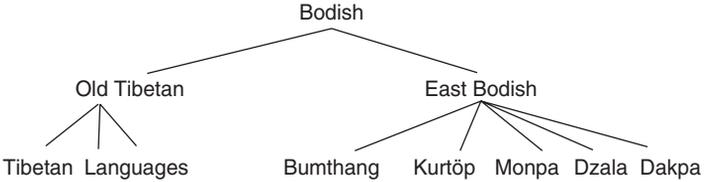


Figure 1.3 Bodish *Stammbaum* (after Hill 2010b: 111)

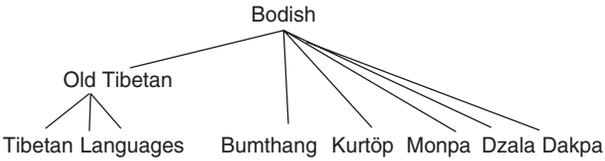


Figure 1.4 *Stammbaum* of the Bodish family proposed here

was arrived at only by correcting Shafer's major errors. It implies that all of the East Bodish languages share common innovations that Old Tibetan does not share. No one has proposed any such common innovation. Until such a change is proposed, the most reasonable *Stammbaum* is simply to derive the various 'East Bodish' languages and Old Tibetan itself from the Bodish proto-language (cf. Figure 1.4).

Based on geographic considerations, one might suggest that languages such as Žañ-žuñ, Kinnauri, Darma, etc. have a particularly close relationship to Tibetan, but this has yet to be demonstrated.

1.4 Tibetan Diachronic Phonology

§10. Tibetan shares innovations with the East Bodish languages; these shared innovations allow us to divide the history of Tibetan into two phases: a more

recent phase, during which its fate was independent of the East Bodish languages, and an early phase when together with the East Bodish languages it was a single tongue.

It is not possible in every case to determine whether or not an East Bodish language underwent the same change as Tibetan. All changes which happened after the earliest change not shared by the East Bodish languages must be independent of the changes in the East Bodish languages. I use evidence from Kurtöp and Mstho-sna Monpa (Wenlang dialect) as representatives of the East Bodish family. The internal phylogeny of the East Bodish family and this family's historical phonology is not a concern here (cf. Hyslop 2008, 2013).

1.4.1 From Old Tibetan to Proto-Bodish

§11. The following changes, presented in reverse chronological order, all post-date the break-up of proto-Bodish, i.e. they are innovations unique to Tibetan.

§12. *Chang's Law: Assimilation of b- before Nasals.* Betty Shefts Chang (1971: 738) discovered that cluster initial *b-* assimilates to the labial nasal *m-* before nasals. The seemingly anomalous *m-* in the past stem of verbal roots beginning with nasals becomes thereby a sub-case of the nearly ubiquitous *b-* prefix of the past stem (compare $\sqrt{\text{sad}}$ 'kill', past བསལ་ *bsad*).

*bn > mn, e.g. $\sqrt{\text{nan}}$ 'suppress', past *bnans > མནན་ *mnand*

*bñ > mñ, e.g. $\sqrt{\text{ñan}}$ 'listen', past *bñans > མཉན་ *mñand*

§13. *Coblin's Law: Loss of Prefixes.* Prefixes are lost when the resulting cluster is not phonotactically possible (Coblin 1976). This law greatly facilitates the internal reconstruction of the Tibetan verbal system. Coblin himself proposed three specific changes that fall under this rubric, and Jacques (2014c) adds a fourth.

Change 1: *bb- > b-, *bp- > p- (cf. §13a)

Change 2: *ḥCC- > CC- (cf. §13b)

Change 3: *gCa > gCo, *gCCa > Co (cf. §13c)

Change 4: *sNC > sC (cf. §13e)

Each of these changes is motivated by cases in which positing of a lost prefix resolves some anomaly in a verb's paradigm, and renders the verb in question an example of a paradigm type which is otherwise well attested.⁷

§13a. The usual prefix met in the past stem is *b-* (e.g. cf. $\sqrt{\text{sad}}$ 'kill', past བསྐྱོད་ *bsad*), but this *b-* prefix does not appear before verbs with bilabial root initials ($\sqrt{\text{bya}}$ 'do', past བྱས་ *byas*). The supposition of a phonotactic constraint that assimilates the past prefix *b-* to a following bilabial permits the analysis of bilabial roots as regular outcomes of a paradigm involving a prefix *b-*. In other words, a phonetic regularity (assimilation of *b-* before bilabials) takes the place of a morphological irregularity (a conjugation class without a *b-* prefix). The following examples show the effect of Coblin's law on the past prefix *b-*.

- *bb- > *b-*, e.g. $\sqrt{\text{bya}}$ 'do', past *bbyas > བྱས་ *byas*
 *bp- > *p-*, e.g. $\sqrt{\text{pyag}}$ 'sweep', past *bpyags > བྱགས་ *phyags*

§13b. One of two prefixes met in the present stem is *h-* (e.g. cf. $\sqrt{\text{kru}}$ 'bathe', present རྒྱུན་ *hkhruḍ*), but this *h-* prefix does not appear in verbs with roots that have complex onsets ($\sqrt{\text{rkam}}$ 'long for', present རྒྱུན་ *rkam*). The supposition of a phonotactic constraint that removes *h-* when its application would produce a series of three consonants permits the analysis of roots with complex onsets as regular outcomes of a paradigm involving a prefix *h-*. In other words, a phonetic regularity (loss of *h-* before complex onsets) takes the place of a morphological irregularity (a conjugation class without a *h-* prefix). The following examples show the effect of Coblin's law on the present prefix *h-*.

- *hrk > *rk*, e.g. $\sqrt{\text{rkam}}$ 'long for', present *hrkam > རྒྱུན་ *rkam*
 *hrŋ > *rŋ*, e.g. $\sqrt{\text{rŋa}}$ 'mow', present *hrŋa > རྒྱུན་ *rŋa*

§13c. Many researchers, including formerly the author of these lines (Hill 2010a: xvii), follow Coblin in positing the loss of a present prefix *g- in order to explain o-ablaut in the present stem of Tibetan verbs. This proposal relies on the observation that o-ablaut usually coincides with a *g-* prefix where the latter is a phonotactic possibility (e.g. cf. $\sqrt{\text{sad}}$ 'kill', present གསོད་ *gsod*), but in verbs with o-ablaut in the present that have a root beginning with a complex onset this *g-* prefix does not appear ($\sqrt{\text{skañ}}$ 'fulfill', present གསོད་ *skon*). The supposition of a phonotactic constraint that removes *g-* when its application would produce a series of three consonants, in the view of these authors, permits the analysis of roots with complex onsets as regular outcomes of a paradigm involving a prefix *g-*.

⁷ For a complete discussion of Tibetan verb morphology see Hill (2010a: xv–xxi) and the more recent contributions Jacques (2012b), Hill (2014c), and Hill (2015b).

*gzl > zl, e.g. \sqrt{zla} ‘say, speak’, present *gzlo > ལྷོ *zlo*
 *gsk > sk, e.g. $\sqrt{skañ}$ ‘fulfil’, present *gskoñ > ལྷོ *skoñ*

This explanation is mistaken; at least six verbs have an o-ablaut in the present stem without a g- prefix, even though such a prefix would be phonotactically possible.⁸

འཇོག་ *hjog*, བཞག་ *bzág*, གཙག་ *gzág*, ལྷོགས་ *zogs* ‘insert, place’
 འདྲེགས་ *hdogs*, བཏེགས་ *btags*, གདེགས་ *gdags*, རྩེགས་ *thogs* ‘bind, tie’
 འདྲོད་ *hdod*, རོད་ *dad*, –, – ‘want, wish for’
 འདྲེམས་ *hdoms*, གདེམས་ *gdams*, གདུམ་ *gdam*, འདྲོམས་ *hdoms* ‘advise, explain’
 རྩོན་ *ldon*, རྩོན་ *blan*, རྩོན་ *glan*, ལོན་ *lon* ‘answer’ (cf. Hill and Zadoks 2015)
 འོང་ *son*, བཤངས་ *bśaṅs*, བཤང་ *bśaṅ*, འོངས་ *sons* ‘empty’

In addition, the verb གཤེགས་ *gségs*, –, –, འོག་ *zog* ‘go’ provides an example of a present-stem g- prefix not associated with o-ablaut. This evidence permits one to set aside any presumption of a relationship between g- prefixation and o-ablaut and without this association one must consider o-ablaut in the Tibetan verbal system as inherited.

§13d. On the basis of cognates in Japhug Rgyalrong, Jacques (2014c) proposes some potential examples of Coblin’s law in nominals. In particular, he speculates that Tibetan may have lost some cases of a velar ‘animal’ prefix and a dental ‘body part’ prefix because of phonotactic constraints.

Tib. འཕར་ *hphar* < *kV-hpar ‘cuon alpinus’: Japhug Rgy. *qapar*
 Tib. རྩིལ་ *rñil* < *tV-rñil ‘gums’: Japhug Rgy. *tu-rni*
 Tib. རྩ་ *rna* < *tV-rna ‘ear’: Japhug Rgy. *tu-rna*

Because there is no support for this hypothesis in the three languages subject to investigation here, I do not employ Jacques’s examples of Coblin’s law in nominals in the remainder of this study.

§13e. A number of authors speculate that Tibetan has an ‘intransitive’ prefix *m-* (e.g. Matisoff 2003: 117). These authors cite the verb pair བཤེགས་ *mnam* ‘emit a smell’ and \sqrt{snam} (pres. ལྷོས་ *snom*) ‘smell something’ as the only evidence for this theory. Jacques points out that the ‘*m*’ in this word is part of the root, as cognates in other languages confirm (2014c: 162).

Tib. བཤེགས་ *mnam* ‘emit a smell’: Japhug Rgy. *mnam*, Jingpo *mă-nam*³³

⁸ I would like to thank Abel Zadoks for convincing me over a number of years of the inadequacy of Coblin’s explanation for o-ablaut in Tibetan.

If the root of the Tibetan word for ‘smell’ is $\sqrt{\text{mnam}}$, then the prefixation of this root with *s-* should yield **smnam*; Jacques reasons that the attested $\sqrt{\text{snam}}$ (pres. སྲོལ་ *snom*) ‘smell something’ must derive via a change **sNC > sC*.⁹

Jacques points to one possible example of the change **sNC > sC* outside the verbal system. Comparing Tibetan སྲུལ་ *sbrul* ‘snake’ with Old Burmese [ꠘꠞꠣꠞ *mruy* ‘id.’ (2014c: 163), he reconstructs སྲུལ་ *sbrul* < **smbrul* < **smrul*, in which the change **smb > sb-* is an example of Coblin’s law, preceded by **mr > *mbr* (Simon’s law: cf. §30). Jacques may have the right approach to this word, but it is simpler to state Simon’s law as **mr- > br-* rather than **mr- > *mbr-* (cf. §30).

§14. *Dempsey’s Law: Merger of *e and *i before Velars.* Dempsey suggests that Tibetan *-i-* before velars often derives from an original *-e-* (2001: 217, 2003: 90).¹⁰ For the analogous change in the prehistory of Burmese, see §62.

Tib. གཅིག་ *gcig* < **gtʰek* ‘one’, Chi. 隻 *tsyek* < **tek* (08–11c) ‘one of a pair’

Tib. མཛིང་ *mjin* < **mlʷin* (Bodman’s law; cf. §18) < **mlʷeŋ* ‘neck’,
Chi. 領 *ljengX* < **reŋʔ* (09–19f)

OTib. མྱིང་ *myin* < **mʷeŋ* ‘name’, Chi. 名 *mjieng* < **C.meŋ* (09–31a)

Tib. འཇོང་ *hdzin* < **hdzeŋ* ‘quarrel, fight (v.)’, Tib. ཟློན་ཅམ་ *zin-cha* < **zeŋ* ‘quarrel, dispute n.’: Chi. 争 *tsreang* < **[ts]reŋ* (09–23a) ‘strife, quarrel’

Tib. རྩོང་ *rdzin* < **rdzeŋ* ‘pond’, Chi. 井 *tsjengX* < **C.tseŋʔ* (09–22a) ‘well (n.)’

Tib. སྲིང་མོ་ *sriŋ-mo* < **sreŋ-mo* ‘sister of a man’, Chi. 甥 *sraeng* < **s.reŋ* (09–25g) ‘sister’s child’

§14a. The cases where Chinese has *-i-* before a velar show that this sound change is indeed a merger.

Tib. གཉིས་ *gnis* ‘two’, Chi. 二 *nyijH* < **ni[j]s* (29–28a)

Tib. ཚློན་པས་ *tshigs* ‘joint’, Chi. 節 *tset* < **tsʰik* (29–30e) ‘joint of bamboo’

⁹ Jacques also sees evidence for this change in the pair of verbs འབྲེལ་ *hbrel* ‘be connected’ and སྲེལ་ *sbrel* ‘connect’, presumably reconstructing the latter **sNbrel*. The evidence of this pair is less convincing. Jacques’s explanation relies on the hypothesis that the letter *h-* represents prenasalization in Old Tibetan, a view not accepted here (cf. §6). Setting aside the question of how ‘h’ was pronounced, it is possible that the present prefix *h-* has been extended to the entire paradigm of འབྲེལ་ *hbrel* ‘be connected’ and that the etymological root is **brel*.

¹⁰ The same change occurs in the prehistory of Latin (e.g. Lat. *septingentī* ‘seven hundred’ < **septem+centum*, Lat. *tīngō* ‘moisten’, versus Gk. *τέγγω téggō*; Lat. *quīnque* ‘five’, Gk. *πέντε pénte*, Skt. *pāñcan*; cf. Leumann 1977: 45).

- Tib. སྒྲིག་ *śig* ‘louse’, Chi. 蠱 *srit* < *sri[k] (29–35a)
 Tib. འཇམ་གྲུབ་ *hkh̄yig* ‘tie, fasten, suffocate’, Chi. 縊 *ejH* < *q̄ik-s
 (08–05g) ‘strangle’
 Tib. ན་འོ་ *na-niñ* ‘last year’, Chi. 年 *nen* < *C.n̄iŋ (32–28a) ‘harvest;
 year’
 Tib. སྒྲིབ་ *śin* ‘tree’, Chi. 薪 *sin* < *si[iŋ] (32–33n) ‘firewood’
 Tib. སྒྲིབ་ *sñiñ* ‘heart’, Chi. 仁 *nyin* < *niŋ (32–28f) ‘kindness’
 Tib. རྒྱུ་ *z̄iñ* < *l̄iñ (Benedict’s law) ‘field’, Chi. 田 *den* < *l̄iŋ
 (32–19a)

§14b. Benedict’s law precedes Dempsey’s law, and Benedict’s law post-dates the separation of Tibetan and Kurtöp (cf. §15). Consequently, the Bodish languages should distinguish ‘e’ and ‘i’ before velars where Chinese does; Kurtöp, however, does not, showing *-e-* in all cases.

- Chi. 隻 *tsyek* < *tek (08–11c) ‘one of a pair’, Kur. *thé*
 Chi. 名 *m̄jieng* < *C.meŋ (09–31a) ‘name’, Kur. *meŋ*
 Chi. 井 *tsjengX* < *C.tseŋ? (09–22a) ‘well (n.)’, Kur. *taŋ* (perhaps
 not cognate)
 Chi. 蠱 *srit* < *sri[k] (29–35a) ‘louse’, Kur. *se*
 Chi. 年 *nen* < *C.n̄iŋ (32–28a) ‘harvest, year’, Kur. *néŋ* ‘year’
 Chi. 薪 *sin* < *si[iŋ] (32–33n) ‘firewood’, Kur. *seŋ*
 Chi. 仁 *nyin* < *niŋ (32–28f) ‘kindness’, Kur. *néŋ* ‘heart’
 Chi. 田 *den* < *l̄iŋ (32–19a) ‘field’, Kur. ^l*leŋ* (§15f. n. 21)

Michailovsky and Mazaudon note the correspondence of Kurtöp *-e-* to Tibetan *-i-* (1994: 549), claiming that it is restricted to when Tibetan has palatal initials, noting Tibetan མིང་ *miñ* ‘name’ as an exception, which it is not since Old Tibetan has མྱིང་ *myiñ* ‘name’. Because Old Tibetan has very few unpalatalized consonants before the vowel *-i-* and Michailovsky and Mazaudon do not cite any, one can say that Kurtöp *-e-* corresponds to Tibetan *-i-*, without positing any restrictions on this correspondence.

§14c. Since Tibetan changed **-eñ* to *-iñ* and **-eg* to *-ig* it is surprising to see the sequences *-eñ* and *-eg* in a number of words. Several of the examples are explainable as analogical developments. For example, the present stem སྒྲིབ་ *señ* ‘purify, clean’ sprang to life on the model of a verb such as བྱེད་ *byed*, བྱས་ *byas*, བྱི་ *bya*, བྱོས་ *byos* ‘do’ with the analogy བྱས་ *byas*: བྱེད་ *byed*:: བསམས་ *bsaṅs*: *X*, in which *X* was solved for with སྒྲིབ་ *señ*. The etymological present གསེན་ *gsiñ* < *gseñ ‘strain, purify’ occurs as an independent verb (cf. Hill 2014e).¹¹

¹¹ On the word རྒྱུ་ *hbren* ‘braid’ confer Hill (2012b: 23).

§15. *Benedict's Law*: *l̥ > ʒ. By comparing Old Burmese လိယ် *liy* 'four' with Tibetan བཞི་ *bži* 'four', which he reconstructs *bli, Benedict suggests a Tibetan sound change *l̥- > ʒ- (1939: 215).¹²

- Tib. ཞིང་ *zin* < *l̥in 'field', Chi. 田 *den* < *l̥in (32–19a)
 Tib. ཞིམ་ *zim* < *l̥im 'tasty', Chi. 甜 *dem* < *l̥em (36–16-) 'sweet'
 Tib. ཞོ་ *zo* < *l̥o 'yoghurt',¹³ Japhug Rgy. *tr-lu* 'milk'
 Tib. ཞུ་ *gzi* < *gl̥i 'ground', OBur. མྱོལྱ *mliy*,¹⁴ Chi. 地 *dijH* < *l̥ej-s (18–09b)¹⁵
 Tib. ཞུ་ *gzu* < *gl̥u, OTib. ཞུ་ *gzi* < *gl̥i 'bow',¹⁶ OBur. လိယ် *liy*,
 Chi. 矢 *syijX* < *lij? (26–19a) 'arrow'
 Tib. བཞི་ *bži* < *bl̥i 'four', OBur. လိယ် *liy*, Chi. 四 *sijH* < *s.li[j]-s (29–34a)
 Tib. བཞམ་ *bzah* < *bl̥ah 'wet', Chi. 澤 *draek* < *l̥rak (02–25o)
 'marsh, moisture', Tan. ལྷེ་ *lhji*² < *lhja (L1036) 'humid', Japhug
 Rgy. *ɣrla* (Jacques 2014b: 90)

§15a. There are also grounds internal to Tibetan in support of Benedict's law. Gong proposes a palatal infix with honorific meaning (Gong [1977] 2002). The results of this infix are most obvious after velars, སྐམ་ *skam* 'dry', སྐྱེམ་ *skyem* 'be thirsty' (hon.). When applied to a lateral this infix results in ʒ- (Gong [1977] 2002: 391–2).¹⁷

- Tib. སྐྱོག་མམ་ *gzogs* < *gl̥ogs 'side of the body': Tib. ལོག་མམ་ *logs* 'side'
 Tib. བཞེན་ *bžen* < *bl̥en 'rise': Tib. ལམ་ *lan* 'rise'

¹² Bialek (2015: 351) makes a few comparisons between Tibetan ʒ- and Chepang y-, suggesting that Tibetan ʒ- derives from *y-: Tib. གཙམ་མོ་ *gzah tshon* 'rainbow', Che. *yo* 'rainbow'; Tib. གཙམ་གཙམ་ *gzah gnah* 'long ago', Che. *yoh* 'yesterday', *yoh.nam* 'former times'; ལྷེ་ *zu* 'to melt; to digest', Che. *yu-* 'vi. dissolve, melt'. Perhaps both Tibetan ʒ- and Chepang y- in these cases derive from inherited laterals.

¹³ The meaning 'milk' is retained in the Chochangacha dialect reflex /sho/ 'milk, yoghurt' (Tournadre and Rigzin 2015: 33) and is also clear in the denominal verb ལྷོ་ *hjo*, བཞོམ་ *bžos* 'milk (v.)'.

¹⁴ Gong instead compares Old Burmese མྱོལྱ *mliy* 'earth, ground' with Tibetan མཐོལ་ *mithil* < *mjil 'bottom, floor' (1980, no 79; 1995, no 169). Schuessler offers the comparison to Tib. ཞུ་ *gzi* 'ground' (2007: 299). Since the change *l̥ > ʒ is better established than *m] > mth- and the semantics of 'ground' compared with 'ground' are a closer match than 'ground' compared with 'bottom, floor', the comparison in the text is preferable to Gong's (Hill 2011b: 450).

¹⁵ Bodman reports that 地 has an addition reading *l̥is that makes the correspondence regular (1980: 99).

¹⁶ The form ཞུ་ *gzi* is attested at IOL Tib J 0737/1 l. 168 (cf. de Jong 1989: 115; and Hill 2012b: 8) and the form ཞི་ *zi* in the phrase མདུ་ཞི་ *mdah zi* 'bow and arrow' at PT 1283, l. 583.

¹⁷ In other cases this infix yields ʒ- from *z̥- or *d̥-, e.g. ཟ་ *za* 'eat' and བཞེས་ *bžes* < *bz̥es 'take, eat' (hon.); ལྷེ་ *dugs* 'light, kindle', ལྷེ་ *zugs* < *d̥ugs 'fire' (hon.).

Tib. བཞམ་ *bzah* < *bl^ʷah ‘wet’: Tib. √rlan (pres. རྫོན་ *rloṅ*) ‘dampen’
(Jacques 2014b: 90)

One can assume that at the time the honorific infix was productive the synchronic relationship between the non-honorific and honorific members was less opaque than *l-* versus *ʒ-*, i.e. that the infixation preceded the application of Benedict’s law.

§15b. It is further possible to posit *r^ʷ- as an origin of Tibetan *ʒ-*.

Tib. ཇག་ *zag* ‘day’, OBur. རྒྱུ་ *ryak* ‘day’, Chi. 夜 *yaeH* < *N.rak-s
(02–27j) ‘night’

Tib. ལུ་ *zu* ‘request’, Milang *ru-* (Post 2012: 180)¹⁸

§15c. Unfortunately because *ry-* merges with *r-* in Written Burmese it is unclear whether two additional proposed correspondences should be included here:

Tib. ལྷུ་ *zum* ‘fear’, Bur. ຣຸ່ມ *rwamʔ* ‘quail’ (Luce 1985: chart x, no 212)

Tib. རྫོང་ *zon* ‘lower, nether’, Bur. ຣົດໄ *ranh* ‘remain’ (Miller 1956: 42,
no 91)

If these comparisons are valid, they exhibit irregular vowel correspondences.¹⁹

§15d. A number of words maintain *l-* before the vowel *-i-*, providing apparent exceptions to Benedict’s law. The explanation for those words in which an *l-* is followed by *-i-* before a velar (མེན་ *gliñ* ‘island’, མེན་ *gliñ* ‘flute’, ལིང་ རྩེ་ *liñ-ne* ‘dangling, waving’, ལིང་ རྩེ་ ཇག་ *liñ-tog* ‘a film or pellicle on the eye’, ལིང་ རྩེ་ ལྷུ་ *liñ-ba* ‘a piece’, ལིང་ རྩེ་ *liñs* ‘hunt’, and རྫོང་ ཇག་ *rlig-pa* ‘testicle’) is that Benedict’s law precedes Dempsey’s law (cf. §14). The words ‘field’ and ‘hunt’ were originally *liñ (with *l^ʷin a subphonemic pronunciation) ‘field’ and *leñs ‘hunt’; after the application of Benedict’s law they became *ziñ ‘field’ and *leñs ‘hunt’; after the application of Dempsey’s law they became the attested རྫོང་ *zin* ‘field’ and ལིང་ རྩེ་ *liñs* ‘hunt’.²⁰

§15e. The Tibetan word རྫོང་ *zim* < *l^ʷim ‘tasty’ compared with Chinese 甜 *dem* < *l^ʷem (36-16-) ‘sweet’ requires some more thought. Inherited *lem

¹⁸ Miller further suggests the comparison of Tib. ཇམ་ *zabs* ‘foot’ and Bur. རྒྱུ་ *ryap* ‘stand, stop’ (1956: 42, no 95). Gong instead proposes to derive Tib. ཇམ་ *zabs* ‘foot’ from Tib. ཟབ་ *zab* ‘deep’ via an honorific *-y-* infix (Gong 1977 [2002]: 391). Jacques (2013: 296) follows Gong’s etymology. Following a correspondence proposed by Nishida (1977: 4–5), I compare OBur. རྒྱུ་ *ryap* ‘stand, stop, halt’ with Tib. ལྷམ་ *hkhraḥ* ‘strike, stamp, tread heavily’ and Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’ (cf. §71e). Luce offers a further relevant comparison of Tib. བཞམ་ *bzar* ‘shear, shave’ to OBur. རྒྱུ་ *ryan* ‘flay’ (1985: chart x, no 182), but I have so far been unable to confirm the existence of the Burmese word.

¹⁹ Matisoff (1985: 29) also suggests that Tib. རྫོང་ *zed* ‘fear’ goes back to *r^ʷed, but he offers little evidence to warrant this conclusion.

²⁰ Dempsey’s law also accounts for the lack of palatalization in most words that contain the sequences *-di-* and *-ni-* (cf. Hill 2013c: 202–3). For more on the word ལིང་ རྩེ་ *liñs* ‘hunt’ confer Dotson (2013).

should have been preserved as such in Tibetan. An inherited *l̥em should have led to Tibetan *žem. So, at a minimum, it must be said that the vowel correspondence between Tibetan and Chinese in this word is in need of explanation. It is perhaps relevant that the Chinese word is of comparatively late attestation, first occurring in the Han dynasty (Scuessler 2007: 496).

§15f. Kurtöp forms maintaining laterals show that, as Michailovsky and Mazaudon point out, the change *l̥- > ž- had not yet occurred in proto-Bodish (1994: 553).

- Tib. རྩོད་ *žin* < *l̥in ‘field’, Kur. ¹*ley*²¹
 Tib. རྩོམ་ *žim* < *l̥im ‘tasty’, Kur. *lem*
 Tib. གུལ་ *gzu* < *gl̥u, OTib. གུམ་ *gzi* < *gl̥i ‘bow (n.)’ (cf. n. 16),
 Kur. *limi*
 Tib. བཞི་ *bži* < *bl̥i ‘four’, Kur. *ble*

§16. *Secondary Palatalization of Non-laterals*. In a change likely related to Benedict’s law (cf. §15), Tibetan also palatalizes non-lateral consonants in cases where the Chinese and Burmese cognates are not palatalized.

- Tib. འཇམ་མཁའ་ *hkhyig* < *hk̥ik ‘tie, fasten, suffocate’, Bur. အစ် *ac*
 ‘squeeze, throttle’, Chi. 絞 *ejH* < *q̥ik-s (08–05) ‘strangle’
 Tib. གཉིས་ *gñis* < *gn̥is ‘two’, Bur. နှစ် *nhac*, Chi. 二 *nyijH* < *ni[j]s
 (29–28a)
 Tib. སྙིང་ *sñin* < *sn̥in ‘heart’, Bur. နှစ် *nhac* ‘kernel’, Chi. 仁 *nyin* <
 *niŋ (32–28f) ‘kindness’
 Tib. སྤྱི་ *šig* < *s̥ik ‘louse’, Chi. 虱 *srit* < *sri[k] (29–35a)
 Tib. སྤྱི་ *šin* < *s̥in ‘tree’, Bur. စစ် *sac*, Chi. 薪 *sin* < *si[ŋ] (32–22n)
 ‘firewood’
 Tib. གཅིག་ *gčig* < *gt̥ek (Dempsey’s law; cf. §14) ‘one’, Bur. တစ် *tac*,
 Chi. 隻 *tsyek* < *tek (08–11c) ‘one of a pair’
 OTib. མྱི་ *myin* < *m̥eñ (Dempsey’s law) ‘name’, Bur. မည် *maññ*,
 Chi. 名 *mjieng* < *C.meŋ (09–31a)

§16a. The Kurtöp cognates show that this palatalization is a Tibetan innovation that occurred only after the split with the East Bodish language. In this respect the timing of the secondary palatalization of non-laterals is similar to Benedict’s law (cf. §15) but distinct from the palatalization seen in

²¹ This word, apparently lacking in Hyslop (2011), is taken from Michailovsky and Mazaudon (1994: 553).

Houghton's law (cf. §27), which is shared by Tibetan and the East Bodish languages.

- Tib. ་གཉིས་ *gñis* 'two', Dakpa *nèi* (Hyslop 2011: 58)
 Tib. ་སྨིན་ *sñin* 'heart', Kur. 'neng
 Tib. ་རྩིལ་ *rñil* / ་སྨིལ་ *sñil* 'gums', Kur. 'nê
 Tib. ་ཤིག་ *šig* 'louse', Kur. *se*
 Tib. ་ཤིང་ *šin* 'tree', Kur. *seng*
 Tib. ་གཅིག་ *gčig* 'one', Kur. *thê*
 OTib. ་མྱིང་ *myin* 'name', Kur. *ngomeng*

§16b. Because the environment that conditions the palatalization seen in this change and in Benedict's law (cf. §15) remains obscure, it is necessary to reconstruct this environment (noted ^y) into the earliest stages of Tibetan linguistic history (cf. §219).

§17. *Conrady's Law: Dental Excrescence after h-*. When an *h*-precedes a fricative, lateral, or *r*, a dental stop is inserted between *h* and the following consonant (Conrady 1896: 59, Li 1933: 149).²²

- **hs-* > *hts-*, e.g. $\sqrt{\text{so}}$ 'nourish', present **hso* > ་ཇོ་ *htsho*
 **hś-* > *hč-* (= *htś*), e.g. $\sqrt{\text{śad}}$ 'explain', present **hśad* > ་ཇོ་ *hčhad*
 **hz-* > *hdz-*, e.g. $\sqrt{\text{zug}}$ 'plant', present **hzug* > ་ཇོ་ *hdzugs*
 **hž-* > *hj-* (= *hžj*), e.g. $\sqrt{\text{žo}}$ 'milk', present **hžo* > ་ཇོ་ *hjo*
 **hr-* > *hdr-*, e.g. $\sqrt{\text{ri}}$ 'write', present **hri* > ་ཇོ་ *hdri*

§17a. The effect of this sound change is more complicated before laterals. The results of Conrady's law are followed by metathesis, and then the cluster is simplified following Coblin's Law (cf. §13), i.e. **hl* > **h_ldl* (Conrady), **h_ldl* > **h_lld* (metathesis), **h_lld* > *ld* (Coblin).

**hl* > **h_ldl* > **h_lld* > *ld*, e.g. $\sqrt{\text{lad}}$ 'chew', present **h_llad* > **h_lldlad* > ་ཇོ་ *ldad*

**hl* > **h_ltl* > **h_llt* > *lt*, e.g. $\sqrt{\text{lun}}$ 'fall', present **h_llun* > **h_ltlun* > ་ཇོ་ *ltun*

The change of *dl-* to *ld-* also took place in the history of Spanish; cf. *molde* 'mould, pattern' < Latin *modulus* 'small measure' (*modulus* > *modlo* > *moldo* > *molde*) (Campbell 2004: 39).

§17b. Some authors believe that *m-* similarly induced an excrescent dental; thus, Gong, following an observation of Shafer (1951: 1021), reconstructs Tibetan ་མཚིན་པ་ *mčhin-pa* < **m-šin-pa* 'liver' in light of Written Burmese အသဉ်း *asaññh* 'liver' and Chinese 辛 *sin* < **sin* (32–33a) 'pungent; painful' (Gong

²² In Hill (2011b: 446–7) I refer to Conrady's law as as 'Li's first law', but subsequently have decided it is more aptly named 'Conrady's law' (Hill 2012b: 5 note 11, Hill 2013c: 194 note 4).

1995 [2002]: 91, no. 82); for different reasons both Beckwith (2008: 179 note 59) and Jacques and Michaud (2011: appendix, 11) reconstruct Tibetan མཚོ་ *mtsho* < *m-swa ‘lake’.

§17c. In order for the sequence *lʲ in the development of a word like ལྷི་བ་ *lji-ba* ‘flea’ (*hʲli-ba > *hdʲli-ba > *hʲldʲi-ba > ལྷི་བ་ *lji-ba*) not to have palatalized, the metathesis of *dl- to *ld-* (Conrady’s law) must have taken place prior to Benedict’s law (cf. §15).²³ The excrescence of Conrady’s law occurred before the metathesis, so Conrady’s law must precede Benedict’s law.

§18. *Bodman’s Law: Fortition of Laterals.* A few words furnish comparative evidence that an initial *m-* leads to the fortition of *l- into *d-* (Bodman 1980: 170, Hill 2011b: 450).

Tib. མདུག་ *mdah* < *mlah ‘arrow’, OBur. མུ་ *mlāh*, Chi. 射 *zyek* <

*Cə.lak (02–26a) ‘hit with bow and arrow’

Tib. མདོ་ *mdom* < *mlom ‘fathom’,²⁴ Bur. ལོ་ *lam*, Chi. 尋 *zim* < *sə-ləm (38–17a) ‘measure of 8 chǐ 尺’

Tib. མེན་ *mjin* /mdʲin/ < *mlʲin ‘neck’,²⁵ WBur. ལཱྱ་ *laññ-*, Chi. 領 *ljengX* < *reŋʔ (09–19f)

Tib. མེ་ *mje* /mdʲe/ < *mlʲe ‘penis’, Kur. *mili*, Bur. ལོ་ *liḥ*

§18a. There is also Tibetan internal evidence for linking some instances of *md-* with laterals.

Tib. མདོས་པ་ *mdoñs-pa* < *mloñs-pa ‘blind’; Tib. ལྷོས་པ་ *ldoñ-pa* ‘go

blind’ < *hloñ-pa (Conrady’s law), Tib. ལོ་ *loñ* ‘be blind’

Tib. མདུག་པ་ *mdan-pa* < *mlan-pa ‘cheek’; Tib. ལྷུག་པ་ *ldan-pa* ‘cheek’ < *hlan-pa (Conrady’s law)

§18b. The forms *mła*³⁵ ‘arrow’ and *glam*³⁵ ‘fathom’ in Mtsho-sna Monpa shows that this sound change happened after the break-up of proto-Bodish (Nishida 1988: 224).

²³ On the basis of the comparison of Japhug Rgyalrong *tr-lu* ‘milk’ to Tibetan ལོ་ *zo* < *lʲo ‘yoghurt’ (Jacques 2008: 128), I previously argued that *hʲz- > *hʲ-* (Conrady’s law) occurred after *lʲ- > *z-* (Benedict’s law) (Hill 2014f: 173), i.e. that the effected sound changes must be ordered as follows: 1. Schiefner’s law, 2. Benedict’s law, 3. Conrady’s law. However, I subsequently realized that ‘yoghurt’ could be explained through analogy (Hill 2013c: 197–8).

²⁴ The variant མདོ་པ་ *hdom-pa* for མདོ་ *mdom* ‘fathom’ is probably not an etymological spelling. The conjecture will, however, remain difficult to verify philologically until the relative chronology of Old Tibetan texts is better understood.

²⁵ The variant མེན་པ་ *hjin-pa* for མེན་ *mjin* ‘neck’ is probably not an etymological spelling (cf. note 24 above).

Tib. མཚན་མོ་ *mdah* < *mlah ‘arrow’, Monpa *mła*³⁵

Tib. མཚོ་མོ་ *mdom* < *mlom ‘fathom’, Monpa *glam*³⁵

§18c. If one accepts that Conrady’s law occurred after *m-* (cf. §17b), then it is possible to analyse Bodman’s law as a sub-case of Conrady’s law, i.e. *ml- > *mdl- (Conrady’s law) > *mld- (metathesis) > *md-* (Coblin’s law). However, there is an asymmetry in proposing both *hld- > *ld-*, in which the first consonant of the forbidden cluster is dropped, and *mld- > *md-*, in which the medial consonant of the cluster is dropped.

§19. *ubá > *wa*. Following a proposal of Nishida (1977: 15), Jacques suggests that instances of *-wa* in Tibetan open syllables should be reconstructed as *uba (2009; 2013: 290–1). This proposal explains why all Old Tibetan words which have the diphthong *-wa-* are open syllables (ཁྱི་ *grwa* ‘corner’, བཅོ་ *bcwa* ‘ten’, ལྷ་ *phywa* ‘a class of gods’, རྩ་ *rtswa* ‘grass’, རྩ་ *hwa* ‘fox’, རྩ་ *zwa* ‘hat’, རྩ་ *rwa* ‘horn’) and also explains the alternation between *-u-* and *-wa-* often seen in such words (ཁྱི་ *grwa* ~ ཁྱི་ *gru* ‘corner’, རྩ་ *rwa* ~ རྩ་ *ru* ‘horn’) as the application of the common nominal suffix *-ba* (Hill 2013d: 58–61). The accent on the second syllable accounts for the failure of the change to apply to verbs, which were accented on the root syllable (cf. Caplow 2009); the failure of the change to apply to verbs might also be credited to analogical restoration of the *-ba* suffix (Hill 2013d: 58–61).

§20. *w- > *y-*. Michailovsky and Mazaudon point out that Tibetan *y-* corresponds to both *w-* and initial *y-* in the East Bodish languages (1994: 552). This distribution strongly suggests that Tibetan merged *w- with *y-*.²⁶

§20a. Examples of *w-* in East Bodish.²⁷

Tib. ཡིན་ *yin* ‘be’, Kur. *lwen*

Tib. ཡུར་ *yur* ‘weed (v.)’, Kur. *lwer*, Chi. 薺 *xaw* < *q^hsu (13–10d)

Tib. ཁྱི་ *khyi* ‘dog’, Kur. *khwi*, OBur. ཁྱུ་ *khuyh*, Chi. 犬 *khwenX* < *k^{wh}en? (32–04a)

§20b. Examples of *y-* in East Bodish:

Tib. ཡ་ *ya* ‘odd one’, Kur. *lya*

Tib. ཡ་ *ya* ‘above’, Kur. *lya*

Tib. ཡུ་ *yu-ba* ‘handle’, Kur. *lyu*

²⁶ In this section the Kurtöp words are taken not from Hyslop (2011), but from Michailovsky and Mazaudon (1994: 552); Hyslop (2011) confirms *khwi* ‘dog’ and *wen* ‘be’.

²⁷ Michailovsky and Mazaudon also tentatively add the comparison of Kurtöp *kwir-* ‘sprain’ and Tib. སྐྱུ་ *sgyur* ‘become’ (1994: 552).

Tib. གཡས་ *g.yas* ‘right’, Kur. *ʎya*, Bur. ཨ་ཡཱ་ *yā*, Chi. 右 *hjuwH* < *m-qʷəʔ-s ~ *m-qʷəʔ, *hjuwX* < *Gʷəʔ ‘right hand’ (04–17i)

Without mentioning Tibetan ཡུར་ *yur* ‘weed (v.)’, Jacques suggests that Tibetan changes *w- to y- only before the vowel -i- (2013: 297–9). The conditioning of this possible change merits further research.

§21. *Laufer’s Law*: *wa > o. Laufer initially noted this sound change as the correspondence of Burmese *wa* and Tibetan *o* (1898/1899: Part III, 224, 1976 reprint: 120), but it is more accurately stated as a correspondence between Chinese labio-velars or labio-uvulars and Tibetan velars followed by the vowel ‘o’ (Hill 2011c: 708–10, 2013d: 65–9).

Tib. གོང་མ་ *gön-ma* < *gʷaŋ-ma ‘higher one, superior’, Chi. 皇 *hwang* < *Gʷʷaŋ (03–24a) ‘sovereign’

Tib. གོ་མ་ *gro-ma* < *gʷra-ma ‘*Potentilla anserina*’, Chi. 芋 *hjuH* < *Gʷ(r)as (01–23o) ‘taro’

Tib. གྲོད་ *grod* < *gʷrat ‘stomach’, Chi. 胃 *hwijH* < *Gʷət-s (31–05a)

Tib. གོ་མ་ *hgro* < *hgʷra ‘go’, Chi. 于 *hju* < *Gʷ(r)a (01–23a)

Tib. འཛོལ་ལོག་ *ḥgog* < *kʷak ‘take away forcibly’, Chi. 攫 *kjwak* < *Cəqʷak (02–07b) ‘seize’

Tib. གློ་ *sgro* < *sgʷra ‘feather’, Chi. 羽 *hjuX* < *Gʷ(r)aʔ (01–24a)

Tib. འགྲོག་པ་ *hgrod* < *gʷrat ‘go, walk’, Chi. 越 *hwot* < *Gʷat (22–05e) ‘pass over’

Tib. རྗེ་ *rñod* < *rñʷat ‘deceive’, Chi. 偽 *ngjweH* < *ŋʷajs (19–06k) ‘false, cheat’

Tib. ཡོང་ *hoŋ* / ཡོང་ *yoŋ* < *hʷaŋ²⁸ ‘come’, Chi. 往 *hwangX* < *Gʷaŋʔ (03–26k) ‘go’

A complete list of examples of this correspondence is given at §247.

§21a. The comparison of Tibetan རྩ་ *dom* to Chinese 熊 *hjuwng* < *Gʷəm (38–06a) ‘bear’ and Burmese ṽ *wam* ‘bear’ is also a potential example of Laufer’s law, but the initial *d-* in Tibetan is unexpected. The Bodish languages offer *wam* for Kurtöp and *wom*²⁵ for Monpa. This comparison suggests that both Laufer’s law and the *d-* in Tibetan are recent. The comparison of Tibetan རྩ་མ་ *hdab-ma* ‘wing’ to Chinese 翌/翼 *yik* < *grəp ‘wing’ (05–18b, 05–17d) exhibits the same correspondence in the initials. The Bodish languages unfortunately do not appear to have this etymon. Tangut also has a *d-* in ‘bear’ 𐽄

²⁸ This reconstruction assumes that Tib. ཡོང་ *yoŋ* ‘come’ is somehow a secondary derivative of ཡོང་ *hoŋ* ‘come’ (cf. Hill 2013d: 66–7, and Jacques 2013: 297–8).

dow 2.47 (L1099), and Situ Rgyalrong *təwám* ‘bear’ (Jacques 2013: 289) also provides evidence of an initial dental.²⁹

§21b. Apart from the word ‘bear’, I have so far only located one potential Kurtöp cognate.

Tib. རྩོམ་ *hgro* < *hgwra ‘go’, Kur. *ra* ‘come’

On the basis of this rather weak evidence it appears that Laufer’s law occurred after the break-up of proto-Bodish.

§22. *Other Origins of Tibetan o*: *aw, *ew > o. In several examples a Chinese vowel *a or *e followed by *-w corresponds to an -o- in Tibetan. Although the number of examples for any one Chinese vowel is not impressive, the evidence for all three vowels taken together seems enough to warrant the sound law. Tibetan has no final -w (cf. Hill 2011c).

Tib. མོ་ *rmo-rmo* < *rmaw ‘grandmother’, Chi. 耄 *maw* < *m^haws (16–41h) ‘very old’

Tib. ལོ་ *lo* < *law ‘talk, report’, Chi. 謠 *yew* < *law (16–21j) ‘sing, song’

Tib. སོ་ *sgo* < *sgaw ‘say’, Bur. ཆེ་ *khō* ‘call’, Chi. 號 *haw* < *C.g^haw (16–08q) ‘call out’

Tib. སྒྲོག་ *skyogs* < *sk^hewks ‘ladle (n.)’, Chi. 勺 *tsyak* < *t-qewk ‘ladle (v.)’ (17–05a)

Tib. རྩོག་ *ñog-ñon* < *n^hewk ‘soft, tender’, Bur. རྩོག་ *ññak*, Chi. 弱 *nyak* < *newk (17–09a)

Tib. སྒྲོག་ *glog* < *glewk ‘lightning’, Bur. ལོ་ *lak* ‘flash’, Chi. 曜/耀/耀 *yewH* < *lewks (17–07ijk) ‘shine’

No Bodish cognates are available for these comparisons, so it is not possible to determine whether or not these changes occurred before or after the break-up of proto-Bodish. Nonetheless, because of the similarity of these changes to Laufer’s law (§21), for the clarity of exposition it is convenient to present them here following the discussion of Laufer’s law.

1.4.2 Reprise: From Proto-Bodish to Old Tibetan

§23. The Tibetan sound changes so far presented do not affect the East Bodish languages; they are innovations unique to Old Tibetan. In the interest of methodological explicitness these changes have been presented inductively,

²⁹ For more discussion of the history of Tibetan རྩོག་ *dom* ‘bear’ consult Hill (2013d: 66–8) and Jacques (2013: 297–9).

moving step by step from Old Tibetan towards proto-Bodish. This is a convenient juncture to present the same list of changes in the order which they occurred historically.

In approximate chronological order the sound changes deriving Old Tibetan from proto-Bodish are as follows:

Laufer's law: **wa-* > *-o-* (cf. §21)

**w-* > *y-* (cf. §20)

**-ubá* > *-wa* (cf. §19)

Bodman's law: **ml-* > *md-* (cf. §18)

Conrady's law: excrescence after *h-* (cf. §17)

Benedict's law: **ly-* > *ž-* (cf. §15)

Dempsey's law: *-eŋ, -ek* > *-in, -ik* (cf. §14)

Coblin's law, loss of prefixes (cf. §13)

Chang's law, assimilation of *b-* to *m-* before nasals (cf. §12)

These changes permit the drawing of a few conclusions about proto-Bodish phonology. In proto-Bodish the phoneme **l-* occurred in several phonotactic contexts in which it is not possible in Old Tibetan. Proto-Bodish had the phoneme **w*, both initially and medially, but attested Old Tibetan *w* is secondary.

1.4.3 From Proto-Bodish to Trans-Himalayan

§24. The changes discussed in this section fall into two categories – those for which East Bodish languages demonstrably underwent the change (Houghton's law, §27 and Schiefner's law, §29) and those changes for which relevant data in the East Bodish languages are unavailable or unclear. In principle, if a certain sound change must have occurred before a sound change that an East Bodish language underwent, then it is logically necessary to assume that the East Bodish languages also underwent the former change, even when there is no direct evidence. Unfortunately, the sound changes which are here presented as prior to Houghton's and Schiefner's laws do not directly feed into these laws. They are presented as prior to Houghton and Schiefner's laws merely for expository purposes, since they rely heavily on comparisons with Old Chinese and Burmese.

Li Fang-kuei's Law: **ry-* > *rgy-* §25. Li Fang-kuei proposes the change **ry-* > *rgy-* in order to make Tibetan རྒྱ (from OTib. རྒྱ་ *brgyah*; cf. PT 1111, l. 5 *et passim*) 'hundred' and རྒྱ་དྲུག་ *brgyad /brgyad/* 'eight' more closely parallel Chinese 百 *paek* < **p^hrak* (02–37a) 'hundred' and 八 *peat* < **p^hret* (20–14a) 'eight' (Li 1959a: 59).³⁰ The sequence /rj/ is avoided in the

³⁰ For other potential examples of Li's law see Hill (2011b: 447 notes 6 and 7).

phonology of many languages (Hall and Hamann 2010); this observation gives a typological plausibility to Li's law.

- Tib. རྒྱ་ *rgyu* < *ryu 'flow', Chi. 流 *ljuw* < *ru (1104a)
 Tib. རྒྱུད་ *rgyud* < *ryut 'continuum', Chi. 絳率 *lwit* < *rut 'rope'
 (31–23a)
 Tib. རྩ་ < OTib. རྩཱ་ *brgyah* (PT 1111, l. 5 *et passim*) < *bryah 'hundred', OBur. རྩ་ *ryā*, Chi. 百 *paek* < *p'rak (02–37a)
 Tib. རྩཱ་ *brgyad* < *bryat 'eight', OBur. རྩཱ་ *rhyat* (cf. Nishi 1999: 47), Chi. 八 *peat* < *p'ret (20–14a)
 Tib. རྩཱ་ *brgyal* < *bryal 'sink down, faint', Chi. 罷疲 *bje* < *braj 'fatigue' (18–17a, 18–16d)

Since Li did not recognize the difference between /j/ and /ɣ/ (cf. Hill 2012c) his reconstruction can be understood as either */rj/ or */rɣ/ in Pre-Tibetan. Old Burmese *ry-* corresponds both to Tibetan *rgy-* (OBur. རྩ་ *ryā* 'hundred' and Tib. རྩ་ *brgya* < OTib. རྩཱ་ *brgyah* [PT 1111, l. 5 *et passim*]) and to Tibetan *z-* (e.g. OBur. རྩཱ་ *ryak* 'day', Tib. རྩཱ་ *zag* 'day' cf. §15b). It is probably judicious to reconstruct Tibetan *z-* < *rɣ- and Tibetan *rgy-* < *ry-/rj/, because a change *rɣ- > z- is parallel to Benedict's law *lɣ- > z- (cf. §15).

§25a. The data concerning the date of Li's law are somewhat contradictory. On the one hand there is evidence that this sound change was still under way at the time when Tibetan was committed to writing. Three instances of *rj- > rgy- suggest a recent change. First, the place name Uḍḍiyana in Tibetan becomes ཡུ་རྩཱ་ U-rgyan or ཨོ་རྩཱ་ O-rgyan. Indic languages regularly lose a final -a (Masica 1991: 188); this yields *Uḍḍiyan. If *ḍ* were pronounced as a rhotic, or heard as one by Tibetan ears, this gives *Uriyan, and such a pronunciation was nativized following this sound change to U-rgyan (cf. Jacques and Chen 2010: 71 note 7). Second, in the Dunhuang document PT 1047 there is vacillation between རྩཱ་ *ryags* and རྩཱ་ *rgyags* as the spelling of a word for a divination board. This vacillation probably indicates a process of nativizing a non-Tibetan word རྩཱ་ *ryags*. Similarly, the name of the *Žaŋ-zuŋ* emperor is found in the Dunhuang documents PT 1047 and PT 1287 as ལིག་མི་རྩཱ་ *Lig myi rya* or ལིག་མི་རྩཱ་ *Lig myi rhya*, and in the later རྩཱ་རབས་ལོན་གྱི་འབྲུང་གནས་ *Rgyal rabs bon kyi hbyuŋ gnas* as ལིག་མི་རྩཱ་ *Lig mi rgya* (Uray 1968: 293–4). Third, Tauscher mentions that in the Gondhla proto-Kanjur there is regular confusion between the spellings རྩ་ *rya* and རྩཱ་ *rgya* (2008: xxxvi). Apart from these philological considerations, the pronunciations of the word རྩཱ་ *brgyad* 'eight' and རྩ་ *brgya* 'hundred' as respectively *hbiɛ* and *hbia* in the Ba-yan dialect of Amdo suggest the preservation in this dialect of forms that had not undergone Li's law (X. Gong 2016a: 349 note 5).

§25b. In contrast to the data suggesting that Li's law is a late change, the Kurtöp and Monpa cognates of 'eight' suggest that this change already took place before the split of the Bodish languages.

Tib. བརྒྱད་ *brgyad* < *bryat 'eight', Kur. *jät*, Mon. *get*³⁵

§26. *Sa-skyā Paṇḍita's Law*: *g- > d- before Graves, *d-> g- before Acutes. As a synchronic fact of Old Tibetan, *d-* and *g-* are in complementary distribution as the initial of a cluster with an obstruent. Before grave consonants (labials and velars) *d-* appears and before acute consonants (dentals and palatals) *g-* appears.³¹ Jacques (2001) demonstrates with comparative evidence that originally separate *d- and *g- have fallen together. Although Jacques's (2001) presentation remains unpublished, he presents the relevant comparative data elsewhere (Jacques 2008: 53–4, 2014c: 158–60). These data show that a morphological *g- prefix in animal names can be distinguished from a morphological prefix *d- in body parts.

§26a. Jacques offers the following comparisons for a *g- prefix in animal names.

Tib. གཟིག་ *gzig* 'leopard', Japhug Rgy. *ku-rtsɿɣ*

Tib. གླག་ *glag* 'eagle', Japhug Rgy. *qa-ljak*, Zbu Rgy. *Ɂv-liêχ*

Tib. གཡམ་ *g.yam* 'sheep', Japhug Rgy. *qa-zo*, Zbu Rgy. *Ɂ-iv?*, Chi. 羊
yang < *caŋ (03–39a)

Tib. གྲོག་མོ་ *grog-mo* 'ant', Japhug Rgy. *qro*, Zbu Rgy. *qhrôχ*, Bur.
ပုရွတ် *pu-rwak*

Tib. ལྷ་ *klu* 'nāga', Japhug Rgy. *qa-juu* 'worm'

Because *dr-* and *gr-* are equally phonotactically possible in Old Tibetan, the velar nature of the animal prefix is also confirmed by Tibetan གྲོག་མོ་ *grog-mo* 'ant' (instead of **drog-ma*).

§26b. Jacques offers the following comparisons for a *d- body part prefix (2014c: 160).

OTib. འཇིག་ *dmyig* 'eye', Japhug Rgy. *tu-mɲak*

Tib. འཕྱི་ *dpyi* 'hip bone', Japhug Rgy. *tu-χpyi* 'thigh'

Jacques also notes Japhug Rgyalrong words *tu-mtshi* 'liver' and *tu-mke* 'neck' to suggest that in Tibetan words such as གོདོན་ *gdon* 'face', འཇུ་ *dbu* 'head', and

³¹ Hill (2011b: 443) discusses the intellectual history of this law and the reason for naming it after Sa-skyā Paṇḍita Kun-dgaḥ Rgyal-mtshan (1182–1251).

དཔུན *dpun* ‘back’ there is a morphological prefix, and it was originally a dental (2008: 57).

§26c. I am unable to identify cognates in Kurtöp relevant to Sa-skya Paṇḍita’s law. The available Chinese and Burmese cognates are not illuminating since they lack clusters.

§27. *Houghton’s Law*: **n̥*- > *ñ*-. In a number of examples a velar nasal (*n̥*) in Burmese or Chinese corresponds to a palatal nasal (*ñ*) in Tibetan. Combined with the observation that the velar nasal is never palatalized in Tibetan, i.e. the letter combination <*ñy*> representing the sound /*ɲj*/ is impossible, these correspondences suggest a Tibetan sound change **n̥*y- > *ñ*- (Houghton 1898: 52, Benedict 1939: 228 note 26, Hill 2011b: 444–5).

Tib. ཉ *ña* < **n̥*ya ‘fish’, Bur. ငါး *nāh*, Chi. 魚 *ngjo* < **ɲa* (01–31a)

Tib. གཉན་པོ་ *gñan-po* < **gn̥*yan ‘pestilence’, Bur. ငန့် *nanh* ‘poisonous snake’

Tib. བཞི *brña* < **br̥*na ‘borrow’, Bur. ငဝ်း *nhāh*

Tib. རྩིལ་ *rñil* / རྩིལ་ *sñil* < **r̥*ñil / **s̥*ñil ‘gums’, Chi. 齧 *ngjin* < **ɲə*[n] (33–01-)

§27a. The Kurtöp cognates with initial *ɲ*- illustrate that this sound change had already occurred in proto-Bodish.

Tib. ཉ *ña* < **n̥*ya ‘fish’, Kur. *na*

Tib. བཞི *brña* < **br̥*na ‘borrow’, Kur. *ɲu*

Nonetheless, the Kurtöp word for ‘gums’ presents conflicting evidence by retaining an unpalatalized dental nasal initial.

Tib. རྩིལ་ *rñil* / རྩིལ་ *sñil* < **r̥*ñil / **s̥*ñil ‘gums’, Kur. *né*

§28. **-as* > *-os*. Two Tibetan verbs with open-syllable roots unexpectedly have the vowel *-o-* in their past stem, viz. \sqrt{za} ‘eat’ (pres. མ *za*, past མོས་ *zos*, fut. བཟམ་ *bzah*, imp. མོ་ *zo*) and $\sqrt{h̥čha}$ ‘chew’ (འཇམ་ *h̥čhaḥ*, འཇོས་ *h̥čhos*, བཅའ་ *bčah*, འཇོ་ *h̥čo*). My explanation for these irregular forms is that Tibetan underwent a sound change **-as* > *-os* and the failure of other verbs of the relevant phonological shape to follow this pattern is due to analogical restoration, as also seen in བཟམ་ *bzas*, the younger alternative of the past stem of ‘eat’ (Hill 2015b). A change **-as* > *-os* also explains the invariant verbs ལྟོས་ *ltos* ‘look to, attend to’, and ལྟོས་ *zlos* ‘repeat’, as the inherited past stems of ལྟོ་ *lta*, བལྟས་ *bltas*, བལྟ་ *bлта*, ལྟོས་ *ltos* ‘look at’ and ལྟོ་ *zlo*, བཟམ་ *bzlas*, བཟམ་ *bzla*, ལྟོས་ *zlos* ‘say, repeat’ respectively, as well as the pair of verbs དགའ་ *dgaḥ* ‘be happy’

and དགོས་ *dgos* ‘need, want’ as deriving from the conjugation དགེ་ལ་ *dgah*, དགོས་ *dgos* (< **dgas*).³²

§28a. The Kurtöp cognates *bù* ‘do’, *ju* ‘borrow’, *zù* ‘eat’, *chú* ‘devour’, the generalized past forms cognate to Tibetan **byos* (replaced by བྱས་ *byas*), **rños* (replaced by བརྟས་ *brñas*), མོས་ *zos*, and འཛོས་ *hchos*, show that the change **as* > *-os* occurred prior to the split of Tibetan and the East Bodish languages (Hyslop 2011: 55–6, 127, 143).

§29. *Schiefner’s Law: Softening of Voiced Affricates*. Anton Schiefner proposes a softening of **dz-* to *z-* in order to explain alternations within verb paradigms such as the future of a verb like འཕྲུག་པ་ *√tsug* ‘plant’ (འཕྲུགས་ *hdzugs*, བརྟུགས་ *btsugs*, གཟུག་ *gzug* < **gdzug*, ཚུགས་ *tshugs*) (1852: 364). Li (1933: 144) and Coblin (1976: 46) respectively suggest **gǔ-* > *gž-* and **bǔ-* > *bž-* (1976: 49),³³ but there is no need to restrict the occurrence of the change **j-* > *ž-* to after certain prefixes. There are very few Tibetan words that begin with *j-*; perhaps the most common such word, ཇོ་བོ་ *jo-bo* ‘lord’, was originally ཇོ་བོ་ *rjo-bo* (cf. PT 1287, ll. 28–9, Hill 2014f: 171 note 7). Although many Tibetan words begin with *tsh-*, essentially no Tibetan word begins with *dz-*. This asymmetrical distribution suggests the presence of an erstwhile **dz*, which subsequently changed into another sound. Tibetan མོ་ཚོ་ *zoñ* ‘merchandise’ is such a word; it is self-evidently related to the verb འཕྲུག་པ་ *√tson* (འཕྲུག་པ་ *htshon*, བཅོས་ *btsoids*, བཅོས་ *btsoid*, ཚོས་ *tshoids*) ‘sell’. If མོ་ཚོ་ *zoñ* derives regularly from **dzoid* then the relationship between these two words is that voicing alternation. Without the law **dz-* > *z-* the relationship is more difficult to account for (cf. §40).

Just as the connection of the word མོ་ཚོ་ *zoñ* ‘merchandise’ with འཕྲུག་པ་ *√tson* ‘sell’ (pres. འཕྲུག་པ་ *htshon*) ‘sell’ suggested the change **dz-* > *z-*, the connection of the noun རྒྱལ་ཅེ་ *zal-ce* ‘law suit’ with the verb འཇུག་ཅེ་ *√jal/çal* ‘weigh, assess, judge’ (འཇུག་ཅེ་ *hjal*, བཅུག་ཅེ་ *bčald*, གཇུག་ཅེ་ *gžal*, ཚོག་ཅེ་ *čhold*) (Dotson 2007: 35 note 39) argues in

³² In a more complicated case, for the verb མྱོ་ *smra*, མྱོས་ *smras*, མྱོ་ *smra*, མྱོས་ *smros* ‘say’ we predict an inherited past stem **smros*. Although **smros* does not exist as a separate verb, there is an invariant verb མྱོས་ *smos* ‘say, call’ which the *Dag yig gzar sgrigs* sees as additionally an alternative present (*sic*) of མྱོ་ *smra*. One may legitimately speculate that *smos* is a regular phonetic development from **smras*. Alternatively, Johannes Schneider (*per litteras* 4 October 2016) kindly draws my attention to the following passages in which *smros* appears to function as a past stem: བཅོས་ལྷན་འདུས་ཀྱིས་ཆོས་ཐམས་ཅད་པོ་ལ་ཉིད་མ་མཛོས་པ་ཉིད་ལས། ... བཅུས་ནས་ཐོག་པ་ཆོས་པོ་ལ་ཡང་དག་པར་ཞུགས་པ་རྣམས་ལ་སྤྲོད་པ་ཉིད་སྐོས་པའི་རྣམ་པས་ཆོས་པོ་མཛོར་རྒྱན་དུ་བྱུང་བའི་ཆོས་ཀྱི་འཁོར་ལོ་གཉིས་པ་བསྐྱར་ཏེ་ *bcom-ldan-hdas-kyis čhos thams-cad no-bo-ñid ma mčhis-pa ñid-las / ... brtsams-nas theg-pa čhen-po-la yañ-dag-par žugs-pa rnam-la ston-pa ñid smros-paḥi rnam-pas čhes no-mtshar rmad-du byuñ-baḥi čhos-kyi hkhor-lo gñis-pa bskor-te* ‘angefangen damit, daß alle Gegebenheiten ohne Eigenwesen sind ... hat der Erhabene das zweite Rad der Lehre gedreht, das äußerst wunderbar ist, weil es den, die in das Große Fahrzeug völlig eingetreten sind, die Leerheit verkündet’ (Bu ston 1971[c.1322–6], folio 774, ll. 6–7, his translation).

³³ Compare Simon’s earlier proposal that **gd^v* > *gž* (1929: 191 *et passim*).

favour of a change *j- > ź-.³⁴ In addition, the spelling of the word ལུ་ལོ་ *khul-zo* ‘crib’ as ལུ་ལོ་ *khu-ljo* in the *Old Tibetan Chronicle* (PT 1287 line 43) also supports *j- > ź-. The sound change *j- > ź- clarifies the inflection of verbs such as འཇོག་ *hjoḡ*, བཞོགས་ *bzogs* < *bjogs, གཞོག་ *gzog* < *gjoḡ, ཞོག་ *zog* < *joḡ).

§29a. Comparative evidence confirms Schiefner’s law.

Tib. ཇ་ *za* < *dza ‘eat’, Bur. ཅེ་ *cāh*, Japhug Rgy. *ndza*, Chi. 咀 *dzjoX* < *dza? (01–57u)

Tib. ཇམ་ *zam* < *dzam ‘bridge’, Japhug Rgy. *ndzom*

Tib. ཇམ་ཅེ་ *ziñ-cha* < *dziñ ‘quarrel, dispute’, Bur. ཅེ་ *cac* ‘war, battle’, Chi. 爭 *tsreang* < *[ts]’reñ (09–23a) ‘strife, quarrel’

Tib. ཇམ་ཇི་ *zin* < *dzin ‘be consumed’, Chi. 盡 *dzinX* < *Cə.dzin? (32–32a) ‘exhaust (v.)’

Tib. ཇམ་ཇི་ *zil* < *dzil ‘dew’, Bur. ཇམ་ཇི་ *chih* ‘dew’

Tib. ཇམ་ཇུ་ *zuñ* < *dzuñ ‘pair’, Bur. ཇུ་ *cum*, Chi. (?) 雙 *sraewng* < *s’ron (12–24a)

Tib. ཇམ་ཇུ་ *gzan* < *gdzan ‘wear out, hurt, waste’, Chi. 殘 *dzan* < *dz’an (24–41c) ‘injure, remnant’

Tib. ཇམ་ཇུ་ *gzim* < *gdzim ‘sleep’, Chi. 寢 *tshimX* < *ts’him? (38–27f)

Tib. ཇམ་ཇུ་ *bzan* < *bdzaj ‘good’, Chi. 臧 *tsang* < *ts’an (03–49f)

Related pairs of non-honorific and honorific verbs also support the proposal *j- > ź-.

Tib. འཇུག་ *hdug* ‘stay’: Tib. བཞུགས་ *bzugs* ‘stay’ < *bjugs /bd’yugs/

Tib. འཇོག་ *hdod* ‘desire’: Tib. བཞོག་ *bzed* ‘desire’ < *bjed /bd’yed/

Gong proposes that the explanation for the *-d-* versus *-ź-* in these two examples is a palatalization used morphologically to form honorifics (2002 [1977]: 390) (cf. §15a).

§29b. The history of a verb that does not exhibit voicing alternation, such as འཇོག་ *hdzin*, བཞུག་ *bzuñ*, བཞོག་ *gzuñ*, ཇུ་ཚུ་ *zuñs* ‘take’, makes clear the role that Schiefner’s law plays in the clarification of the verbal system, and the interplay between this law and Conrady’s law (cf. §17): an inherited sequence *dz- is softened to *z- (Schiefner’s law); *hdz > *hź- is one sub-case; subsequently, *hź- is restored to *hdz-* (Conrady’s law; cf. §17).

*h-dzuñd, *b-dzuñ, *d-dzuñ, *dzuñs

*hzuñd, *bzuñ*, *d-zuñ, *zuñs* (Schiefner’s law)

*hziñd, *bzuñ*, *d-zuñ*, *zuñs* (*u* > *i*; cf. §41a)

*hziñd, *bzuñ*, *d-zuñ, *zuñs* (-ñd > -nd; cf. §41a)

³⁴ Bialek offers an alternative etymology (2015: 61, 352).

*h̥zind, *bzuñ*, *gzuñ*, *zuñs* (*d* > *g*-; cf. Sa-skya Paṇḍita's Law; cf. §26)
hdzind, *bzuñ*, *gzuñ*, *zuñs* (Conrady's law, *h̥z > *hd*; cf. §17)

§29c. Verbs such as √cug 'insert' (འཇུག་ *h̥jug*, བཅུག་ *b̥cug*, གཞུག་ *g̥zug* < *g̥jug, ཅུག་ *čhug*) and √jib 'suck' (འཇིབ་ *h̥jib*, བཞིབས་ *b̥zibs*, བཞིབ་ *b̥zib*, ཇིབས་ *jibs*) show the palatalized equivalent *j̥- > *z̥*-.

§29d. Having accepted the validity of the changes *dz- > *z*- and *j̥- > *z̥*-, it is tempting to speculate that at one point in Tibetan prehistory no roots began with *z*- or *z̥*-. Or, conversely, that in Tibetan as attested no word beginning with *dz*- or *j̥*- is part of the inherited lexicon.³⁵ Since Tibetan *z̥*- has three potential reconstructions (*l̥y, *r̥y, and *j̥-), as a working hypothesis it is judicious to assume that all examples of Tibetan *z̥*- are innovative. Whether *z*- similarly has lateral and rhotic origins in addition to *dz- remains to be seen.

§29e. Kurtöp and Monpa cognates make clear that the change *dz- > *z*- had occurred already in proto-Bodish.

Tib. ཟ་ *za* < *dza 'eat', Kur. *zù*
 Tib. ཟས་ *zans* 'copper', Mon. *zey*³⁵ (cf. Nishida 1988: 231)
 Tib. ཟམ་ *zam* < *dzam 'bridge', Kur. *zàm*
 Tib. ཟུ་ *zuñ* < *dzuj 'pair', Kur. *zòn* 'two'
 Tib. ཟུ་ *zur* < *dzur 'corner', Kur. *zur* 'edge'

§30. *Simon's Law*: *mr- > br-. Simon proposed the Tibetan sound change *mr- > br- (1929: 187, 197 §86).³⁶

Tib. འབྲས་ *h̥bras* 'rice' < *h̥mras, Chi. 糲 *lat* < *(m̥ə)r̥ʰat (21–26g)
 'rice'
 Tib. འབྲི་མོ་ *hbri-mo* < *h̥mri-mo 'female yak', Chi. 犛 *maew* < *mr̥u³⁷
 (04–36j) 'yak'

³⁵ Gong (1995[2002]: 113) compares Tib. ཇག་ *jag* 'robbery' to Chi. 賊 *dzok* < *k.dz̥ʰək (05–23a) 'bandit', but note that in a legal edict of Lha bla ma ye šes ḥod (947–1019/24 CE), as quoted in a later fifteenth-century biography, the word is instead spelled ཇག་ *byag* (Dalton 2015: 112 note 42). The spelling ཇག་ *jag* may be dismissed as not etymological. A comparison between Tib. ཇག་ *byag* and Chi. 賊 *dzok* < *k.dz̥ʰək (05–23a) is no longer compelling.

³⁶ Several of Simon's examples are no longer acceptable (cf. Hill 2011b: 448–9). Previously I formulated this change as *mr > *hbr* (Hill 2011b: 448–9); this I now believe is a mistake. The formulation *mr > *br* helps to explain cases such as *sbr*-; a reconstruction such as *sbr*- < *sh̥br < *smr is implausible and needlessly complex. This reformulation also avoids a previous obstacle noted to the proposal *mr > *hbr*, namely that if the sound change *mr-> *hbr*- were valid this would suggest that *hbr*- had the pronunciation [m̥br-] known from Common Tibetan, already in the earliest Old Tibetan, but in Old Tibetan *h̥*- represented a voiced velar fricative and not a nasal (cf. §6 and Hill 2005: 126–7, 2009: 127–31). Note that Jacques accepts my earlier formulation (cf. §13e). Coblin contrastingly suggests a change *mr > *rm* (1974), but his evidence for this change is not convincing (cf. §246).

³⁷ The 廣韻 *Guāngyùn* (cf. §79 n. 2) also has the readings *li* < *m̥ə-r̥ə and *loj* < *m̥ə-r̥ə.

- Tib. རྩོམ་གྱི་ *hbrog* < *h̥mrok ‘nomad’, Chi. 牧 *mjuwk* < *mæk (05–39a) ‘herdsman’
 Tib. སྤྲུང་ *sbrañ* < *smrañ ‘fly, bee’, Mon. *biŋ*⁵⁵ *ma*⁵⁵, Chi. 蠅 *ying* < *m.rəŋ (06–24a) ‘fly’
 Tib. སྤྲུལ་ *sbrul* < *smrul ‘snake’, Mon. *mu*³⁵ *ri*³⁵, OBur. མྱེད་ལྡོག་ *mrui*,
 Chi. 虺 *xjwɨjX* < *[m̥r]ujʔ (27–19a)³⁸

The East Bodish evidence is insufficient to decide whether this change had occurred before or after the break-up of the Bodish family. Before such a correspondence can be wholeheartedly embraced, the Tibetan words containing the cluster *smr-*, such as སྤྲུང་ *smra* ‘say’, ལྷོ་སྤྲུང་ *nur-smrig* ‘saffron’, སྤྲུང་ *smre* ‘suffering’, སྤྲུང་ *smreg* ‘root, remainder’, སྤྲུང་ *smrañ*, སྤྲུང་ *smreñ* ‘(ritually) say’ must be explained.

§31. **rl-* > *rj-*. Jacques suggests **rlʷ-* > *rj-* (= *rdʷ*), offering three examples (2004a: 4–5, also cf. Hill 2013c: 203–4).

- Tib. རྩེ་ *rje* < **rlʷe* ‘exchange’,³⁹ Mon *ple*⁵⁵, Bur. ལོ་ *lai*
 Tib. རྩེ་ *rje* < **rlʷe* ‘lord’, Tamang *kle* ‘king’
 Tib. རྩེ་ *brjed* < **m̥rjed* (Simon’s law; cf. §30) < **mrlʷed* ‘forget’,
 Tamang *mlet-pa*

Bodman previously offered the comparison of ‘exchange’ (1980: 127).⁴⁰ Rather than **rlʷ-* directly yielding *rj-* (before Benedict’s law; cf. §15), Bodman presents *rj-* as the outcome of the series of changes **rlʷ* > **rʷz-* > *rj-*, of which the first change is Benedict’s law. In the absence of evidence for proposing **rʷz-* > *rj-* as a change in its own right there is no way to decide whether **rlʷ-* > *rj-* occurred before Benedict’s law or whether **rʷz-* > *rj-* occurred after Benedict’s law.

§32. *Merger of *a and *ə*. In addition to the five vowels of Tibetan (*a, e, i, o, u*), Old Chinese has a sixth vowel *ə. Tibetan *-a-* corresponds to both Chinese **a* and **ə*, because the Chinese vowel *ə is not conditioned by any environment; this correspondence reflects a merger in Tibetan (cf. Gong 1980

³⁸ Baxter and Sagart now reconstruct *[r̥]u[j]ʔ with the irregular sound change **r̥-* > *x-*. I prefer to follow their earlier reconstruction.

³⁹ The Monpa word suggests that the root of the Tibetan verb is √*brje* rather than √*rje*. Some lexicographical sources agree with this, but it is not the majority opinion (cf. Hill 2010a: 101). The question merits more detailed philological investigation.

⁴⁰ Bodman also adds Chinese 易 *yek* < **lek* ‘change; exchange’ (08–12a) to the comparison (1980: 127), whereas Gong proposes Chinese 移 *ye* < **laj* (18–08q) ‘change’ as the cognate and Schuessler proposes Chinese 買 *meaX* < *m̥rajʔ* (07–33c) ‘buy’ (2007: 66).

[2002]: 28).⁴¹ The distinction of between *ə and *a is securely reconstructible in the proto-language, as Tangut (cf. Jacques 2014b: 76) and Burmese (cf. §68) preserve this distinction in limited phonetic environments.⁴²

§32a. Examples to be reconstructed *a:

- Tib. ཁྲ་ *krhab* ‘armor, shield, mail’, Chi. 甲 *kaep* < *kʰrap (35–02a) ‘shell’
 Tib. སྒོ་ *sgaṅ* ‘hill’, Chi. 岡 *kang* < *kʰaŋ (03–02a)
 Tib. ལྔ་ *lṅa* ‘five’, Chi. 五 *nguX* < *C.ŋʰaʔ (01–29a)
 Tib. ལྟ་ *lta* ‘look at’, Chi. 睹 *tuX* < *tʰaʔ (01–38c) ‘see’
 Tib. ཐང་ *than* ‘plain (n.)’, Chi. 敞 *tsyhangX* < *tʰaŋʔ (03–32m) ‘open, spacious’
 Tib. མཚན་ *mnaṅ* ‘suffer, be tormented’, Chi. 難 *nan* < *nʰar (24–35d) ‘difficult’
 Tib. ཕྱི་ *phaṅ* ‘spindle’, Chi. 紡 *phjangX* < *pʰaŋʔ (03–57r) ‘spin’
 Tib. མཚལ་ *smad* ‘the lower part’, Chi. 末 *mat* < *mʰat (21–37a) ‘end of a branch’
 Tib. མཚོ་ *mtshar* ‘fair, beautiful, bright’, Chi. 粲 *tshanH* < *tsʰars (24–40b) ‘bright and white’
 Tib. ལང་ *lan* ‘rise’, Chi. 揚 *yang* < *laŋ (03–38j) ‘raise’

A complete list of examples of this correspondence is given at §248.

§32b. Examples to be reconstructed *ə:

- Tib. རྣམ་ *hgaḥ* < *hgaḥ ‘some’ (cf. §36 n. 47), Chi. 幾 *kjiX* < *kəjʔ (27–04a) ‘few; how many’
 Tib. སྒྲོ་ *sṅam* < *sṅəṃ ‘think’, Chi. 恁 *nyimX* < *nəṃʔ (38–25q)
 Tib. འཇག་ (pres. འཇག་ *hthag*) < *tək ‘weave (v.)’, Chi. 織 *tsyik* < *tək (05–13f)
 Tib. རྒྱ་ *rna* < *rṅə ‘ear’, Chi. 耳 *nyiX* < *nəʔ (04–40a)
 Tib. མ་ *ma* < *mə ‘mother’, Chi. 母 *muwX* < *məʔ (04–64a)
 Tib. སྦྲུལ་ *smyan-ka* < *sməṅ ‘marriage, married couple’, Chi. 婚 *xwon* < *ṅəṅ (32–40m) ‘marriage’
 Tib. ཚེ་ *tsha* < *tsə ‘grandchild’, Chi. 子 *tsiX* < *tsəʔ (04–47a) ‘child’
 Tib. མཚམ་ *mdzah* < *mdzəḥ ‘love’, Chi. 慈 *dzi* < *dzə (04–49j) ‘kind (adj.)’
 Tib. འཇག་ (pres. འཇག་ *slob*) < *sləp ‘teach, learn’, Chi. 習 *zip* < *s-ləp (37–12a) ‘practice, exercise’

⁴¹ Because Gong relies on a different reconstruction of Old Chinese than that used here he does not see this change as unconditioned (1980 [2002]: 28).

⁴² Because Burmese does not normally distinguish ‘a’ and ‘ə’ there is no need to give Burmese cognates in this section (cf. §67–8).

Tib. $\sqrt{\text{sam}}$ (pres. སེམས་ *sems*) < *səm ‘think’, Chi. 心 *sim* < *səm
(38–31a) ‘heart’

§32c. The merger of *-a-* and *-ə-* preceded Laufer’s law because it is simpler to posit two sound changes *ə > *a* and subsequently *wə > *o* rather than the three changes *wə > *o*, *wə > *o*, and then *ə > *a* (cf. §21).

§33. *Merger of *e and *a before Dentals, -r, and -l.* Tibetan *-a-* before dentals, *-r*, or *-l* often corresponds to an *-e-* in Old Chinese. Note that *-en*, *-ed*, *-er*, and *-el* are rare in Tibetan and usually caused by ablaut (cf. §41). For the analogous Burmese change see §66.

Tib. བརྟེན་ *brgyad* < *bryad (Li’s law; cf. §25) < *bryed ‘eight’, OBur.

གྲོད་ *rhyat* (cf. Nishi 1999: 47), Chi. 八 *peat* < *p^hret (20–14a)

Tib. $\sqrt{\text{rad}}$ (pres. རྩོད་ *hdrad*; cf. Jacques 2010: 28) < *red ‘scratch

(v.)’, Bur. རྩོད་ *prat* ‘be cut in two, cut off’, Chi. 別 *bjet* < *N-pret
(20–15a) ‘divide, separate’

Tib. གླེན་ *glan* < *glen ‘patch, mend (v.)’, Chi. 繕 *dzyenH* < *genʔs
(24–25f) ‘repair’

Tib. རྩོད་ *rdal* < *rdel ‘spread, extend’, Chi. 展 *trjenX* < *trenʔ
(24–26a) ‘roll over; unfold’

Tib. ཕོག་ *phal* < *phel ‘step aside, make way’, Bur. ཕོག་ *phay* ‘go
aside, put aside’, Chi. 偏 *phjen* < *p^hen (23–27h) ‘oblique’

Tib. གསར་ *gsar* < *gser ‘new’, Chi. 鮮 *sjen* < *ser (23–21a) ‘fresh’,
Bur. གསར་ *sa* ‘titivate’

§33a. The correspondence of Tibetan ‘*a*’ to Chinese ‘*a*’ before dentals, *-r*, and *-l* guarantees that this change is a merger in Tibetan.

Tib. མཚན་ *smad* ‘the lower part’, Chi. 末 *mat* < *m^hat (21–37a) ‘end of
a branch’

Tib. $\sqrt{\text{sad}}$ (pres. གསོད་ *gsod*) ‘kill’, Chi. 殺 *sreat* < *srat (21–29d), Bur.
གསོད་ *sat*

Tib. གཙང་ *gzan* < *gdzan ‘wear out, hurt, waste’, Chi. 殘 *dzan* <
*[dz]ʰa[n] (24–41c) ‘injure, remnant’

Tib. མཚོན་ *mtshar* ‘fair, beautiful, bright’, Chi. 粲 *tshanH* < *[ts^h]ʰars
(24–40b) ‘bright and white’

Tib. མཚན་ *mkhar*/ མཚན་ *hkhar* ‘staff, stick’, Chi. 竿 *kan* < *k^har
(24–01k) ‘pole, rod’

Tib. མཚན་ *mnar* ‘suffer, be tormented’,⁴³ Chi. 難 *nan* < *n^har (24–35d)
‘difficult’, Bur. མཚན་ *nā* ‘hurt’

⁴³ Perhaps Tibetan ལྷོ་ *na* ‘ill’ is a better comparison, in particular to the Burmese cognate.

- Tib. གོམ་ *rgal* ‘cross, ford’, Chi. 河 *ha* < *C.[g]ʰaj (18–01g) ‘river’⁴⁴
 Tib. ཁྲལ་ *khral* ‘tax’, Chi. 加 *kae* < *kʰraj (18–04a) ‘add’, Bur. འྲོ་ *krāh* ‘interval’
 Tib. ཁྲལ་ *khal* ‘burden, load’, Chi. 荷 *ha* < *[g]ʰaj (18–01o) ‘carry’,
 Bur. ཏ་ *ka* ‘saddle-frame’
 Tib. འབྲེལ་ *hbral* ‘be separate, to part’, Chi. 披 *phje* < *pʰ(r)aj (18–
 01j) ‘divide’, Bur. རྩོ་ *prāh* ‘be divided into parts’

A complete list of examples of this correspondence before dentals is given at §250 and before *-r* and *-l* at §251.

§33b. Exceptionally, two Tibetan words have the vowel *-e-* identically to Chinese.

- Tib. √pel (pres. འཕེལ་) ‘increase, augment’, Chi. 徧 *penH* < *pʰen-s
 (23–27b) ‘(go) all around’
 Tib. སེར་ *ser* ‘hail’, Chi. 霰 *senH* < *sʰen-s (24–44d) ‘sleet’

Whether these two cases are not cognate, or reflect a conditioned exception to the general change, is difficult to determine without further examples.

§34. *Peiros and Starostin’s Law: Merger of Velars and Uvulars*. Old Chinese has distinct velars and uvulars. In Tibetan these two series merge, so Tibetan velars correspond both to Old Chinese velars and to Old Chinese uvulars. Burmese also recognizes a distinction between velars and uvulars, but in a way that is less clear-cut than Old Chinese; inherited velars are preserved in Burmese, but the uvulars are lost altogether, leaving a zero onset (cf. §71). Peiros and Starostin (1996, vol. 5: iii) recognized the two-way correspondence between Tibetan and Burmese, which they reconstruct as here with a velar-versus-uvular distinction, but their version of Old Chinese did not have a separate uvular series.⁴⁵

§34a. Examples to be reconstructed as uvulars:

- Tib. ཁྲམ་ *khab* < *kəp < *qəp ‘needle’, Bur. འཕ་ *ap* ‘needle’, Chi. 箴
 鍼 *tsyim* < *t.qəm (38–04no) ‘needle’
 Tib. མཇམ་ *khym* < *kʰim < *qʰim ‘home’, Bur. འོང་ *im*, Chi. 窖 *imH* <
 *q(r)[ə]m-s (38–07-) ‘subterranean room’
 Tib. འཇམ་ *hkhyyig* < *hkyik < *hkyik ‘tie, fasten, suffocate’, Bur. འཇ
 འ་ *ac* ‘squeeze’, Chi. 緘 *ejH* < *qʰik-s (08–05g)⁴⁶ ‘strangle’

⁴⁴ Takashima (2012) contests this etymology, instead proposing that Chi. 河 *ha* ‘the Yellow’ river is derived from a word meaning ‘adze’ because of the river’s shape resembling that of an adze handle.

⁴⁵ There are no examples of Tibetan velar nasals corresponding to Chinese uvular nasals, but this is because Baxter and Sagart do not reconstruct any uvular nasals in Old Chinese (2014: 43–6).

⁴⁶ An alternative possible cognate 結 *ket* < *kʰit < *kʰik (29–01p) ‘tie, knot’ suffers the disadvantage that it would predict a Burmese velar rather than glottal initial.

- Tib. ཁྲག་ *khrag* ‘blood’ < *qrak, Chi. 赫 *xaek* < *q^hrak (02–10a) ‘red, fiery’, Bur. ལྱལ་ *rhak* ‘ashamed’ (cf. §220f)
- Tib. གོ་ *go* < *g^wa (Laufer’s law; cf. §21) < *G^wa ‘space’, Bur. ཟུང་ *awa* ‘opening’
- Tib. གོང་མ་ *gon-ma* < *g^wañ-ma (Laufer’s law) < *G^wañ ‘higher one, superior’, Chi. 皇 *hwang* < *G^waj (03–24a) ‘sovereign’
- Tib. གྲོད་ *grod* < *g^wrat (Laufer’s law) < *G^wrat ‘stomach’, Chi. 胃 *hwijH* < *G^wət-s (31–05a)
- Tib. གྲོ་ *hgro* < *hg^wra (Laufer’s law) < *hg^wra ‘go’, Chi. 于 *hju* < *G^w(r)a (01–23a)
- Tib. འཁོར་ *√kok* (pres. འགོག་ *hgog*) < *hg^wak (Laufer’s law) < *hg^wak ‘take away forcibly’, Chi. 攫 *kjwak* < *Cəq^wak (02–07b) ‘seize’
- Tib. འཁོར་ *√kak* (pres. འགོག་ *hgog*) < *hg^wak (Laufer’s law) < *hg^wak ‘prevent, avert’, Chi. 護 *huH* < *G^waks (02–08k) ‘guard, protect’

A complete list of examples of this correspondence is given at §252.

§34b. Examples to be reconstructed as velars:

- Tib. ཀྲུ་པ་ *rkañ-pa* ‘foot, leg, hind-foot’, Chi. 行 *haeng* < *Cə.g^ran (03–14a) ‘walk (v.)’
- Tib. ཀ་ *kha* ‘bitter’, Bur. ཁི་ *khāh*, Chi. 苦 *khuX* < *k^ha? (01–01u)
- Tib. ཀལ་ *khal* ‘burden, load’, Bur. ཏ་ *ka* ‘saddle-frame’, Chi. 荷 *ha* < *g^raj (18–01o) ‘carry’
- Tib. མཚན་ *mkhar* / འཚན་ *hkhar* ‘staff, stick’, Chi. 竿 *kan* < *k^rar (24–01k) ‘pole, rod’
- Tib. མཚན་ལ་ *mkhal* ‘kidney, reins’, Bur. ཁི་ *khāh* ‘loins, waist’, Chi. 肝 *kan* < *s.k^rar (24–01l) ‘liver’
- Tib. འགོག་ *hgal* ‘oppose, contradict’, Bur. ཏ་ *kā* ‘block, obstruct (v.); shield (n.)’, Chi. 扞 *hanH* < *m-k^rars (24–01q) ‘shield (n.), ward off’
- Tib. འཇམ་ *√kab* (pres. འཇམ་མཚན་ *hgebs*) ‘cover (v.)’, Chi. 蓋 *kajH* < *k^raps (35–01q) ‘thatch, cover (v.)’
- Tib. གོ་ *rgal* ‘cross, ford’, Chi. 河 *ha* < *C.g^raj (18–01g) ‘river’ (cf. §33a n. 44)
- Tib. གང་ *sgañ* ‘hill’, Bur. ཅེ་ *khañ*, Chi. 岡 *kang* < *k^raj (03–02a)
- Tib. ཅ་ *na* ‘I, me’, Bur. ཅི་ *nā*, Chi. 吾 *ngu* < *ŋ^ra (01–29f)
- Tib. གྲུ་ *sñar* ‘intelligent, quick of apprehension’, Chi. 獻 *xjonH* < *ŋ^rars (24–17e) ‘offer, present, wise man’

A complete list of examples of this correspondence is given at §253.

§34c. Chinese uvulars show two more minor correspondences with Tibetan. In one word Tibetan has a velar fricative rather than a velar stop.

Tib. རྩོམ་ *hoñ* / རྩོམ་ *yoñ* < *h^waŋ (cf. §21 n. 28) ‘come’, Bur. འཇོ *wañ* ‘enter’, Chi. 往 *hjuwangX* < *g^waŋ? (03–26k) ‘go’

§34d. In two words Tibetan exhibits a dental rather than a velar. Tangut 𑖇 *dow* 2.47 (L1099) ‘bear’ and Situ Rgyalrong *təwám* ‘bear’ (Jacques 2013: 289) also have dental initials (cf. §21a, esp. n. 29).

Tib. རྩོམ་ *dom* ‘bear’, Kur. *wam*, Mon. *wom*³⁵, Bur. འཇོ *wam* ‘bear’, Chi. 熊 *hjuwng* < *g^wəm (38–06a) ‘bear’

Tib. འཇོ *hdab-ma* ‘wing’, Chi. 翌/翼 *yik* < *grəp ‘wing’ (05–18b, 05–17d)

These minor correspondences may simply be credited to faulty comparisons, but future research may also find further examples. Because the Chinese cognates do not provide a conditioning environment that would account for the divergent reflexes in Tibetan, it is not possible to explain that Tibetan has undergone a conditioned split. Although one could reconstruct additional proto-segments to account for these examples, to do so is not warranted on the basis of such a limited number of examples.

§35. *The Correspondence of Tibetan -u- to Chinese -o-*. Because there are also examples in which both Tibetan and Chinese have either *-u-* or *-o-*, examples of Tibetan *-u-* corresponding to Chinese **-o-* cannot be reconstructed as either **u* or **o*. Consequently, it is necessary to reconstruct a vowel unattested in both languages, which changes into *-u-* in Tibetan and **-o-* in Chinese. I propose to reconstruct this correspondence as **-əw-*, largely because this syllable fills a gap in Old Chinese (Hill 2012a: 75–7, 2012b: 32–5; cf. §202). This is a tentative suggestion, which faces two potential objections. First, it is somewhat worrisome that examples of **-əw-* outnumber those of **-o-*, because a priori **-əw-* should be less common than **-o-* in the proto-language. Second, if **-aw* and **-ew* merge to *-o* in Tibetan (cf. §22), one might expect **-əw-* also to yield *-o* in Tibetan. However, the fact that this reconstruction is called for only in open syllables or syllables with velar codas (with 洽 *heap* < *g^rəp as the one exception), by paralleling the distribution of **-w* in Old Chinese, argues in favour of this reconstruction. The Burmese cognates, omitted here, are treated at §70.

§35a. Examples to be reconstructed **-u-*:

Tib. རྩོམ་ *phru-ma* ‘afterbirth’, Chi. 胞 *paew* < *p^rru (13–72b) ‘womb’

Tib. རྩོམ་ *khu* ‘paternal uncle’, Chi. 舅 *gjuwX* < *[g](r)u? (04–16b) ‘maternal uncle’

Tib. རྩོམ་ *dgu* ‘nine’, Chi. 九 *kjuwX* < *[k]u? (04–12a)

Tib. རྩོམ་ *han-gu* ‘pigeon’, Chi. 鳩 *kjuw* < *[k](r)u (04–12n) (a kind of bird)

- Tib. སྤྱུ་ *nu* ‘weep’, Chi. 嗥 *haw* < *g^su (13–01d) ‘roar, wail’
 Tib. གུ་མོ་ *gru-mo* ‘elbow’, Chi. 肘 *trjuwX* < *t.kru? (13–23a)
 Tib. རྒྱ་ *rgyu* < *ryu ‘flow’, Chi. 流 *ljuw* < *[r]u (13–46a)
 Tib. འཇུག་ *hthug*, མཇུག་ *mthug* ‘thick, dense’, Chi. 篤 *towk* < *t^suk
 (14–08g) ‘firm, solid’
 Tib. གཉན་པོ་ *gdugs* ‘midday, noon’, Chi. 晝 *trjuwH* < *truks (14–09a)
 ‘time of daylight’
 Tib. དཀྱུག་ *dkrug* ‘stir, agitate, disturb’, Chi. 覺 *kaewk* < *k^sruk
 (14–03f) ‘awake’, Chi. 攪 *kaewX* < *k^sru? (14–03i) ‘disturb’
 Tib. དུག་ *dug* ‘poison’, Chi. 毒 *dowk* < *[d]^suk (14–05a)
 Tib. དུག་ *drug* ‘six’, Chi. 六 *ljuwk* < *k.ruk (14–16a)
 Tib. ཐུག་ *thug* ‘soup’, Chi. 粥 *tsyuwk* < *[t-q]uk (14–10a) ‘gruel’
 Tib. ཕུག་ *phug* ‘cavern, hole’, Chi. 厖 *phjuwH* < *p^huks (14–23l) ‘cover’
 Tib. གསུམ་ *gsum* ‘three’, Chi. 三 *sam* < *sr[u]m (38–30a)
 Tib. བཅུན་ *btsun* ‘noble, righteous, honourable’, Chi. 尊 *tswon* <
 *[ts]^su[n] (34–26a) ‘honour (v.)’
 Tib. མུན་ *mun* ‘darkness’, Chi. 昏 *xwon* < *m^su[n] (32–40k) ‘dusk, dark’
 Tib. འཇུག་ *hdul* ‘tame, subdued’, Chi. 順 *zywinH* <
 *Cə.lu[n]s (34–20c) ‘follow; obey’
 Tib. རྩུ་ *rtul* ‘blunt, dull, stupid’, Chi. 蠢 *tsyhwinX* < *t^hun? (34–19c)
 ‘stupid’, Chi. 鈍 *dwonH* < *d^suns (34–17i) ‘dull’
 Tib. སྦྱུ་ *sbrul* < *smrul ‘snake’, Chi. 虺 *xjwujX* < *m^ruj? (27–19a)
 (see §30 n. 38)
 Tib. རྩུ་ *ehu* ‘water’, Chi. 水 *sywijX* < *s.tur? (28–14a)
 Tib. རྒྱུ་ *rgyud* < *ryud ‘continuum’, Chi. 率絳 *lwit* < *[r]ut
 (31–23a) ‘rope’
 Tib. སྦྱུ་ *brun* ‘dirt, dung, excrement’, Chi. 糞 *pjunH* < *p[u]rs
 (33–32a) ‘manure, dirt’
 Tib. ཕུག་ *phun* ‘accomplish, complete’, Chi. 奔 *pwon* < *p^sur (33–28a)
 ‘run (v.)’
 Tib. རྩུ་ *khul* ‘district, province’, Chi. 郡 *gjunH* < *gurs (34–12g)
 ‘district’
 Tib. འཇུག་ *hphur* ‘fly (v.)’, Chi. 飛 *pjij* < *Cə.pu[r] (27–09a)
 Tib. འཇུག་ *hgums* ‘kill’, Chi. 戮 *khom* < *k^hs^um
 (38–11q) ‘vanquish, kill’
 Tib. རྩུ་ *nub* ‘sink, set’, Chi. 入 *nyip* < *nup (37–16a) ‘enter’

§35b. Examples to be reconstructed *-o-:

- Tib. ཚོད་ *chod* ‘be sharp’, Chi. 絕 *dzjwet* < *[dz]ot (22–16a) ‘cut off,
 break off’
 Tib. གློད་ *glod* ‘loose, relaxed’, Chi. 脫 *thwat* < *mə-]’ot (22–13m)
 ‘peel off’

- Tib. ཁོལ་ *khol* ‘servant’, Chi. 信 *kwaenH* < *kr^sons (25–011) ‘servant, groom’
 Tib. རྗོལ་ *hjol* ‘hang down’, Chi. 垂 *dzywe* < *[d]oj (19–17a) ‘hang down’
 Tib. སྲོམ་ *sro-ma* ‘louse egg’, Chi. 卵 *lwanX* < *k.r^sor? (25–32a) ‘egg’
 Tib. སྒོག་ *skog* ‘shell, peel’, Chi. 殼 *khaewk* < *[k^h]rok (11–03a) ‘hollow shell, hollow’
 Tib. བཅོང་ *btson* ‘onion’, Chi. 蔥 *tshuwng* < *[ts]^hoŋ (12–19g)
 Tib. √rtod (pres. རྩོད་) ‘tether, fasten, secure’, Chi. 綴 *trjwet* < *trot (22–10b) ‘bind’, Chi. 贅 *tsywejH* < *tots (22–11a) ‘unite, together’
 Tib. རྩོད་ *brod* ‘joy, joyful’, Chi. 悅 *ywet* < *lot (22–13o) ‘pleased’
 Tib. རྒོ་ *rko* ‘dig’, Chi. 掘 *gjwot* < *[g]ot (31–16s) ‘dig out (earth)’
 Tib. རུལ་ *hkhoh* ‘boil’, Chi. 涓 *kwanH* < *k^sons (25–01f) ‘bubble’
 Tib. ཐོལ་ *tho-le* ‘spit’, Chi. 唾 *thwaH* < *t^hojs (19–17m)
 Tib. མཚོན་ *mtshon* ‘weapon’, Chi. 鑕 *tswan* < *[ts]^sor (24–39h) ‘perforate, penetrate’, Chi. 鑿 *tsjwen* < *tson (25–39c) ‘chisel, sharp point’
 Tib. སྐོར་ *skor* ‘go around’, Chi. 裹 *kwaX* < *s.[k]^so[r]? (19–02d) ‘wrap (v.)’

§35c. Examples to be reconstructed *-əw-:

- Tib. རྒྱ་ *rku* ‘steal’, Chi. 寇 *khuwH* < *[k]^h(r)os (10–04a)
 Tib. རྒྱུག་ *hgugs* ‘bend’, Chi. 曲 *khjowk* < *k^h(r)ok (11–04a) ‘bent, crooked’
 Tib. བུའུ་ *gtug* ‘meet, touch’, Chi. 觸 *tsyhowk* < *t^hok (11–12g) ‘knock against’
 Tib. རུ་ *nu* ‘suck’, Chi. 乳 *nyuX* < *no? (10–32a) ‘milk, nipple’
 Tib. རུ་བོ་ *nu-bo* ‘younger brother’, Chi. 孺 *nyuH* < *nos (10–31d) ‘child, mild’
 Tib. རླུག་ *rmugs* ‘dense fog’, Chi. 霧 *mjuH* < *kə.m(r)[o]ks (13–76t) ‘fog, mist’
 Tib. རུའུ་ *rduñ* ‘strike, beat’, Chi. 撞 *draewng* < *[N-t]^srōŋ (12–08f) ‘strike’
 Tib. བུའུ་ *buñ-ba* ‘bee’, Chi. 蜂蠱 *phjowng* < *p^h(r)oŋ (12–25st)
 Tib. རུ་ *khuñ* ‘hole, pit, hollow, cavity’, Chi. 空 *khuwng* < *k^hoŋ (12–01h) ‘hollow, empty, hole’, Chi. 孔 *khuwngX* < *k^hoŋ? (12–02a) ‘empty’
 Tib. རྒྱུབ་ *hgrub* ‘accomplish, achieve’, Chi. 洽 *heap* < *[g]^sr[o]p (37–01m) ‘accord with’

A complete list of examples of this correspondence is given at §256.

§36. *Loss of Final *-y*. Tibetan lacks a final *-y*; cognates to Burmese words ending in *-y* and Chinese words ending in **-j* generally drop the consonant in Tibetan without fanfare.

- Tib. དྲ་ *dra* ‘net’, Tib. རྒྱ་ *rgya* < *rja (Li’s law; cf. §25) ‘net, trap’,
 Chi. 羅 *la* < *r’aj (18–10a) ‘a kind of net’
 Tib. ར་ *ra* ‘courtyard’, Chi. 籬 *lje* < *raj (18–11g) ‘hedge’
 Tib. ས་ *sa* ‘earth’, Bur. འདྲ་ *sai* ‘sand’, Chi. 沙 *srae* < *s’raj (18–15a)
 Tib. དཔྱལ་ *dbah* ‘wave’,⁴⁷ Chi. 波 *pa* < *p’aj (18–16l)
 Tib. སྤོ་ *phra-mo* ‘slander’, Chi. 諛 *pje* < *p(r)aj (18–16h) ‘one-sided, insincere words’
 Tib. གོ་ *gro* ‘wheat’, Chi. 禾 *hwa* < *[ɣ]’oj (19–07a) ‘growing grain’
 Tib. འག་ *hgaḥ* ‘some’ (cf. note 47), Chi. 幾 *kjijX* < *kəj? (27–04a) ‘few; how many’

§36a. In some examples, final **-y* appears to have led Tibetan to have the vowel *-e-* instead of *-a-*. Matisoff suggests that Tibetan underwent the change **-ay > -e* (2003: 202, 205). This suggestion, however, does not explain the *-a-* vowel in the Tibetan examples just presented.

- Tib. ཇེ་ *rje* ‘exchange’, Bur. འདྲ་ *lai* ‘change, exchange’⁴⁸
 Tib. མེ་ *che* ‘great’, Tib. མཐེ་བོ་ *mthe-bo* ‘thumb’, Bur. འདྲ་ *tay* ‘very’ (intensive), Chi. 多 *ta* < *[t-]’aj (18–08a) ‘many’
 Tib. རྩེ་ *hdre* < *h’re (Conrady’s law; cf. §17) ‘demon’, Chi. 魑 *trhje* < *r’aj (18–11b)
 OTib. མེ་ *mye* ‘fire’, Chi. 燬 *xjwijX* < *m’aj? (27–17e) ‘burn’, Chi. 燬 *xjweX* < *m’aj? ‘fire’ (18–19b)
 Tib. ཉེ་ *ñe* ‘near’, Chi. 邇 *nyeX* < *n’aj? (07–20c) ‘near, draw near to’

§36b. In two words which generally appear to adhere to this correspondence, Tibetan has a final *-d*, which Chinese lacks.

- Tib. མེད་ *myed* ‘not exist’, Bur. འདྲ་ *mai?*, Chi. 靡 *mje* < *maj? (18–18h) ‘not’
 Tib. ཇེ་ *ned* ‘we’, Chi. 我 *ngaX* < *ŋ’aj? (18–05a) ‘I, we’

⁴⁷ This word only fits the correspondence if we presume (contra Hill 2005: 115–18, 2009: 129–31, 2011: 453) that *-h* in this word was used as a *mater lectionis* and was not segmentally pronounced.

⁴⁸ It is unclear whether Chi. 移 *ye* < *laj (18–08q) ‘move (v.)’ or Chi. 易 *yek* < *lek ‘change; exchange’ (08–12a) is the better cognate.

§36c. In one case Laufer's law (cf. §21) obscures whether the original vowel was *a or *e.

Tib. རྩོད་ *miöd* < *rñ^wat / *rñ^wet 'deceive', Chi. 偽 *ngjweH* < *N-G^wajs (19–06k) 'false, cheat'

§37. *-rl > -l. The correspondence of Tibetan -l to Chinese *-r is difficult to reconstruct with confidence. A mechanical solution is to reconstruct *-rl, which changes to -l in Tibetan and *-r in Chinese (cf. §201). Although auslaut /rl/ is rare in Asia, in many languages, like rhotic varieties of English, it is plentiful (e.g. 'curl', 'furl', 'pearl'). Burmese loses both *-r and *-l, so it naturally loses *-rl also (cf. §63), but keeps it as -y after the vowel -u- (cf. §64).

Tib. རྒྱལ་ *hgal* 'oppose, contradict', Bur. ကာ *kā* 'shield (n.)', Chi. 扞 *hanH* < *m-k^aa[r]-s (24–01q, 24–01i) 'shield (n.), ward off',

Chi. 干 *kan* < *k^aa[r] (24–01a) 'protect, guard'

Tib. མཁའ་ *mkhal* 'kidney, reins', Bur. ခါး *khāh* 'loins, waist', Chi. 肝 *kan* < *s.k^aa[r] (24–01l) 'liver'

Tib. ཧྲུལ་ *hal* 'pant, snort', Chi. 鼾 *xan* < *[q^h]^aa[r]? (24–01-) 'snore'

Tib. མཚོ་མ་ *tshal-ma* 'breakfast', Chi. 餐 *tshan* < *ts^har (24–40c) 'eat, food, meal'

Tib. དཔལ་ *dpal* 'glory', Tib. སྐྱལ་མེག་ *sbal-mig* 'bud, sprout', Chi. 蕃 *bjon* < *[b]ar (24–54m) 'ample, flourish'

Tib. རྒྱལ་ *hgal* 'oppose', Chi. 扞 *hanH* < *m-k^aa[r]-s (24–01q) 'fend off'

Tib. ཐམ་ *thal* 'dust, ashes', Chi. 炭 *thanH* < *[t^h]^aa[n]s (24–24a) 'charcoal, coal'

Tib. རྩོལ་ *hgrol* < *h^gwral 'become free', Chi. 援 *hjwon* < *[g]^wa[n] (25–14e) 'pull up'

Tib. རྩལ་ *rkyal-pa* 'sack, bag', Chi. 鞬 *kjon* < *ka[r] (24–08c) 'quiver'

Tib. ཕྱལ་སྐྱལ་ *phyag-sbal* 'soft part of an animal's paw', Chi. 蹠 *bjon* < *bar (24–54l) 'paw'

Tib. འཕེལ་ (pres. འཕེལ་) 'increase, augment', Chi. 徧 *penH* < *p^ee[n]-s (23–27b) '(go) all around'

Tib. འཕྱལ་ (pres. འཕྱེལ་ *skyel*) 'send', Chi. 遣 *khjenX* < *[k]^he[n]? (23–04b) 'send away'

Tib. ཁུལ་ *khul* 'district, province', Chi. 郡 *gjunH* < *gur-s (34–12g) 'district'

Tib. གཡུལ་ *gyul* 'army, battle', Chi. 軍 *kjun* < *[k]^wər (34–13a) 'army'

Tib. འཕྱུལ་ *hgul* 'move', Chi. 運 *hjunH* < *[g]^wər-s (23–13d)

Tib. ཁུལ་མ་ *khul-ma* 'bottom or side of sth', Chi. 根 *kon* < *[k]^hə[n] (33–01b) 'root, trunk'

- Tib. རལུལ་ *hbul*, རལུལ་ *hphul* ‘give’, Chi. 分 *pjun* < *pə[n] (33–30a) ‘divide’
- Tib. རལུལ་ *rdul* ‘dust’, Chi. 塵 *drin* < *[d]rə[n] (33–17a)
- Tib. རལུལ་ *dbul* ‘poor’, Chi. 貧 *bin* < *(Cə.)[b]rə[n] (33–30v)
- Tib. རལུལ་ *dnul* ‘silver’, OBur. ཅེལ་ *nuy*, Chi. 銀 *ngin* < *ŋrə[n] (33–01k)
- Tib. རྩལ་ལྷལ་ *khrol-khrol* < *kh^wral ‘bright, shining, sparkling, glistening’, Chi. 輝輝 *xjwǐj* < *q^{wh}ər (34–13k, 34–13l) ‘brilliant’
- Tib. མཇལ་ *mnal* ‘sleep’, Bur. མཇལ་ *nāh* ‘rest, stop a while’, Chi. 西 *sej* < *s-n^{ər} (26–31a) ‘west’ (cf. Sagart 2004: 71–4)

§37a. It is not always possible to confidently assign a cognate set to Trans-Himalayan *-r or *rl, as the following example shows.

- Tib. མགུལ་ *mgul* ‘neck’, Tib. མགུར་ *mgur*, Chi. 頤 *konX* < *[k]ə[n] (33–01-)
- Tib. མཚོ་ *mtshar* ‘fair, beautiful, bright’, Tib. འཇལ་ *gsal*; cf. Hill 2012b: 25) ‘clear, bright’, Chi. 粲 *tshanH* < *[ts^h]ars (24–40b) ‘bright and white’

§38. *Origins of Final -h*. In general, Tibetan final *-h* corresponds to Chinese final **-k* and Burmese open syllables (cf. Hill 2011b: 453). As discussed below (cf. §198b), I propose to reconstruct this correspondence as **-kə* in the Trans-Himalayan proto-language. Tibetan and Burmese share the sequence of changes **-Vkə* > **-Vɣə* > **-Vɣ*. Tibetan then devoices the final to *-h* [x], whereas Burmese drops it altogether (cf. §74). Chinese simply deletes the vowel and is left with **-k*.

- Tib. རྩལ་ < OTib. རྩལ་ *brgyah* (PT 1111, l. 5 *et passim*) < *bryah (Li’s law; cf. §25) < *bryakə ‘hundred’, Chi. 百 *paek* < *p^hrak (02–37a), OBur. ཅེལ་ *ryā*
- Tib. རྩལ་ *hdah* < *hdakə ‘pass (v.)’, Chi. 渡 *duH* < *d^hak-s (02–16b) ‘ford (v.)’
- Tib. མཇལ་ *mdah* < *mlah (Bodman’s law; cf. §18) < *mlakə ‘arrow’, Chi. 射 *zyek* < *Cə.lak (02–26a) ‘hit with bow and arrow’, OBur. ཅེལ་ *mlāh* ‘arrow’
- Tib. མཇལ་ *bla* < OTib. མཇལ་ *brlah* (PT 1287, l. 57) < *brlakə ‘soul’, Chi. 魄 *phaek* < *p^hrak (02–38o), WBur. ལྷོ་འཇལ་ *lipprā* ‘butterfly, soul’
- Tib. མཇལ་ *mkhal* < *mkakə ‘sky’, Chi. 極 *gik* < *[g](r)ək (05–04e) ‘ridge of roof, highest point, centre’
- Tib. མཇལ་ *bzāh* < *b^hah < *b^hakə ‘wet’, Chi. 澤 *draek* < *l^hrak (02–25o) ‘marsh, moisture’

§38a. However, in two words Chinese has a final *-j corresponding to Tibetan -h.

Tib. རྣམ་ཅུ་ *hgaḥ* < *hgaḥ ‘some’, Chi. 幾 *kjiX* < *kəjʔ (27–04a) ‘few; how many’

Tib. དཔྱེག་ *dbaḥ* ‘wave’, Chi. 波 *pa* < *pʰaj (18–16l)

§38b. In one word Tibetan -h corresponds to a Chinese open syllable.

Tib. མཚན་ *mdzaḥ* < *mdzəḥ ‘love’, Chi. 慈 *dzi* < *dzə (04–49j) ‘kind (adj.)’, Bur. ཨ་ *cā* ‘love’

One might speculate that the -h in Tibetan མཚན་ *mdzaḥ* ‘love’ is not etymological. Like other words with final -h, this is found in Old Tibetan spelled with an open syllable མཚེ་ *mdza* (IOL Tib. J. 740, l. 4), but another Old Tibetan text confirms the final -h (PT 1283, l. 28 *et passim*). A better understanding of the relative chronology of Old Tibetan texts will improve the ability to decide such questions.

§38c. In one word the Tibetan cognate is missing -h, anticipated on the basis of the Chinese cognate.

Tib. རྩ་ *rñā* ‘drum’, Chi. 𪛗 *ngak* < *ŋʰak (02–14g) ‘beat a drum’

This word occurs in the first line of the Khra ḥbrug bell inscription (Iwao, van Schaik, and Takeuchi 2009: 71). I do not have an explanation for the lack of -h in this word.

§38d. Tibetan final -h does not occur after vowels other than -a-. Consequently, the correspondence of Tibetan open syllables with Chinese final *-k may also be reconstructed as *-kə.

Tib. རྩེ་ *rje* < *rlye ‘exchange’, Bur. ལོ་ *lai* ‘exchange’, Chi. 易 *yek* < *lek ‘change; exchange’ (08–12a) (cf. §36a n. 48)

Tib. རྩ་ *ru* ‘horn’, རྩ་ *gru* ‘corner’, WBur. རྩ་ *khyui* ‘horn’, Chi. 角 *kaewk* < *C.kʰrok (11–02a) ‘horn, corner’

Tib. རྩ་ *hbu* ‘worm, insect’, OBur. རྩ་ *puiwh* ‘insect’, Chi. 蝮 *phjuwk* < *pʰuk (14–26j) ‘a kind of snake’

Tib. རྩ་ *ñi-ma* ‘sun’ < *nʰi, OBur. རྩ་ *niy* ‘sun’, Chi. 日 *nyit* < *C.ni[k] (29–26a) ‘sun’

Tib. རྩ་ *tshi* ‘sticky matter’, WBur. རྩ་ *ceḥ* < OBur. *ciyh ‘be sticky, adhesive’, Chi. 漆 *tshit* < *tsʰi[k] (29–32a) ‘varnish’

§39. *-g < *-k, *-q. Tibetan final -g corresponds both to Chinese final *-k and Chinese final *-ʔ. In order to account for this double correspondence I respectively reconstruct *-k and *-q (cf. §§73, 199).

§39a. Examples to be reconstructed *-k:

- Tib. རྒྱག་ *zag* < *rʷak ‘day, 24 hrs’, Chi. 夜 *yaeH* < *N.raks (02–27j) ‘night’
 Tib. གཅིག་ *gciḡ* < *gtʷiḡ ‘one’, Chi. 隻 *tsyek* < *tek (08–11c) ‘single’
 Tib. འཕྲུལ་ ‘kindle, light (v.)’, Chi. 燭 *tsyowk* < *tok (11–12e) ‘torch’
 Tib. དུག་ *dug* ‘poison’, Chi. 毒 *dowk* < *dʷuk (14–05a)
 Tib. ལྷུག་ *drug* ‘six’, Chi. 六 *ljuwk* < *k.ruk (14–16a)

For a complete list of examples of this correspondence see §263.

§39b. Examples to be reconstructed *-q:

- Tib. ཉག་མོ་ *ñag-mo* < *ñaq-mo ‘woman’,⁴⁹ Chi. 女 *nrjoX* < *nraʔ
 (01–56a)
 Tib. དམག་ *dmag* < *dmaq ‘army’, Chi. 武 *mjuX* < *maʔ (01–71a)
 ‘military’
 Tib. རྒྱག་ *ñag* < *ñaq ‘speech’, Chi. 語 *ngjoX* < *ŋaʔ (01–29t) ‘speak’
 Tib. རྩོགས་ *grog*s < *gʷraks < *gʷraqs ‘friend’, Chi. 友 *hjuwX* < *gʷəʔ
 (04–17e)
 Tib. བག་མ་ *bag-ma* < *baq-ma ‘bride’, Chi. 婦 *bjuwX* < *mə.bəʔ
 (04–63a) ‘woman, wife’
 Tib. འོག་ *hog* ‘under’ < *hoq, Chi. 後 *huwX* < *[g]ʰ(r)oʔ (10–08a)
 ‘behind’
 Tib. སྐྱུག་ *skyug* < *skyuq ‘vomit’, Chi. 嘔 *uwX* < *qʰ(r)oʔ (10–10i)
 Tib. ཕྱུགས་མ་ *phyags-ma* < *pyaqs-ma ‘broom’, Chi. 帚 *tsyuwX* <
 *[t.p]əʔ (13–20Aa)
 Tib. རྩོག་མོ་ *grog-mo* < *groq-mo ‘ant’, Chi. 蚋 *xuwX* < *qʰ(r)oʔ
 (10–01n)

§40. *The Age of Voicing Alternation in the Verbal System.* As Uray notes, voicing alternation occurs among triplets of Tibetan verbs. A voiced intransitive (A), voice alternating transitive (B), and voiceless intransitive (C) all derive from the same root (1953: 50–1). The voiceless intransitive appears to derive from the present stem of the voice-alternating transitive. Features peculiar to the present stem of the voice-alternating transitive (such as an ‘a’ to ‘e’ ablaut, -d suffix, and excremental dental), are preserved in stems of the voiceless member as part of the root (cf. Beyer 1992: 113).

- A: √grol (འབྲོག་ *hgrol*, རྩོགས་ *grol*d) ‘be free’
 B: √grol (འབྲོག་ *hgrol*, བཀྲོལ་ *bkrol*d, དབྲོག་ *dgrol*, རྩོགས་ *khrol*d) ‘liberate’
 C: √krol (འབྲོག་ *hkrol*, རྩོགས་ *khrol*) ‘unravel’

⁴⁹ Also note ཉམ་ *ña-mo* and རྒྱག་ *nag-mo* with similar meanings; the relationship among these three words requires philological clarification. A relationship with རྒྱག་ *nag* ‘black’ is not to be precluded.

A: \sqrt{dul} (དུལ་ *dul*, དུལ་དྭ *duld*) ‘be tame’

B: \sqrt{dul} (འདུལ་ *hdul*, བདུལ་ *btul*, གདུལ་ *gdul*, ལུལ་ *thul*) ‘tame, subdue’

C: \sqrt{tul} (འཇུལ་ *htul*, ལུལ་ *thul*) ‘be tame’

A: \sqrt{dzug} (ཟུག་ *zug*, ཟུགས་ *zugs*) ‘pierce, penetrate’

B: \sqrt{dzug} (འཇུགས་ *hdzugs*, བཟུགས་ *btsugs*, གཟུགས་ *gzugs*, ཟུགས་ *tshugs*)
‘plant, establish, insert’

C: \sqrt{tsugs} (འཇུགས་ *htsugs*, ཟུགས་ *tshugs*) ‘go into, begin’

A complete list of such triplets is given at §257.

This observation of Uray’s has been consistently ignored in Tibetan grammars and handbooks (e.g. Gyurme 1992, Beyer 1992, Schwieger 2009), as well as in Trans-Himalayan linguistics (e.g. LaPolla 2003); all previous attempts to explain the origins of voicing alternation fail, because they attempt only to explain the A and B forms (Hill 2014c).

§40a. A look at the verb འཇུག་ *hdzug*, བཟུག་ *btsug*, གཟུག་ *gzug*, ཟུགས་ *tshugs* ‘plant’ draws attention to the fact that voicing alternation was already a part of the Tibetan verbal system before affricate softening (i.e. Schiefner’s law) occurred.

*h-dzug, *b-tsug, *d-dzug, *tshugs*

*h-zug, *btsug*, *d-zug, *tshugs* (Schiefner’s law)

*h-zug, *btsug*, *gzug*, *tshugs* (d- >g-)

hdzug, *btsug*, *gzug*, *tshugs* (Conrady’s law)

Voicing alternation in the Tibetan verbal system is quite old.

§41. *The Age of Ablaut in the Verbal System.* Following suggestions of Shafer (1951), Coblin credits the ablaut phenomena in the Tibetan verbal system to the influence of affixal morphology (1976). His proposal that a prefix *g-* causes the ablaut of ‘a’ to ‘o’ (1976: 54–5) is discussed and dismissed above (cf. §13c).

§41a. Coblin proposes that a suffix *-d*, on the present stem of some verbs, induces the ablauts ‘a’ to ‘e’ and ‘u’ to ‘i’ (1976: 52–7).

*-ad > -ed, e.g. \sqrt{bya} ‘do’, present *byad > ཐེད་ *byed*

*-a(C)d > -e(C)d, e.g. \sqrt{sam} ‘think’, present *samd > *semd > སེམས་ *sems*

*-and > -end,⁵⁰ e.g. \sqrt{lan} ‘take’, present *land > ལེན་ *lend*

*-und > -ind, e.g. $\sqrt{byuñ}$ ‘take out’, present *hbyuñd > འཇིན་ *hbyind*

⁵⁰ The change *nd > nd does not take effect in roots beginning with a velar, e.g. \sqrt{gan} ‘fill’ present *hganđ > འགོངས་ *hgens* (and not *hganđ > *hgens as one might expect).

There is very likely something to this theory,⁵¹ but it is impossible in Coblin's formulation. If *-ad > *-ed were an unconditioned sound change, then a root like Tib. √rad (pres. རྩོད་ *hɹad*; cf. Jacques 2010: 28) could not exist. The suggestion that sound change behaves differently in roots and in suffixes is impossible according to orthodox neogrammarian principles (cf. Hill 2014b).

§41b. In many cases, ablaut occurs across languages, and thus must be reconstructible to the proto-language.

- Tib. མཁན་ *mkan* 'know', Chi. 見 *kenH* < *k'en-s (23–01a) 'see'
 Tib. མཐོང་ *mthoŋ* 'see', Bur. မြင် *mraŋ* 'see'
 Tib. བཟད་ *bzad* 'bear, endure', བཟོད་ *bzod* 'bear, endure'
 Tib. √lag (pres. ལྟོག་ *klog*, past ལྟོགས་ *blags*, fut. ལྟོག་ *klog*, imp. ལྟོགས་ *lhog*) 'read', Chi. 讀 *duwk* < *C.l'ok (14–14m)
 Tib. རྩལ་ *nal* 'rest', Chi. 臥 *ngwaH* < *[ŋ]ʰ[o]j-s (19–11a) 'lie down'
 Tib. སྲོག་ *srog* 'life', Chi. 息 *sik* < *sək (05–29a) 'breathe', Bur. འོང་ *sak* 'life, breath' (cf. §57c)
 Tib. སྐྱོད་ *skrag* 'be scared', WBur. 𑄎𑄚𑄚𑄚 *khrok* < *ʷkruk 'frighten, scare', Chi. 嚇 *xaek* < *qʰrak (02–10b)
 Tib. མདོ་ *mdom* < *mlom 'fathom' (cf. §18 n. 24), Bur. འོང་ *lam*, Chi. 尋 *zim* < *sə-ləm (38–17a) 'measure of eight *chi* 尺'

Ablaut between Chinese and Burmese is also witnessed in cases for which Tibetan offers no cognate.

- Chi. 合 *hop* < *m-k'op (37–01a) 'unite', Bur. འོང་ *kap* 'join, unite'
 Chi. 迨 *hop* < *m-k'op (37–01e) 'reach, attain, go to', Bur. འོང་ *khap* 'arrive at'

§41c. The 'a' to 'o' ablaut occurs unconditioned in the imperative stem. Thus, all roots with the vowel 'a' take the vowel 'o' in the imperative, e.g. √rgal 'step over', imperative རྩོད་ *rgol*. Shafer compares the 'a' to 'o' ablaut in the Tibetan imperative stem to 'an imperative ending -o ... found in Murmi, Magari, and Bahing' (1951: 1022) and also compares phenomena in Kukish and Tsangla (1951: 1022 note 2). However, Zeisler notes that Tibetan imperative stems occur outside commands to show that an action is possible. Among several examples she cites the following from the *Mdzans-blun*:

ལྟོད་ཀྱིས་མེ་མར་འདི་བས་དུས་སྐྱུ་མེ་མས་སམ། མེ་མར་འདི་ནི་ལྟོད་ཀྱིས་མི་སོད་དོ།

khyod-kyis me-mar hdi bsad sñam sems-sam / me-mar hdi ni khyod-kyis mi-sod-do //

⁵¹ Bialek (2015: 326–329) offers insightful comments on √byun 'take out' (pres. འཕྱིན་ *hbyind*).

“Dost thou think that thou hast extinguished this butter lamp? This butter lamp thou art unable to extinguish” (Zeisler 2002: 445).⁵²

Zeisler posits that the *potentialis* use of the imperative is older than its use in commands.⁵³

The stem form underwent a considerable shift of meaning: from the mere description of the ability to perform an action or to obtain a result via the wish that one may be able to perform and the wish that the action will be performed (optative) to a command that the action should be performed (imperative). (Zeisler 2002: 450)

If Zeisler’s analysis of the development of the imperative stem is correct, then it would appear unjustified to compare the ‘o’ ablaut in the Tibetan stem with imperative *-o* suffixes in other Trans-Himalayan languages. However, Jacques maintains Shafer’s proposal despite Zeisler’s objection: ‘Her observation does not disprove Shafer’s hypothesis, but implies that a parallel semantic shift from potential to imperative took place independently in Tibetan and Tamangic’ (Jacques 2012b: 212). Although parallel but independent semantic shift is possible, by suggesting that the parallel semantics of the Tibetan and the other languages is coincidental, Jacques removes Shafer’s primary motivation for having associated the two phenomena in the first place. The *potentialis* ‘o’ in Tibetan could with equal likelihood be associated with any other ‘o’ morpheme in other Trans-Himalayan languages.

§41d. In sum, ablaut in the Tibetan verbal system is ancient and still in need of clarification.

1.4.4 Reprise: From Trans-Himalayan to Proto-Bodish

§42. In the interest of methodological explicitness these changes have been presented inductively, moving step by step from proto-Bodish to proto-Trans-Himalayan. This is a convenient juncture to present the same list of changes in the order which they occurred historically. As a preliminary comment one may note that ablaut (§41) and voicing alternation (§40) in the Tibetan verbal system are ancient, and their origins remain obscure.

In approximate chronological order these sound changes occur as follows:

The change **-q > -g* (§39)

The change **-Vkə > -Vh* (§38)

⁵² The Derge Kanjur gives the passage slightly differently: ལྷོད་ཀྱིས་མར་མེ་འདི་གསད་པར་མེས་སྲུང། མར་མེ་འདི་ ལྷོད་ཀྱིས་མེ་སྤོད། *khyod-kyis mar-me hdi gsad-par sems kyañ / mar-me hdi khyod-kyis mi sod-do/* (*Mdzan’s blun*, Derge Kanjur vol. 74, p. 226a).

⁵³ For discussion of the *potentialis* form in the Tibetan grammatical tradition see Müller-Witte (2009: 246–251).

The loss of final *y (§36)

The change *əw > -u- (§35)

Peiros and Starostin's law: merger of velars and uvulars (§34)

Merger of *e and *a before dentals, -r, and -l (§33)

Merger of *a and *ə (§32)

The change *rl- > rj- (§31)

Simon's Law: *mr- > br- (§30)

Schiefner's law: softening of voiced affricates (§29)

Houghton's law: *ñʷ- > ñ- (§27)

Sa-skya Paṇḍita's law, *g- > d- before graves, *d- > g- before acutes (§26)

Li Fang-kuei's law: *ry- > rgy- (§25)

On the basis of these changes it is clear that Trans-Himalayan had distinct uvulars and velars. It had a sixth vowel *ə, lacking in Tibetan. There were no palatals. The glide -j- could occur after many segments, including velar nasals, l, and r. The proto-language did not have voiced fricatives.

1.4.5 Diachronic Mysteries

§43. The most valuable contribution of a survey of Tibetan sound laws is to draw new focus to the exceptions to these sound laws. Exceptions to the respective sound laws presented have been provided above, but it is convenient to assemble them together here. The final -h in the words འགཤ་ *hgaḥ* 'some', དབཤ་ *dbaḥ* 'wave', and མཇཤ་ *mdzaḥ* cannot be explained as originating from *-Vkə (cf. §38). The word རྩ་ *rña* 'drum' should end with a final -h, but unexpectedly fails to (cf. §38c). The two words རྒྱལ་ *pel* (pres. རྒྱལ་ལ་) 'increase, augment' and སེར་ *ser* 'hail' are exceptions to the (admittedly early and thus speculative) change of *-e- to -a- before -l and -r (cf. §33b). The exceptions to Simon's Law (cf. §30) are སྐྱ་ *smra* 'say', སུར་སྐྱིག་ *nur-smrig* 'saffron', སྐྱོ་ *smre* 'suffering', སྐྱིག་ *smreg* 'root, remainder', སྐྱའ་ *smrañ*, སྐྱེན་ *smreñ* '(ritually) say'. An exception to Schiefner's law (cf. §29) is རྩག་ *jag* 'robbery'; it is probably not inherited, although Gong and others have offered a cognate for it (cf. §29d n. 35). Exceptions to either Bodman's law (cf. §18) or Conrady's law (cf. §17) are the words འདུག་ *hdug* 'stay', and འདོད་ *hdod* 'desire', which have connections to words with lateral initials but cannot be reconstructed as Conrady's *hl or Bodman's *ml. The Tibetan words that contain the sequences -eñ or -eg constitute exceptions to Dempsey's law (cf. §14), although some are explainable as analogical innovations (Hill 2014).

2 Burmese

§44. Prior to the appearance of Burmese the Pyu and Mon languages had already been spoken and written in what is now Burma for several centuries (Krech 2012: 120–3, Bauer 1990). Burmese emerged as the language spoken by the Burman population in Pagan at the time of the Pagan dynasty (1113–1287 CE). The Burmese-speaking population entered Burma from the north; this is clear from the distribution of the Burmish languages, namely that they are all in the north, and further the Burmese word တောင် *ton* ‘mountain’ means also ‘south’, which suggests that at one point the Burmans lived to the north of the mountains. The oldest document in Burmese is the Myazedi inscription of 1113 CE (cf. Nishida 1955, Yabu 2006). Essentially all documents in Old Burmese are stone inscriptions recording land grants to Buddhist establishments (cf. Frasch 1996: 1–16).

The family that consists of languages descending from Old Burmese, known as Burmese dialects, includes ‘Standard Burmese’ of Rangoon (Yangon) and Mandalay; Tavoyan (Dawei); and the closely related Palaw, Yaw, Merguese (Beik), Intha, Danu, Arakanese (Rakhine); and the affiliated Marma and Taung’yo (Bernot 1965, Jones 1972, Okell 1995, Naksuk 2012). I propose to call this the ‘Mranmaic’ language family, reserving ‘Burmic’ and ‘Burmish’ for other purposes (cf. §48). The speech of Rangoon serves as the official language of the Republic of the Union of Myanmar and is the only reasonably well-documented language of the Mranmaic family.

2.1 Old Burmese

§45. The Burmese script includes symbols for all of the sounds of Pali. The voiced aspirates and the retroflex consonants are not needed in indigenous Burmese words (cf. Figure 2.1). Burmese orthography only began to consistently distinguish *-aṅ* and *-aṅṅ* as recently as the late 1950s (Nishi 1999: 14–15, esp. 58 note 7); the distinction corresponds to Old Burmese *-yan* and *-aṅ*. In

က	k	ခ	kh	ဂ	g	ဃ	gh	င	ṅ
စ	c	ဆ	ch	ဇ	j	ဈ	jh	ည/ည	ñ/ññ
ဋ	t	ဌ	th	ဍ	d	ဎ	ḍh	ဏ	ṇ
တ	t	ထ	th	ဒ	d	ဓ	dh	န	n
ပ	p	ဖ	ph	ဗ	b	ဘ	bh	မ	m
ယ	j	ရ	r	လ	l	ဝ	w	သ	s
		ဟ	h	ဠ	l	အ	ʔ		

Figure 2.1 The Burmese alphabet

velars	k-	kh-	ṅ-	ṅh-
palatals	c-	ch-	ñ-	
dentals	t-	th-	n-	nh- s-
labials	p-	ph-	m-	mh-
glides	y-	yh-	r-	rh- w- wh-
laterals	l-	lh-		
glottals	ʔ-	h-		

Figure 2.2 Burmese simplex onsets

order to avoid confusion in the citation of Burmese lexical items I use ‘-ññ’ both for Written Burmese -ññ and Old Burmese -ñ, since they are historically continuous. With one exception the phonetic value of the sounds represented by these letters may be taken at face value.¹ The exception is that the orthographic palatals <c>, <ch>, and <j> respectively represent [ts-], [tsʰ-], and [dz-], rather than [tʃ-], [tʃʰ-], and [dʒ-]. The sound change of Written Burmese c- to Spoken Burmese /s-/ alone would suggest this interpretation of ‘c’. In addition, the Burmish languages support *ts as one of the ancestors of Burmese ‘c’ (Hill 2013a; and cf. §53c). Furthermore, the sound change ts- to s- is well attested in other languages: the change ts- > s- is attested in Akkadian (Faber 1985: 105) and in multiple Indo-European (Kümmel 2007: 69) and Tucano (Chacon and List 2015: 190) languages, and the change tsh- > s- is currently under way in Atsi (cf. Lustig 2010: 36–9).

¹ The conjecture that -ññ does not reflect a historic palatal final (Haudricourt 1952: 92 note 1), since it has no appreciable effect on cross-linguistic comparisons, is here left unexplored.

§46. In addition to the paucity of philological work on Old Burmese, the unstable orthography of the early inscriptions poses difficulties for using Old Burmese in comparative linguistics. Although subject to revision in light of future research, Figure 2.2 presents the simplex onset consonants of Old Burmese (cf. Nishi 1999: 34, Button 2012: 43–6).²

Old Burmese displays medials *y-*, *r-*, and *l-*, which occur in the combinations presented in Figure 2.3 (cf. Nishi 1999: 1–5, Button 2012: 46). The medial *-w-* arose during the Old Burmese period due to the vowel-breaking of *-o₁-* to *-wa-* (Hill 2011c: 708).³ A few early Old Burmese texts reflect the etymologically correct spelling (Hill 2013d: 61–5). Consequently, one may exclude medial *-w-* from the inventory of Old Burmese for the purposes of historical linguistics. Nishi (1999: 1–10) also finds limited evidence for phonemically distinguishing the double medials *kry-*, *khy-*, *ply-*, and *mly-*, but these are excluded from Figure 2.3. According to Yanson the combination *nr-* occurs in only one Pali loanword 𑄓𑄣𑄧 *nrāy* ‘hell’ (2006: 104–5); however, Nishi also offers 𑄓𑄣𑄧 *nrīm* ‘free from troubles’ and 𑄓𑄣𑄧𑄣𑄧 *nrāh* ‘verb particle’ with initial *nr-* (1999: 2). The spelling <sy-> occasionally occurs in Old Burmese inscriptions; Nishi regards <sy-> as an orthographic variant for *rh-* or *yh-* (1999: 47). Preceding the vowel *-i-*, *k-* and *kh-* are not phonemically distinguished from *ky-* and *khy-*; also *ñ-* may be phonemically analysed as /ŋj/ as if written *ny-* (Nishi 1999: 3, 47).

Figure 2.4 presents the rimes of Old Burmese (cf. Hill 2012a: 68). Old Burmese does not orthographically distinguish /o₁/ and /o₂/, instead /o₁/ is written simply as ‘o’ in the earliest inscriptions and is written ‘wa’ in later inscriptions and Written Burmese (cf. Hill 2013d: 61–5). This change in orthography reflects the aforementioned sound change /o₁/ > /wa/. In contrast,

Cy-	ky-	khy-	py-	phy-	my-	mhy-	ry-	(rhy-)	lhy-
Cr-	kr-	chr-	pr-	phr-	mr-	mhr-	---	---	---
Cl-	kl	khl-	pl-	phl-	ml-	mhl-	---	---	---

Figure 2.3 Old Burmese consonant clusters

² In Rangoon Burmese of today, /t-/ , /t^h-/, /n-/ , and /ŋ-/ are pronounced as alveolars rather than dentals (Watkins 2001); one must entertain that this may also have been the case in Old Burmese.

³ Matisoff (2015) instead proposes that *wa* is inherited, overlooking the scholarship endorsing OBur. *-o₁-* > WBur. *-wa-* (Nishida 1955: 30–3, 1972: 258, Wun 1975: 89, Ba Shin 1962: 27–8 and 38–9, Pan 2000: 20, Dempsey 2001: 222–5, Hill 2013d: 61–5, Yanson 2015: 98). Even if *-wa-* were inherited in Burmese, the correspondence of Burmese *-wa-*, Tibetan *-o-*, Chinese *-o-*, and Jinghpaw *-o-* (cf. Matisoff 2015: 381) still requires *o as the protoform.

	nasal	open/glide	stop
(a)		a	
	am		ap
	an		at
	añ	ay	ac
	aṅ	au	ak
(i)		i	
	im		ip
	in	iy	it
(o ₁)		o ₁	
	o ₁ m		o ₁ p
	o ₁ n	o ₁ y	o ₁ t
	o ₁ ñ		o ₁ k
(u)		u	
	um		up
	un	uy	ut
(o ₂)	o ₂ ñ		o ₂ k
(ui)		uiw	

Figure 2.4 The rimes of Old Burmese

/o₂/ is written as ‘o’ from the earliest inscriptions until today. As can be seen in Figure 2.4, /o₂/ has a limited distribution, occurring only before velars. Indeed, /o₂/ may be seen in Old Burmese as a positional allophone of /u/ before velars and its historical origin is also *u (Maung Wun’s law; cf. §55).

Old Burmese does not regularly mark tones. However, there were sporadic attempts to represent tone in Old Burmese and the clear tonal cognates in other Burmish languages ensure that the three tones of Written Burmese were present in Old Burmese, and indeed in proto-Burmish (Nishi 1999: 21–4, 36, 59–61). For the purposes of the current work, I project the tone marking of Written Burmese backwards onto Old Burmese.

Frequently an Old Burmese attestation of a word is not (currently) available. In such cases, I cite the Written Burmese form.

Cy-	ky-	khy-	---	py-	phy-	my-	mhy-	ry-	lhy-
Cr-	kr-	khr-	ñr-	pr-	p hr-	mr-	mhr-	---	---

Figure 2.5 Written Burmese consonant clusters

	Level	Creaky	Heavy	Final stop
(a)	ā	a	āḥ	
	añ	añʔ	añḥ	ak
	añ	añʔ	añḥ	ac
	an	anʔ	anḥ	at
	am	amʔ	amḥ	ap
(wa)	wā	wa	wāḥ	
	wañ	wañʔ	wañḥ	wak
	wan	wanʔ	wanḥ	wat
	wam	wamʔ	wamḥ	wap
(i)	ī	i	īḥ	
	in	inʔ	inḥ	it
	im	imʔ	imḥ	ip
(u)	ū	u	ūḥ	
	un	unʔ	unḥ	ut
	um	umʔ	umḥ	up
(e)	e	eʔ	eḥ	
(we)	we	weʔ	weḥ	
(ai)	ay	aiʔ	ai	
(wai)	way	waiʔ	wai	
(o)	au	oʔ	o	
	oñ	oñʔ	oñḥ	ok
(ui)	ui	uiʔ	uiḥ	
	uiñ	uiñʔ	uiñḥ	uik

Figure 2.6 Rimes of Written Burmese

2.2 Written Burmese

§47. ‘Written Burmese’ refers to the spelling of Burmese words as they appear in modern dictionaries. In general these spellings may be understood to approximate the pronunciation of a given word in the fourteenth century, but Written Burmese is an idealized standard reflecting the usage of no specific time or place (Nishi 1999: 1–26).

The simplex onsets of Written Burmese are the same as those of Old Burmese (Figure 2.2). However, both *rh-* and *yh-* at some point became pronounced as [ʃ], and the Written Burmese spellings cannot be taken to be correct. Medial *-l-* is lost in Written Burmese, merging with *-y-* after velars and *-r-* after labials. Initial *ry-* simplifies to *r-*, and */rhy-/* (variously spelled in OBur.; cf. Nishi 1999: 47) likewise simplifies to *rh-*.

Six sound changes substantially effect the rimes of Written Burmese: *o₁* > *wa*, *iy* > *e*, *uy* > *we*, *uiw* > *ui*, *yat* > *yac*, *yan* > *yañ* (Hill 2012a: 67). In addition, loanwords, particularly from Mon, add an increasing number of words with the rimes *-uiñ* and *-uik* (Luce 1985: vol. I, 100, Pulleyblank 1963: 217).⁴

2.3 The Burmish Languages

§48. A number of languages spoken in Burma and China, among them Atsi (also called Zaiwa) Achang (Nqochang, Maingtha), Xiandao, Lashi (Lachik, Lacid), Maru (Lhaovo, Langsu), and Bola (Pola, Bela), are generally regarded as the languages most closely related to Burmese, which do not directly descend from Old Burmese. I refer to this language family as the ‘Burmish languages’. This use of ‘Burmish’ corresponds to Shafer’s (1955: 103) ‘Burma branch’ and not his ‘Burmish branch’. A number of scholars have attempted to sketch the *Stammbaum* of this family (Shafer 1955: 103, Burling 1967: 3, Mann 1998: 135, Lama 2012: 177–9), but until such efforts are based on firmly understood historical phonology they are premature.

It suffices to mention here one proposed isogloss for subdividing the Burmish family, namely Nishi sees the merger of aspirate and glottalized consonants as an innovation, which in his terminology divides the Burmish languages (Burmese, Achang, Xiandao) from the Maruic (Atsi, Lashi, Maru, Bola) languages (Nishi 1999: 70). Although this criterion is sufficient to posit ‘Burmish’ as a branch in its own right, it does not suggest that the ‘Maruic’ languages form a coherent subgroup; to do so they would need to have together

⁴ Matisoff does provide etymologies for some Written Burmese words with the rimes *-uiñ* and *-uik*, e.g. $\text{ꨀꨁꨃꨉ} \text{ khyuiñ?}$ ‘cage’ and $\text{ꨀꨁꨃꨉ} \text{ khyuiñ?}$ ‘valley’ (2003: 287, also cf. Hill 2012a: 67 note 14). But, as Nishi points out, these lack cognates in the Burmish languages (1999: 73–4). The correct conclusion is that these etymologies are spurious (cf. Button 2011: 39 and references cited therein).

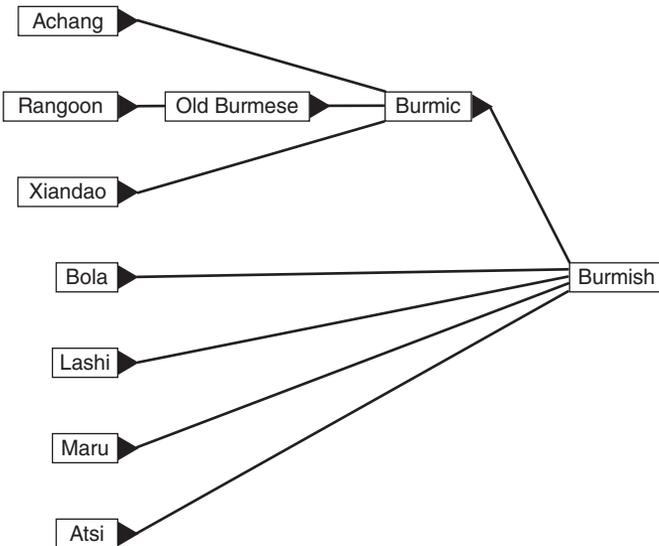


Figure 2.7 The Burmish language family (Hill and List 2017: 57)

undergone an innovation for which the Burmic languages have maintained the original form. Figure 2.7 presents the *Stammbaum* of the Burmish family to the extent that it can be certain given the current state of research.

The pervasiveness of contact-induced change among the Burmish languages renders a precise and verifiable characterization of the *Stammabaum* difficult to achieve. Two examples of shared innovations between Burmese and Lashi suffice to exhibit this problem.

- (i) Standard Burmese has changed *r-* to *y-* [-j-] and shares this sound change with Lashi (WBur. ရင် *ran*, SBur. *jin*, Lashi *jan*³¹ ‘chest’; WBur. ရယ် *ray*, SBur. *je*, Lashi *ji*:*V* ‘laugh’). However, the Burmese dialect of Arakanese preserves *r-* distinct from *y-* (Okell 1995: 2), so the parallel change of Standard Burmese and Lashi occurred separately in the two languages; either the parallel changes of *r > j* in spoken Burmese and Lashi are coincidental or (more likely) a recent contact-induced change in Lashi. The parallel developments in the two languages are of no consequence for the structure of the *Stammabaum*.
- (ii) Written Burmese *ky-* is pronounced *č-* in Standard Burmese; cognates in Lashi are also pronounced with *č-* (e.g. WBur. ချို *khyui*, SBur. *čo*, Lashi *ča:u* ‘sweet’. Even Arakanese offers up *č-* in the relevant cases; cf. Okell 1995: 12 *et passim*). The agreement among all of these languages provokes the conjecture that **č-* can be reconstructed in proto-Burmish when Written Burmese has *ky-*. This is, however, unlikely. If *ky-* were already /tʃ/ in Old Burmese there would have been no motivation for the spelling *ky-*, which agrees with velars in Tibetan (e.g. OBur. ချဝ် *khyat*, Tib. སྐྱིད *skyid* ‘love’, OBur. ကျပ် *kyo₁n* ‘slave’, Tib. ཁོ *khöl* ‘slave’). In addition, Tavoyan sometimes has /hk-/ as a reflex of Written Burmese *khy-* (Okell 1971: 9), a correspondence that is impossible to explain with the interpretation of *ky-* as /č/ in proto-Burmish. The prudent course is to posit independent occurrences of *ky-* > *č-* in Burmese and Lashi.

There have been four contributions to the reconstruction of proto-Burmish: Burling (1967), Nishi (1999), Mann (1999), and Dempsey (2003). The contribution of Burling, unwelcome in its day (cf. Matisoff 1968), is restrained by the extent of vocabulary he collected and the three Burmish languages available to him: Spoken Burmese, Atsi, Maru. Although his reconstructions are unreliable the correspondences he recognized are invariably valid. Mann’s contribution is limited because he fails to consult inscriptional Burmese. The data are inconsistent, and he has not cross-checked his observations against the published literature, such as Yabu (1982) for Atsi. Dempsey (2003) is a valuable contribution, but he does not present all of the examples that he found for each correspondence set, and uses a highly abstract re-phonologization that takes his presentation of the data quite far from their original form. Nishi (1999) offers the most comprehensive and reliable study so far. He offers full sets of data for

each correspondence, highlighting irregular developments. A sign of his care and prudence is that Nishi works out correspondences but does not suggest reconstructions.

2.4 The Loloish Languages

§49. The Burmish languages are normally understood to be a sister family to Loloish, the two together constituting a single Trans-Himalayan subgroup, namely Lolo-Burmese (Burling 1967: 1–3, Bradley 1979: 15–17, Matisoff 2003: 8). Available reconstructions of Loloish and Lolo-Burmese are outdated, do not predict attested forms, and contain some inconsistencies.⁵ However, a fresh reconstruction of proto-Loloish lies outside the scope of the present work. Consequently, for the present, ignoring the evidence of the Loloish languages entirely is the most prudent course.

2.5 Burmese Diachronic Phonology

§50. Burmese shares some innovations with the Burmish languages; these innovations allow us to divide the history of Burmese into that more recent phase during which its fate was independent of the Burmish languages, and an early phase when together with the Burmish languages it was a single tongue.

2.5.1 *From Burmese to Proto-Burmish*

§51. There is not evidence in every case for whether or not a Burmish language underwent the same change as Burmese. All changes which happened after the earliest change not shared by the Burmish languages must be independent of the changes in the Burmish languages. I use evidence from Lashi and Atsi as representatives of the Burmish family. It would be desirable to proceed in two steps, from Burmese to proto-Burmic, and then from proto-Burmic to proto-Burmish, but current understanding of the historical phonologies of Achang and Xiandao do not permit this division to be cleanly drawn.

⁵ Bradley (2012: 172) commends his own work (1979) for Lolo-Burmese comparative phonology; much new data became available in the intervening thirty-three years and his 1979 reconstruction itself contains methodological lapses and factual mistakes (see Thurgood 1981, Hill 2012a: 64–5, and Hill 2015a: 192–5). In various publications Matisoff provides starred forms for proto-Lolo-Burmese (1972: 23 *et passim*, 2003: 19 *et passim*, 2007: 440). However, because he does not explicitly and comprehensively present the correspondences that his reconstructions rest on they are not usable.

§52. *The Burmish Tonal Split in Checked Syllables.* Although the phonological contrast in all Burmish languages is that of aspiration and not voicing (Burling 1967: 16, 19, Nishi 1999: 90–1),⁶ patterns of tone correspondence make clear that the distinction was originally one of voiced versus voiceless. All of the Burmish languages outside the Burmic sub-branch undergo a tonal split in checked syllables (Nishi 1999: 53–4, 105–407). The low tone coincides with unaspirated initials and the high tone coincides with aspirated initials. Although this tonal split does not affect Burmese, it merits discussion here, because it allows for the reconstructed segments of proto-Burmish to be reconstructed with greater phonetic precision than would be possible without taking this sound change into consideration.

§52a. Aspirate initials corresponding to Lashi high checked tone (H [55]):

- WBur. ခွက် *khwak* ‘bowl’, Lashi *khu?H*
 OBur. ချွင် *khlup* ‘sew’, Lashi *khju:pH*
 WBur. ခြောက် *khrok* ‘six’, Lashi *khjukH*
 WBur. ချက် *khyak* ‘navel’, Lashi *čho?H*
 WBur. ချိုက် *khyup* ‘dusk, twilight (v.)’, Lashi *čho?H-*
 WBur. ဆတ် *chat* ‘deer’, Lashi *tshatH*
 WBur. ဆက် *chak* ‘connect, join’, Lashi *tsho:?H*
 WBur. ဖျက် *phyak* ‘destroy, pull down’, Lashi *phjə:?H*
 WBur. ထောက် *thok* ‘lean on, support’, Lashi *thu:kH*
 WBur. ထွက် *thwak* ‘come out’, Lashi *thu?H*

§52b. Non-aspirated initials corresponding to Lashi low checked tone (V [31]):

- WBur. ကောက် *kok* ‘paddy rice’, Lashi *kukV*
 WBur. ကျပ် *klyap* ‘kyat’, Lashi *kjəV*
 WBur. ကြောက် *krok* ‘be afraid’, Lashi *kju:kV*
 WBur. စောက် *cok* ‘vagina (vulgar)’, Lashi *ču?V*
 WBur. ပစ် *pac* ‘shoot’, Lashi *pə:kV*
 WBur. ပြတ် *prat* ‘be cut (off)’, Lashi *pji:tV*
 WBur. ပျက် *pyak* ‘collapse, be damaged’, Lashi *pjə:V*
 WBur. ပျောက် *pyok* ‘disappear, vanish’, Lashi *pju:kV*

⁶ Mann (1998), however, gives voiced consonants for Nishi’s voiceless unaspirated consonants. For example, Mann gives *dza⁵³* as the Atsi word for ‘eat’ (1998: 146) whereas Nishi gives *tso^{2f}* for the same (1999: 103).

WBur. တတိံ *tat* ‘know (how to)’, Lashi *ta:tV*

WBur. တတိံ *tak* ‘go up, climb’, Lashi *ta:ʔV*

Voiced initials are known to have a depressing effect on the pitch of a syllable (Haudricourt 1954a, Hombert 1978, Hyman 1978: 265–6, Hombert, Ohala, and Ewan 1979). Consequently, this tonal split is best explained by the supposition that proto-Burmish had a voiced-versus-voiceless contrast, which independently became an unaspirated-versus-aspirated contrast in the various Burmish languages. In the Burmic sub-branch the aspiration alone indexes the manner of the proto-initial, but in the non-Burmish languages a tonal split in checked syllables redundantly conveys the same information.

§53. *Matisoff’s Law*: *ś- > s- and *č- > ts-. Previous discussions of the changes *ś- > s- and *č- > ts- treat them as two separate sound changes (e.g. Mann 1998: 76–9; cf. Hill 2013a), if one analyses ‘č’ as ‘ts’ [tʃ] then the change *č- > ts- automatically implies the change *ś- > s-. Maung Wun points out the correspondence of both Tibetan ś- and s- to Burmese s-, but does not explicitly claim that this distinction should be projected onto the proto-language (1975: 83). Burling (1967: 42), followed by Nishi (1999 [1998]: 47), Mann (1998: 79), and Button (2012: 46), all point out the merger of proto-Burmish *ś- and *s- as Burmese s-. Matisoff first proposed a merger of *ts- and *č- in Burmese as c- [ts-] (1968: 889); Mann (1998: 119) and Nishi (1999: 70) adopt his proposal. Although this sound law could aptly be named after Maung Wun or Burling, because it is convenient to name other sound changes after these two gentlemen (Maung Wun’s law; cf. §55; Burling’s law; cf. §56), and because Matisoff discovered a novel component of the law, it is appropriately named ‘Matisoff’s law’ (cf. Hill 2013a).

§53a. Examples to be reconstructed *s-:

Bur. အသက် *asak* < *sak ‘breath’, Lashi *səʔH*, Chi. 息 *sik* < *sək (05–29a)

Bur. အသည်း *asaññh* < *siñh ‘liver’, Lashi *səŋH*, Tib. མཚིན *mčhin* < *m-śin (? cf. §17b)

Bur. အသည်း *asaññh* < *siñh ‘nails’, Lashi *səŋH*, Tib. སེན་མོ *sen-mo*

Bur. သစ် *sac* < *sik ‘tree’, Lashi *sə:kH*, Tib. ལྷོ *śin*, Chi. 薪 *sin* < *si[ŋ] ‘firewood’ (32–33n)

Bur. သုတ် *sut* < *sut ‘wipe’, Lashi *su:tH*, Tib. སུད (pres. ལྷོ *śud*) ‘rub’

Bur. သွန် *-swan* < *sun ‘onion’, Atsi *-sún* (Burling 1967: 88)

Bur. သုံး *sumh* < *sumh ‘three’, Lashi *səmH*, Tib. གུམ་ *gsum*, Chi. 三 *sam* < *srum (38–30a)

OBur. သုတ် *suyh* < *suyh ‘blood’, Lashi *suiH*

§53b. Examples to be reconstructed *ś-:

Bur. သာ: *sāḥ* < *śāḥ ‘flesh’, Lashi *śoH*, Tib. ཤ་ *śa*

OBur. သိယံ *siy* < *śi ‘die’, Lashi *śe:i*, Tib. √si (pres. རྩི *ḥchi*)

Bur. သီး: *sīḥ* < *śeḥ ‘fruit’, Lashi *śoH*

WBur. သောက် *sok* < *śuk ‘drink’, Lashi *śu:kH*, Chi. 漱 *sraewk* < *śrok (11–21o)

Bur. သံ *saṃ* < *śaṃ ‘iron’, Atsi *śamH*

§53c. Examples to be reconstructed *ts-:

Bur. စည် *caññ* < *dziṅ ‘drum’, Lashi *tsəṅV*

Bur. အစာ *acā* < *dzā ‘food’, Maru *tsɔʰ*³¹

Bur. စာ: *cāḥ* < *dzāḥ ‘eat’, Lashi *tsɔ:*, Tib. ཟ་ *za* < *dza, Japhug Rgy. *ndza*, Chi. 咀 *dzjoX* < *dza? (01–57u)

WBur. စောင့် *coṅ?* < *dzun? ‘guard’, Lashi *tsu:ṅH*

Bur. စုံ *-cuṃ* < *dzum ‘pair’, Lashi *tsɔmH*, Tib. ཟུང་ *zun* < *dzun, Chi. 雙 *sraewng* < *s’roj ‘a pair’ (12–24a)

WBur. စိုး *cuiḥ* < *dzuiwḥ ‘rule(r)’, Lashi *tshou*³⁵

Bur. ဆား *chāḥ* < *tsāḥ ‘salt’, Lashi *tshoH*, Tib. ཚྲ་ *tshwa*

Bur. ဆူ *chū* < *tsū ‘fat’, Lashi *tshu:*, Tib. ཚོས་ *tsho-ba*

Bur. ဆိုး *chuiḥ* < *tsuiwḥ ‘cough’, Lashi *’tsa:uH*

WBur. ဆိုး *chuiḥ* < *tsuiwḥ ‘dye’, Lashi *tsha:uH*, Tib. √tso (pres. རྩོད་ *ḥtshod*) ‘cook, boil, dye’

Bur. ဆတ် *chat* < *tsat ‘deer’, Lashi *tshatH*

Bur. ဆုတ် *chut* < *tsut ‘lungs’, Lashi *’tsɔtH*

Bur. ဆယ် *chay* < *tsay ‘ten’, Lashi *-tshə*

Bur. ဆပ် *chap* < *tsap ‘repay’, Lashi *tsha:pH*

Bur. ဆံ *chaṃ-* < *tsaṃ ‘hair’, Lashi *tsham*

Bur. ဆုံ *chum* < *tsum ‘mortar’, Atsi *tshum*³¹

§53d. Examples to be reconstructed *č-:

Bur. စီး *cīḥ* < *jīḥ ‘ride’, Atsi *čī*¹¹

OBur. စိယံ *-ciy?* < *jīy? ‘pit, stone’, Atsi *-čī*³⁵

WBur. ဆိုး *-chuiḥ-* < *čuiwḥ ‘widow’, Lashi *čhouH-*

WBur. စောက် *cok* < *juk ‘vagina’, Lashi *ču?V*

WBur. စွတ် *cwat* < *jot ‘wet’, Lashi *’ču:ṅH*

Bur. ဆန် *chan* < *čan ‘rice’, Lashi *čhen*

WBur. စွပ် *-cwap* < *jop ‘ring’, Atsi *ʔčop*⁵⁵

OBur. ဆိတ်: *chih* < *čiyh ‘wash’, Atsi *čhi*¹¹

WBur. ဆေး: *cheh* < *čiyh ‘medicine’, Lashi *čheiH*

Bur. ဆုတ် *chut* < *čut ‘tear’, Lashi *čhe:ʔH*

§53e. In general Achang and Xiandao appear not to have undergone Matisoff’s law. For clarity of exposition it is helpful to treat *š- > *s-* and *č > *ts-* separately in this section. Quite naturally when Burmese and Lashi both have *s-*, so do Achang and Xiandao.

Bur. သက် *sak* < *sak ‘breath’, Achang *-sɔʔ*, Xiandao *sɔʔ*, Lashi *sɔʔH*

Bur. သုတ် *sut* < *sut ‘wipe’, Achang *sut*, Xiandao *sut*, Lashi *su:tH*

Bur. သုံး: *sumh* < *sumh ‘three’, Achang *sumH*, Xiandao *sumH*, Lashi *sɔmH*

OBur. သုတ်: *suyh* < *suyh ‘blood’, Achang *suiH*, Xiandao *suiH*,
Lashi *suiH*

However, in contrast to the innovation seen in Burmese, when Burmese has *s-* and Lashi has *š-* Achang and Xiandao agree with the archaism maintained in Lashi.

Bur. သား: *sāh* < *šāh ‘flesh’, Achang *śuaH*, Xiandao *śɔʔ*, Lashi *śɔH*

OBur. သိတ် *siy* < *ši ‘die’, Achang *śī*, Xiandao *śī*, Lashi *śe:i*

Bur. သီး: *sīh* < *šēh ‘fruit’, Achang *śəH*, Xiandao *śīH*, Lashi *śɔH*

Bur. သောက် *sok* < *šuk ‘drink’, Achang *śɔʔ*, Xiandao *śuʔ*, Lashi *śu:kH*

Bur. သံ *sam* < *šam ‘iron’, Achang *śam*, Xiandao *śam*, Atsi *śamH*

Nonetheless, Achang and Xiandao appear to have undergone a secondary palatalization before high front vowels, so in this environment their testimony on the etymological status of the sibilant is less reliable than the evidence of other Burmish languages such as Lashi.

Bur. အသည်း: *asaññh* < *siñh ‘liver’, Achang *-śəŋH*, Xiandao *-śuŋH*,
Lashi *səŋH*

Bur. အသည်း: *asaññh* < *siñh ‘nails’, Achang *-śəŋH*, Xiandao *-śuŋH*,
Lashi *-səŋH*

Bur. သစ် *sac* < *sik ‘tree’,⁷ Xiandao *śuk*, Lashi *sə:ʔH*

⁷ As Nishi (1999: 106) points out, the Achang word *śayH-* ‘tree’ is irregular. Not only does the initial not palatalize, but the final agrees with Tib. རྩོད *śin* ‘tree’ and Chi. 薪 *sin* < *si[ŋ] (32–33n) ‘firewood’, against all of the Burmish languages that have final -k rather than final -ŋ. This is an intriguing mystery which deserves more exploration.

The change $*\zeta > s$ sets Burmese apart from all of the rest of the Burmish languages; it may be seen as an isogloss constitutive of the Mranmaic language family.

§53f. Since Achang and Xiandao did not change $*\zeta$ - to s - as Burmese does, one would expect them also to not change $*\check{c}$ - to ts -. Unfortunately, as Nishi points out (1999: 70), Achang and Xiandao affricates have complicated correspondences. For example, corresponding to Burmese ch -, Xiandao furnishes cognates with $-ch$ -, th -, tsh - and tsh -.

WBur. ဆို: *chuih* ‘dye’, Xiandao *tshauH*

Bur. ဆင် *chan* ‘elephant’, Xiandao *chan*

Bur. ဆတ် *chat* ‘deer’, Xiandao *thet*

Bur. ဆယ် *chay* ‘ten’, Xiandao *-tshi*

Although these complications assuredly deserve further study, because the correspondences between Burmese and the Burmish languages other than Achang and Xiandao are clear-cut, these complications will probably have little impact on the proto-language.

§53g. In one etymon Burmese unexpectedly offers s - where one expects ts - or tsh - on the basis of cognates in other languages.⁸

Bur. သား: *sāh* ‘son’, Atsi *tsɔʷ* ‘child’, Tib. ཚལ་ *tsha-bo* ‘nephew, grandson’, Thangmi *ca* ‘son’

Bur. သမီး: *sa-mīh* ‘daughter’, Thangmi *camāi*

§54. *Wolfenden’s Law*: $-*ik > -ac$, $*-iŋ > -aññ$. Stuart Wolfenden remarks that in ‘many cases, in fact, final $-ñ$ [$-ññ$] seems to go back rather to a guttural $-h$ ’ (1938: 167). Agreeing with Wolfenden, Shafer also posits a velar origin to Written Burmese $-ac$ (1940: 311);⁹ Pulleyblank repeats these suggestions (1963: 218). The evidence of the Burmish languages unambiguously confirms that Burmese changed proto-Burmish $*-ik$ and $*iŋ$ into $-ac$ and $-aññ$ respectively. Because Lashi lowers ‘ i ’ to ‘ $ə$ ’ for many of the relevant words, the cognates in Atsi yield a somewhat more straightforward comparison.

§54a. Examples to be reconstructed $*iŋ$:

Bur. လည် *laññ* < $*liŋ$ ‘neck’, Atsi *liŋ*³¹

⁸ One might be tempted to include the comparison of Bur. သွေ *swā* ‘go’ with Thangmi *cawah* ‘walk’ as another instance of this correspondence, but Atsi *ɔʷ* ‘walk’ shows that things are not so simple. Patrick McCormack suggests (*per litteras* 1 December 2016) adding Bur. သာ *sā* ‘pleasant’ to Tib. མཚོ་ *mtshar* ‘fair, beautiful, bright’ and Chi. 亮 *tshanH* < $*ts^{h5}ars$ (24–40b) ‘bright and white’ as a further example of this correspondence.

⁹ Before recognizing Wolfenden’s contribution, I referred to this change as ‘Shafer’s law’ (Hill 2012b: 4 *et passim*, 2013c: *passim*).

Bur. အမည် *amaññ* < *miŋ ‘name’, Atsi *miŋ*³¹

Bur. ရှည် *rhaññ* < *ʔriŋ ‘long’, Atsi *hey*³¹

Bur. မှည့် *mhaññ?* < *ʔmiŋ? ‘ripe’, Atsi *ʔmiŋ*⁵⁵

Bur. အသည်း *asaññh* < *siŋh ‘liver’, Atsi *sey*¹¹

Bur. သည်း *saññh* < *-siŋh ‘(finger)nail’, Atsi *-sey*¹¹

§54b. Examples to be reconstructed *ik:

Bur. အနှစ် *anhac* < *ʔnik ‘kernel’,¹⁰ Atsi *ʔnik*⁵ ‘heart’

Bur. သစ် *sac* < *sik ‘tree’, Atsi *sek*⁵

Bur. နှစ် *nhac* < *aʔnik ‘year’, Atsi *ʔnik*⁵

Bur. သစ် *sac* < *sik ‘new’, Atsi *sek*⁵

§54c. Achang and Xiandao do not undergo Wolfenden’s law. As a consequence, Wolfenden’s law serves as an isogloss to distinguish the Mranmaic sub-family of the Burmic languages.

Bur. ဝစ် *pac* ‘shoot (an arrow)’, Achang *pək*, Xiandao *pək*

Bur. သစ် *sac* ‘tree’, Achang *saŋH-*, Xiandao *ʃuk*

Bur. သစ် *sac* ‘new’, Achang *ʃək*, Xiandao *ʃuk*

Bur. လည် *laññ-* ‘neck’, Achang *laŋH-*, Xiandao *lɿŋH-*

Bur. မှည့် *mhaññ?* ‘ripe’, Achang *ŋeŋX*

WBur. မြည် *mraññ* ‘make a sound’, Achang *mzəŋ*, Xiandao *mɿŋ*

WBur. ပြည် *praññ* ‘pus’, Achang *pzəŋ*, Xiandao *pzɿŋ*

Bur. ရှည် *rhaññ* ‘long’, Achang *səŋ*, Xiandao *sɿŋ*

Bur. အသည်း *asaññh* ‘liver’, Achang *-ʃəŋH*, Xiandao *-ʃuŋH*

OBur. ပွည့် *plaññ?* ‘be full’, Achang *pzəŋX*, Xiandao *pɿŋ*³⁵

§55. *Maung Wun’s Law*: **u* > *o*₂ before Velars. Written Burmese *-o-* occurs only before velars (Yanson 1990: 68), where it corresponds to *-u-* in Tibetan, Old Chinese, and the Burmish languages. Maung Wun points out that this correspondence suggests that the Written Burmese *o* (< Old Burmese *o*₂) is of secondary origin (1975: 88); Miller (1956: 39), Gong (1980 [2002]: 4), and Dempsey (2001: 223) support this change.

¹⁰ Although the linguistics literature often cites a word နှစ် *nhac* ‘heart’, in fact the Written Burmese word for ‘heart’ is နှလုံး *nha-lumh* and there is another word အနှစ် *anhac* ‘kernel, core’. One may plausibly speculate that နှလုံး *nha-lumh* was once spelled နှစ်လုံး **nhac-lumh*, but I have not confirmed this.

WBur. ခြောက် *khrok* < *kruk ‘six’, Lashi *khjukH*, Tib. ལྷོག *drug*, Chi.

六 *ljuwk* < *k.ruk (14–16a)

WBur. စောက် *cok* < *juk ‘vagina’, Lashi *ču?V*

WBur. ထောက် *tok* < *duk ‘be toxic’, Tib. འདྲུག *dug* ‘poison’, Chi. 毒

dowk < *d^huk (14–05a)

WBur. ထောက် *thok* < *tuk ‘lean on’, Lashi *thu:kH*

WBur. တောင်း *tonh* < *duŋh ‘short’, Tib. ལྷོག *thun*

WBur. ပျောက် *pyok* < *byuk ‘vanish’, Lashi *pju:kV*

WBur. မျောက် *myok* < *myuk ‘monkey’, Lashi *mjukV*

WBur. ယောက် *yok* < *yuk ‘person’, Lashi *ju?H-*

WBur. လောက် *lok* < *luk ‘maggot’, Lashi *lukV*

WBur. ဦးနှောက် *ūhnhok* < *^hnuk ‘brain’, Atsi ^hnu^h, Chi. 腦 *nawX* < *n^hu? (16–28f)

WBur. သောက် *sok* < *suk ‘drink’, Lashi *śu:kH*, Chi. 漱 *sraewk* <

*s^hrok (11–21o)

WBur. စောင့် *con?* < *dzun? ‘guard’, Lashi *tsu:ŋH*

WBur. ထောင်း *thonh* < *tuŋh ‘pound’, Lashi *thu:ŋH*

§55a. The question naturally arises whether Achang and Xiandao underwent Maung Wun’s law together with Burmese. In the case of Xiandao it is easy to answer in the negative; in most words Xiandao preserves the vowel *u.

WBur. စောက် *cok* ‘vagina (vulgar)’, Xiandao *cu?*

WBur. ခြောက် *khrok* ‘six’, Xiandao *chu?*

WBur. ကောက် *kok* ‘paddy rice’, Xiandao *ku?*

WBur. ကောက် *kok* ‘pick up’, Xiandao *ku?*

WBur. မျောက် *myok* ‘monkey’, Xiandao *ju?*

WBur. သောက် *sok* ‘drink (v.)’, Xiandao *su?*

WBur. ထောက် *thok* ‘lean on, support’, Xiandao *thu?*

WBur. ယောက် *yok-* ‘person’, Xiandao *ju?H*

WBur. မောင်း *monh* ‘gong’, Xiandao *məŋ*

WBur. ပေါင်း *ponh-* ‘steamer’, Xiandao *puŋH*

WBur. သောင်း *thonh* ‘pestle, pound’, Xiandao *thuŋH*

WBur. တောင် *ton* ‘wing’, Xiandao *-tuŋ*

WBur. အောင် *pon* ‘win’, Xiandao *uŋ*

§55b. Nonetheless, in two words Xiandao exceptionally does have ‘o’.

WBur. ချောင်း: *-khyoñh* ‘throat’, Xiandao *khzəŋH-*

WBur. စောင့် *coñʔ* ‘guard, defend’, Xiandao *coŋʔ³⁵*

§55c. Whether or not Achang underwent Maung Wun’s law is not at all clear. In some words it appears not to have, maintaining inherited *u.

WBur. စောက် *cok* ‘vagina (vulgar)’, Achang *təuʔH-*

WBur. ကောက် *kok* ‘pick up’, Achang *kuʔ*

WBur. မျောက် *myok* ‘monkey’, Achang *ñuʔ*

WBur. ပေါင်း: *poñh-* ‘steamer’, Achang *-puŋH*

WBur. သောင်း: *thoñh* ‘pestle, pound’, Achang *thuŋH*

WBur. တောင် *toñ* ‘wing’, Achang *-tuŋ*

§55d. In other cases, Achang has changed *u to ‘o’ in conformation with Maung Wun’s law.

WBur. ခြောက် *khrok* ‘six’, Achang *xzəʔ*

WBur. ခြောက် *khrok* ‘frighten, scare’, Achang *xzəʔ*

WBur. ကြောက် *krok* ‘be afraid’, Achang *zəʔ³⁵*

WBur. ကျောင်း: *-khyoñh* ‘throat’, Achang *khzəŋH*

§55e. In a third set of words Achang exhibits neither ‘u’ nor ‘o’ but ‘ɔ’.

WBur. သောက် *sok* ‘drink (v.)’, Achang *ɔʔ*

WBur. စောင့် *coñʔ* ‘guard, defend’, Achang *təɔŋX*

WBur. မောင်း: *moñh* ‘gong’, Achang *mɔŋ*

WBur. အောင် *ɔoñ* ‘win’, Achang *ɔŋ*

§55f. No conditioning environment for the three reflexes ‘u’, ‘o’ and ‘ɔ’ is readily apparent. Whether or not Achang underwent Maung Wun’s law remains unclear; in either case it underwent additional changes to vowels before inherited velars independently of other languages. These changes, now obscure, deserve further research.

§56. *Burling’s Law: Loss of Preglottalization Consonants.* At variance with the two-way contrast that Old Burmese exhibits for all consonants apart from *s-*, proto-Burmish maintains a three-way manner contrast for obstruents and a two-way contrast for resonants (Burling 1967: 6, 31–40, Bradley 1979: 127; Mann 1998: 67–70; Nishi 1999: 68, 94–6).¹¹ Lashi maintains the

¹¹ Burling and Mann reconstruct the three series as voiceless unaspirated, voiceless aspirated, and voiceless glottalized (Burling 1967: 31–5; Mann 1998: 71). Nishi, in contrast, regards the proto-forms as voiced, voiceless, and voiceless preglottalized (1999: 68). The Burmese tonal split in checked syllables ensures that Nishi’s proposal is correct (cf. §52).

original pre-glottalized consonants in the widest variety of contexts (Nishi 1999: 70); consequently Lashi is particularly useful in trying to establish the proto-Burmish value of a stop.

§56a. Examples to be reconstructed *k-:

OBur. ချိုဝ် *khyuiw* < *kyuiw ‘sweet’, Lashi *cha:u*

OBur. ခိုဝ်: *-khuiwḥ* < *kuiwḥ ‘smoke’, Lashi *-khouH*

OBur. ခိုဝ်: *khuiwḥ* < *kuiwḥ ‘steal’, Lashi *kha:uH*, Tib. \sqrt{rku} (pres. \sqrt{rku}), Chi. 寇 *khuwH* < *k^hos (10–04a)

OBur. ခုဝ်: *khuyḥ* < *kuyḥ ‘dog’, Lashi *khuiH*, Tib. \sqrt{kyi} *khyi*, Chi. 犬 *khwenX* < *k^{wh}en? (32–04a)

OBur. ခိန် *khin* < *kin ‘weigh’, Atsi *chinH*

OBur. ခိယ်: *khliyḥ* < *kliyḥ ‘dung’, Lashi *khjeiH*, Tib. \sqrt{li} *lči*, Chi. 屎 *syijX* < *q^hij? (26–20d)

OBur. ချပ် *khlyap* < *klap ‘flat object’, Lashi *khjapH*

OBur. ခြိဝ် *khriy* < *kriy ‘foot’, Lashi *khjei*

A complete list of examples of this correspondence is given at §258.

§56b. Examples to be reconstructed *k-:

Bur. ခက် *khak* < *^ʔkak ‘branch, twig’, Lashi *-^ʔkaʔH*

Bur. ခတ် *khat* < *^ʔkat ‘put in(to); pack’, Lashi *‘ka:tH*

Bur. ခိယ်: *khiyḥ* < *^ʔkiyḥ ‘borrow (money)’, Lashi *‘^ʔce:iH*, Tib. \sqrt{skyi} *skyi*

Bur. ခောက် *khok* < *^ʔkuk ‘bark (n.)’, Atsi *‘ku^{ss}*, Tib. \sqrt{skog} *skog-pa* ‘shell, peel’, Chi. 殼 *khaewk* < *[k^h]^ʔrok (11–03a) ‘hollow shell, hollow’

WBur. ခြဲ *-khre* ‘gall bladder’, Lashi *‘kjeiH*

Bur. ခြင် *khrañ* < *^ʔkrañ ‘mosquito’, Lashi *‘kjañ*

Bur. ခြောက် *khrok* < *^ʔkruk ‘frighten’, Lashi *‘kju:kH¹²*

Bur. ခြောက် *khrok* < *^ʔkruk ‘dry’, Atsi *‘kju^ʔ*

Bur. ချက် *khyak* < *^ʔkyak ‘cook, boil (tr.)’, Lashi *‘^ʔca:uX*

OBur. ချန် *khyan* < *^ʔkyan ‘sour’, Lashi *‘^ʔci:n*

Bur. ချပ် *khypap* < *^ʔkyap ‘scales’, Atsi *‘kja^ʔ*, Tib. \sqrt{khra} *khraab* ‘armour, shield, mail’, Chi. 甲 *kaep* < *k^ʔrap (35–02a) ‘shell’

OBur. ချတ် *khyat* < *^ʔkyat ‘love (v.)’, Atsi *‘^ʔci^t*, Tib. \sqrt{skyid} *skyid* ‘be happy’, Chi. 吉 *kjit* < *C.qit (29–01a) ‘auspicious’

¹² Tib. \sqrt{skrag} *skrag* ‘be scared’ and Chi. 嚇 *xaek* < *q^hrak (02–10b) ‘frighten’ point to the vowel *a instead of *u.

§56c. Examples to be reconstructed *ts-:

- Bur. ဆာ: *chāh* < *tsāh ‘salt’, Lashi *tshoH*, Tib. ཚྭ *tshwa*
 Bur. ဆက် *chak* < *tsak ‘connect, join’, Lashi *tsho:ʔH*
 Bur. ဆံ *cham-* < *tsam ‘hair’, Lashi *tsham*
 Bur. ဆပ် *chap* < *tsap ‘repay’, Lashi *tsha:pH*
 Bur. ဆတ် *chat* < *tsat ‘deer’, Lashi *tshatH*
 Bur. ဆယ် *chay* < *tsay ‘ten’, Lashi *-tshē*
 Bur. ဆူ *chū* < *tsū ‘fat’, Lashi *tshu:*, Tib. ཚྱ *tsho-ba*
 Bur. ဆိုး: *chuih* < *tsuiwḥ ‘dye’, Lashi *tsha:uH*, Tib. $\sqrt{\text{ts}}$ (pres. ཚོད *htshod*) ‘cook, boil, dye’
 Bur. ဆို့ *chuiʔ* < *tsuiʔ ‘block up, plug’, Lashi *tsha:uX*
 Bur. ဆုံ *chum* < *tsum ‘mortar’, Atsi *tsʰumʰ*³¹
 Bur. ဆိုး: *-chuih-* < *tsuiwḥ ‘widow’, Lashi *čhouH-*

§56d. Examples to be reconstructed *ʔts:

- Bur. ဆောက် *chok* < *ʔtsuk ‘build, erect’, Atsi *ʔtsuʔʰ*, Tib. $\sqrt{\text{tsug}}$ (pres. ཚུགས *hdzugs*)
 Bur. ဆူ *chū* < *ʔtsū ‘boil’, Atsi *ʔtsuʰ*, Tib. $\sqrt{\text{tso}}$ (pres. ཚོད *htshod*) ‘cook, boil, dye’
 Bur. ဆိုး: *chuih* < *ʔtsuiwḥ ‘cough (v.)’, Lashi *ʔtsa:uH*
 Bur. ဆုပ် *chup* < *ʔtsup ‘clench’, Atsi *ʔtsupʰ*
 Bur. ဆုတ် *chut* < *ʔtsut ‘lungs’, Lashi *ʔtsɔtH*

§56e. Examples to be reconstructed *č-:

- Bur. ဆန် *chan* < *čan ‘rice’, Lashi *čhen*
 WBur. ဆေး: *cheh* < *čiyḥ ‘medicine’, Lashi *čheiH*
 OBur. ဆိတ်: *chiyḥ* < *čiyḥ ‘wash’, Atsi *čʰiʰ*¹¹
 WBur. ဆောက် *chok* < *čuk ‘chisel’, Lashi *čhoʔH-*
 Bur. ဆုတ် *chut* < *čut ‘tear up, rip’, Lashi *čhe:ʔH*

§56f. There seem not to be examples of *ʔč.

§56g. Examples to be reconstructed *t-:

- WBur. ထောက် *thok* < *tuk ‘lean on, support’, Lashi *thu:kH*
 WBur. ထောင်: *thoñḥ* < *tuñḥ ‘pestle, pound’, Lashi *thu:ḥH*
 Bur. ထူ *thū* < *tū ‘thick’, Lashi *tʰu:*
 WBur. ထိုး: *thuih* < *tuiwḥ ‘jab, poke, stab’, Lashi *tha:uH*
 Bur. ထုတ် *thut* < *tut ‘take out; pull out’, Atsi *tʰoʔʰ*

WBur. ၵၵ *thwā* < *tō ‘span’, Atsi *to³¹*, Tib. མཚོ *mtho*

WBur. ၵၵ *thwak* < *tuk ‘come out’, Lashi *thu²H*

§56h. Examples to be reconstructed *ʔt-:

Bur. ၵ *tha* < *ʔta ‘rise, stand up’, Lashi *ʔtə:X*

Bur. ၵၵ *thāh* < *ʔtāh ‘put in order’, Lashi *ʔtə:H*

Bur. ၵၵ *thūh* < *ʔtūh ‘answer (v.)’, Lashi *ʔtu:H*

§56i. Examples to be reconstructed *p-:

Bur. ၵ *-pha* < *pa ‘male’, Lashi *-phoH*

Bur. ၵ *phā* < *pā ‘patch (v.)’, Lashi *phə:*

WBur. ၵၵ *aphuih* < *puiwḥ ‘value, worth’, Lashi *pha:uH*

Bur. ၵၵ *phut* < *put ‘dust’, Atsi *p^hui¹¹*

WBur. ၵၵ *phwai* < *poi ‘chaff, bran’, Lashi *-phəH*

WBur. ၵၵ *phwan²* < *poñ² ‘open, clear (a blockage)’, Lashi *pha:ηX*

OBur. ၵၵ *phlū* < *plū ‘white’, Lashi *phju:*

Bur. ၵၵ *phrat* < *prat ‘snap in two’, Atsi *phit⁵*

Bur. ၵၵ *phyak* < *pyak ‘destroy’, Atsi *phjo⁵*

§56j. Examples to be reconstructed *ʔp-:

Bur. ၵၵ *phāh* < *ʔpāh ‘frog’, Lashi *ʔpaH*, Tib. སྐལ་པ *sbal-pa*

OBur. ၵၵ *phlaññ²* < *ʔpliñ² ‘fill up’, Atsi *ʔpiñ⁵⁵*

WBur. ၵၵ *phrū* < *ʔprū ‘porcupine’, Lashi *-ʔju*

§57. Apart from the obstruents, it is also possible to distinguish *s- and *ʔs- in proto-Burmish.

§57a. Examples to be reconstructed *s-:

Bur. ၵၵ *sac* < *sik ‘tree’, Lashi *sə:kH*, Tib. སྐོ *śin*, Chi. 薪 *sin* < *si[ŋ] ‘firewood’ (32–33n)

Bur. ၵၵ *asaññ^h* < *siñh ‘liver’, Lashi *səñH*, Tib. མཚོན *mčhin* < *m-sin (? cf. §17b.)

Bur. ၵၵ *sumḥ* < *sumḥ ‘three’, Lashi *səmH*, Tib. གསུམ *gsum*, Chi. 三 *sam* < *srum (38–30a)

Bur. ၵၵ *sut* < *sut ‘wipe, erase’, Lashi *su:tH*, Tib. སུད (pres. སུད *śud*) ‘rub’

OBur. ၵၵ *suyḥ* < *suyḥ ‘blood’, Lashi *suiH*

§57b. Examples to be reconstructed *ʔs:

Bur. သစ် *sac* < *ʔsik ‘new’, Lashi ʔsə:kH

Bur. သတ် *sat* < *ʔsat ‘kill’, Lashi ʔsa:tH, Tib. √sad (pres. གསོད *gsod*),
Chi. 殺 *sreat* < *srat (21–29d)

Bur. သိ *si* < *ʔsi? ‘know’, Lashi ʔsɛ:X, Tib. ཤེས *śes*

WBur. သွာ *swā* < *ʔsō ‘walk’, Lashi ʔsɔ:H

§57c. In its comparative context the Burmese word သက် *sak* ‘breath, life’ can be seen to descend from two etymologically distinct words.

Bur. သက် *sak* < *sak ‘breath’, Lashi sɔ?H, Chi. 息 *sik* < *sək (05–29a)

Bur. သက် *sak* < *ʔsak ‘life’, Lashi -ʔsakH, Tib. སྲོག *srog*

§57d. By combining Burling’s law and Matisoff’s law it is possible to further distinguish pre-glottalized *ʔs and *ʔs̥. Examples of *ʔs- have just been given (cf. §57a–c). I find evidence for only one example of *ʔs̥.

Bur. သန့် *sanḥ* < *ʔsanḥ ‘louse’, Lashi ʔsenH

§57e. The etymology of the Burmese word ဝံ့ *phyam* ‘otter’ is a thorny problem. A priori the initial in proto-Burmish could be *ʔp- or *p-. The Lashi cognate Lashi ʔsam ‘otter’ has a preglottalized initial, but points to an initial *ʔs̥- rather than initial *ʔp-. The Tibetan cognate སྲམ *sram* is quite close to Lashi.

§57f. Whereas the aspirate obstruents and s- have two origins, aspirated nasals and liquids have only one: they derive from proto-Burmish pre-glottalized consonants.

Bur. ငှာ *nhāḥ* < *ʔnāḥ ‘borrow’, Lashi ʔηɔ:H, Tib. བློ *brña* < *brñʔa

Bur. ငှက် *nhak* < *ʔnək ‘bird’, Lashi ʔηɔ?H

Bur. ညှိ *n̄ñhi* /ŋi?/ < *ʔni? ‘ignite’, Atsi ʔηje⁵⁵

Bur. နှာ *nhā* < *ʔnā ‘nose’, Lashi ʔno, Tib. སྤྱ *sna*

Bur. နှပ် *nhap* < *ʔnap ‘mucus’, Lashi ʔnapH, Tib. སྤྱལ *snabs*

Bur. နှုတ် *nhut* < *ʔnut ‘mouth’, Atsi ʔnut⁵⁵

Bur. မှာ *mhā* < *ʔmā ‘order, instruct’, Atsi ʔmo²⁵⁵

OBur. မှလုပ် *mhlup* < *ʔmlup ‘bury’, Atsi ʔmjup⁵⁵

Bur. ရှာ *rhā* < *ʔrā ‘search’, Lashi ʔsɔ:

Bur. ရှက် *rhak* < *ʔrak ‘be bashful’, Lashi ʔsɔ:?H

OBur. ရှယ် *rhyat* (cf. Nishi 1999: 47) < *ʔryat ‘eight’, Lashi ʔsetH,

Tib. བྲྱེ *brgyad* < *bryat, Chi. 八 *peat* < *p^hret (20–14a)

Bur. ရှည် *rhaññ* ‘long’ < *ʔriñ, Lashi ʔsɛ:η, Tib. རྩོ *riñ*

Bur. လှံ *lham* < *ʔlam ‘spear’, Atsi ʔlam³¹

Bur. လျှပ် *lhyap* < *ʔlyap ‘flash’, Lashi ʔlapH

§57g. Nishi reports that he has ‘not found any cognates whose initial derives from PBsh [proto-Burmish] *ʔy-’ (1999: 47),¹³ but he does note the words ယှာ *yhā* ‘scarce’, ယှန် *yhan* ‘yoke’ (1999: 47).¹⁴ The initial ယှန် *yh-* for ‘yoke’ is confirmed by the pronunciation with /s-/ rather than /hr-/ in Arakanese (Bradley 1985: 186, Okell 1995: 12).

§57h. Burmese words with zero initial almost always have preglottalized cognates in the other Burmish languages. This confirms the widespread suspicion that zero initial in Burmese was articulated with a glottal stop initial.

Bur. အိမ် *im* ‘house’, Lashi ʔjəm

Bur. အိပ် *ip* ‘sleep’, Lashi ʔju:pH

Bur. ဥ *u* ‘egg’, Lashi ʔuX

Bur. ဥိ *ū* ‘intestine’, Lashi ʔu

Bur. ဥိး *ūh* ‘head’, Lashi ʔwəH-

§57i. Achang and Xiandao, like Burmese, lack preglottalized initials. It is only necessary to give a few examples because the pattern is pervasive.

WBur. ကြောက် *khrok* < *ʔkruk ‘frighten’, Achang xzəʔ, Lashi ʔkju:kH

Bur. ဆုတ် *chut* < *ʔcut ‘lungs’, Achang -təhot, Lashi ʔtsətH

Bur. ထူး *thūh* < *ʔtūh ‘answer (v.)’, Achang thuH, Lashi ʔtu:H

Bur. ဖား *phāh* < *ʔpāh ‘frog’, Achang phəH, Lashi ʔpaH

Bur. သစ် *sac* < *ʔsik ‘new’, Achang sək, Lashi ʔsə:kH

Bur. သန်း *sanh* < *ʔsanh ‘louse’, Achang sanH, Lashi ʔsenH

Bur. ငှက် *nhak* < *ʔnak ‘bird’, Xiandao ŋəʔ, Lashi ʔŋəʔH

Bur. နှပ် *nhap* < *ʔnap ‘mucus’, Achang ŋəp, Lashi ʔnapH

OBur. မှုပ် *mhlup* < *ʔmlup ‘bury’, Achang m̄zəp, Atsi ʔmjup

Bur. ရှည် *rhaññ* ‘long’ < *ʔriŋ, Achang səŋ, Lashi ʔse:ŋ, Tib. རྩོད་ *riñ*

Bur. လျှပ် *lhyap* < *ʔlyap ‘flash’, Xiandao l̄əp, Lashi ʔlapH

Burling’s law affects Achang and Xiandao and thus provides an isogloss for the Burmic languages.

§58. *Exceptions to Burling’s Law.* There are exceptions to Burling’s law. In several words Burmese aspirates have cognates in the Burmish

¹³ Matisoff (1968: 893) without evidence claims that proto-Lolo-Burmese ʔy- becomes ʔ- in Burmese.

¹⁴ Nishi gives a third word ယှုံ *yhum* (no definition given), which I am unable to confirm (1999: 47). The Myanmar Language Commission (1993) offers ယှက် *yhak* ‘entwine’ and ယှာန် *yhaññ* ‘compete’.

languages which lack aspiration or pre-glottalization. It is remarkable that most such words have initial *mh-* in Burmese.

- Bur. ချဉ် *khyañ* ‘bolt’, Lashi *kja:ŋX*
 Bur. ဆုတ် *chut* ‘back up’, Atsi *tsut*²¹
 Bur. မှု -*mhu* ‘matter, affair’, Lashi -*moH*
 Bur. မှု *mhui* ‘mushroom’, Lashi *mouV-*
 Bur. မှုတ် *mhut* ‘ladle’, Atsi *mut*¹
 Bur. မှုတ် *mhut* ‘blow away’, Lashi *mu:tV*
 Bur. အိုး *ʔuih* ‘pot’, Lashi -*ouH*
 Bur. အောင် *ʔoñ* ‘win’, Lashi *ɔ:ŋ*

Although the lack of both aspiration and pre-glottalization in the Lashi cognates presents something of a conundrum about how to reconstruct ချဉ် *khyañ* and ဆုတ် *chut*, since preglottalized resonants are the only source of Burmese aspirated resonants in general, there is no harm (i.e. no loss of explicitness and predictability) in reconstructing *^ʔm- for *mh-* even when there is a conflicting cognate in the Burmish languages. Although Lashi -*ouH* does not have an initial glottal, the cognates to Burmese အိုး *ʔuih* ‘pot’, Maru -*ʔuk*⁵⁵ and Bola -*ʔau*³⁵ do show an initial glottal. Similarly, although a glottal initial is missing in Lashi -*ɔ:ŋ* and the other cognates of Burmese အောင် *ʔoñ* ‘win’ that Nishi (1999) offers, Yabu offers the Atsi cognate *ʔʔiŋ-* (1982: 38). Giving this word as /ong⁵⁵/ [ʔoŋ⁵⁵], Lustig confirms the glottal initial, but sees it as the automatic articulation of the vocalic onset, as in English or German (2010: i, 43).

§58a. Some Burmese words lack aspiration when the Burmish languages have pre-glottalized initials.

- Bur. ကျပ် *kyap* ‘narrow’, Lashi *ʔčapH*
 Bur. ကြယ် *kray* ‘star’, Lashi *ʔkji*
 WBur. စွပ် *cwap* ‘ring’, Lashi -*ʔčɔʔH*
 WBur. စွတ် *cwat* ‘wet’, Lashi *ʔču:ʔH*
 Bur. တင်း *tañh* ‘tense, tight, taut’, Lashi *ʔtə:ŋH*
 Bur. တပ် *tap* ‘stick down’, Lashi *ʔta:pH*
 Bur. တုတ် *tut* ‘short (length)’, Atsi *ʔtot*⁵
 WBur. တွန် *twan* ‘crow (cocks)’, Lashi *ʔtu:n*
 Bur. ပါး *pāh* ‘thin’, Lashi *ʔpɔ:H*
 Bur. ပါ *wā* ‘cotton’, Lashi -*ʔu*
 Bur. ပင် *wap* ‘hatch’, Lashi *ʔwu:pH*
 OBur. ရာ *ryā* ‘hundred’, Lashi *ʔso*

Because there are no examples of *wh-* in Burmese which have cognates available in the Burmish languages, the *w-*initial words do not have to be seen as exceptions. However, if one proposes that proto-Burmish **ʷw-* yields *w-* and not *wh-* in Burmese, then the origin of those words in Burmese that are written with initial *wh-* must be sought elsewhere.

2.5.2 *Reprise: Proto-Burmish to Old Burmese*

§59. The Burmese sound changes so far presented do not affect the non-Burmish Burmish languages; they are innovations unique to Burmese. In the interest of methodological explicitness these changes have been presented inductively, moving step by step from Burmese to proto-Burmish. This is a convenient juncture to present the same list of changes in the order in which they occurred historically.

In approximate chronological order the sound changes deriving Burmese from proto-Burmish are as follows:

Burling's law: loss of preglottalization consonants (§56)

Maung Wun's law: **u > o₂* before velars (§55)

Wolfenden's law: *-*ik > -ac*, **-iŋ > -aĩĩ* (§54)

Matisoff's law: **ś- > s-* and **č- > ts-* (§53)

Achang and Xiandao underwent Burling's law. It is unclear whether they are subject to Maung Wun's law. These two languages were spared from Wolfenden's and Matisoff's laws, so must have already parted company with Burmese before these changes took place.

2.5.3 *From Proto-Burmish to Trans-Himalayan*

§60. It would be nice to show that the Burmish languages participated in all of the changes discussed in this section. Unfortunately, only for one change (**-in > *-iŋ*; cf. §61) is this currently feasible. Instead, proposals are generally motivated by comparison to Tibetan and Chinese. The order takes account of feeding and bleeding relationships (in particular that **əj > i* (cf. §68) must precede **ə > a* (cf. §67)), but many changes do not interact directly.

§61. *Merger of *-iŋ and *-in*. While the Burmish languages point only to velars as the origin of Burmese palatal finals, correspondences with Tibetan support a distinction between velars and dentals. Dempsey concludes that dentals and velars had merged as velars after the vowel **i* already by the time of proto-Burmish (2003: 115). Comparisons to Chinese are not useful, because

dentals and velars are hard to distinguish after *-i-* in Old Chinese (Baxter 1992: 435–7; cf. §192).

§61a. Examples to be reconstructed *iŋ:

Bur. လည် *laññ-* < *liŋ ‘neck’, Tib. མཇིང་ *mjiñ*

Bur. အမည် *amaññ* < *miŋ ‘name’, Tib. མྱིང་ *myiñ*

Bur. ရှည် *rhaññ* < *ʔriŋ ‘long’, Tib. རྩིང་ *riñ*

§61b. Examples to be reconstructed *-in (> proto-Burmish *iŋ):

Bur. မှည့် *mhaññ?* < *ʔmiŋ? ‘ripe’, Atsi ʔ*miŋ*⁵⁵, Tib. སླིན་ *smin*

Bur. ရည်း: *raññh* < *riŋh ‘love’, Tib. རྩིན་ *drin* ‘kindness’

Bur. အသည်း: *saññh* < *siŋh ‘liver’, Atsi *sey*¹¹, Tib. མཚོན་ *mčhin* < *m-sin (? cf. §17b)

Bur. အသည်း: *saññh* < *-siŋh ‘(finger)nail’, Atsi *-sey*¹¹, Tib. སེན་ *-sen*

§61c. Examples to be reconstructed *ik:

Bur. ဆစ် *chac* < *tsik ‘joint’, Tib. ཚེགས་ *tshigs*

Bur. မျှစ် *mhyac* < *ʔmyik ‘bamboo’, Tib. སླླུག་ *smyig*

Bur. အစ် *ac* < *ik ‘squeeze, throttle’, Tib. འཇུག་ *hkhvig* ‘tie, fasten, suffocate’

§61d. There do not appear to be instances of Burmese *-ac* for which Tibetan cognates support a reconstruction *-it, becoming *-ik in proto-Burmish.

§62. *Dempsey’s Law: Merger of *e and *i before Velars.* According to Wolfenden’s law (§54), Burmese *-ac* and *-aññ* reconstruct to *-ik and *-iŋ in proto-Burmish. The proto-Burmish rimes *-ik and *-iŋ themselves reflect a merger of *-ik and *-iŋ and *-ek and *-eŋ, which Chinese distinguishes (cf. Dempsey 2003: 100, 113, Hill 2012a: 72–4). Dempsey argues for *-e- rather than *-i- as the value of the vowel in proto-Burmish (2001: 217–18), reconstructing only *e and never *i before velars in proto-Burmish (2003). Since *e and *i had merged it does not matter very much whether one reconstructs *ik and *iŋ or *ek and *eŋ in proto-Burmish. I have chosen *-iŋ and *-ik because they are the result of undoing Wolfenden’s law in the form I have formulated it in §54. For the analogous change in Tibetan see §14.

§62a. Burmese *-ac* and *-aññ* corresponding to Chinese *-ik and *-iŋ:

Bur. နှစ် *nhac* ‘two’, Chi. 二 *nyijH* < *ni[j]-s (29–28a)

Bur. အနှစ် *anhac* ‘kernel’, Chi. 身 *syin* < *ŋiŋ (32–23a) ‘body; self’

Bur. နှစ် *nhac* ‘year’, Chi. 年 *nen* < *[n]ʔi[ŋ] (32–28a) ‘harvest; year’

Bur. ဆစ် *chac* ‘joint’, Chi. 節 *tset* < *ts^ʰik (29–30e) ‘joint of bamboo’

Bur. သစ် *sac* ‘wood, timber’, Chi. 薪 *sin* < *si[ŋ] (32–33n) ‘firewood’

§62b. Burmese *-ac* and *-aññ* corresponding to Chinese **-ek* and **-eŋ*:

Bur. တစ် *tac* ‘one’, Chi. 隻 *tsyek* < *tek (08–11c) ‘one of a pair’

Bur. လည် *laññ-* ‘neck’, Chi. 領 *ljengX* < *[r]eŋ? (09–19f)

Bur. အမည် *amaññ* ‘name’, Chi. 名 *mjieng* < *C.meŋ (09–31a)

Bur. စစ် *cac* < *dzik ‘conflict’, Chi. 爭 *tsreang* < *ts^ʰreŋ ~ *m-ts^ʰreŋ (09–23a)

§63. *Loss of *-r and *-l.* Comparisons with Tibetan show that Burmese drops inherited **-r* and **-l*.

§63a. Examples to be reconstructed **-r*:

Bur. သ *sa* < *sar ‘titivate’, Tib. གསར *gsar* ‘new’

Bur. ပြား *prāh* < *brārḥ ‘flat, level’, Tib. རམས *hphar* ‘board, flat board’

Bur. ပ *pa* < *bar ‘shine’, Tib. རབར *hbar* ‘burn, blaze’

§63b. The reconstruction of the correspondence between Burmese open syllables and Tibetan *-l* is ambiguous. In some cases Chinese has **j* < **-l* (cf. §200b) but in other cases Chinese has **-r* < **-rl* (cf. §201).

Bur. ကာ *kā* < *gāl ‘shield (n.)’, Tib. རྒྱལ *hgal* ‘oppose, contradict’

Bur. ကြား *krāh* < *grālḥ ‘interval’, Tib. རྒྱལ *khral* ‘tax’¹⁵

Bur. က *ka* < *gal ‘saddle’, Tib. རྒྱལ *khal* ‘burden, load’

Bur. ခါး *khāh* < *kālḥ ‘loins, waist’, Tib. མཁལ *mkhal* ‘kidney, reins’

Bur. ဆီ *chī* ‘oil’ < *tsīl, Tib. མཚེ *tshil* ‘grease’

Bur. ပြား *prāh* < *brālḥ ‘be divided into parts’, Tib. རྒྱལ *hbral* ‘be separate, to part’

Bur. ဖား *phāh* < *pālḥ ‘frog’, Lashi ?*paH*, Tib. སཔལ *sbal-pa*

Bur. နား *nāh* < *nālḥ ‘rest, stop a while’, Tib. སམ *mnal* ‘sleep’

Bur. စာ *sā* < *sāl ‘shine’, Tib. གསལ *gsal* ‘clear’

Bur. သိ *sīh* < *sīlḥ ‘split’, Tib. གསེ *gsil*

¹⁵ Chi. 加 *kae* < *k^ʰraj (18–04a) ‘add’ renders the weak semantics of the comparison more plausible.

§63c. A Chinese cognate with final *-j corresponding to a Burmese open syllable points to *-l, even in the absence of a Tibetan cognate.

Bur. *တက* *ka* ‘saddle’, Tib. *ཁལ་* *khal* ‘burden, load’, Chi. 荷 *ha* < *[g]ʰaj (18–01o) ‘carry’, 駕 *kaeH* < *kraj-s (18–04e) ‘yoke (v.)’

Bur. *ကြာ*: *krāh* ‘interval’, Tib. *བཀྲལ་* *bkral* ‘appoint’, Tib. *ཁྲལ་* *khral* ‘tax (n.)’, Chi. 加 *kae* < *kʰraj (18–04a) ‘add’

Bur. *တက* *ka* ‘dance’, Chi. 歌 *ka* < *kʰaj (18–01q) ‘sing, song’

Bur. *ငှာ* *nha* ‘distribute equally’, Chi. 義 *ngjeH* < *ŋaj-s (18–05 r)

‘duty, justice’, 儀 *ngje* < *ŋaj (18–05u) ‘proper demeanour; model’

Bur. *ကြာ* *krā* ‘last, take time’, Chi. 柳 *kaeH* < *kraj-s (18–04c)

‘stand, support’

Bur. *လှာ*: *lyāh* ‘extended, be prolonged’, Chi. 施 *sye* < *laj

(18–09l) ‘give, bestow, extend’

WBur. *လှာ*: *lhwāh* < *hlōlh ‘oblong (shield)’, Chi. 橢 *thwaX* < *lʰojʰ

(19–16c) ‘oval’

WBur. *လှာ*: *lhwāh* < *hlōlh ‘hurdle over, unfurl’, Chi. 墮 *xjwie* <

*lʰoj (19–16e) ‘destroy’

§63d. Final *-rl as a source of Burmese open syllables can only be specified when there is both a Tibetan and a Chinese cognate.

Bur. *ကာ* *kā* ‘shield (n.)’,¹⁶ Tib. *ཉམ་ལཱ་* *hgal* ‘oppose, contradict’, Chi.

扞捍 *hanH* < *m-kʰa[r]-s (24–01q, 24–01i) ‘shield (n.), ward off’, Chi. 干 *kan* < *kʰa[r] (24–01a) ‘protect, guard’

Bur. *ခါ*: *khāh* ‘loins, waist’, Tib. *མཁལ་* *mkhal* ‘kidney, reins’, Chi. 肝

kan < *s.kʰa[r] (24–01l) ‘liver’

Bur. *နား*: *nāh* ‘rest, stop a while’, Tib. *མཉམ་* *mnal* ‘sleep’, Chi. 西 *sej* <

*s-nʰər (26–31a) ‘west’ (cf. Sagart 2004: 71–4)

§63e. Some correspondences proposed in the literature follow yet further patterns.

Bur. *ဖယ်* *phay* ‘go aside, put aside’, Tib. *ཕལ་* *phal* ‘step aside, make way’, Chi. 偏 *phjien* < *pʰen (23–27h) ‘oblique’

Bur. *ကြယ်* *kray* ‘star’, Tib. *སྐར་* *skar* (or *ཁྱི་* *khri*, see Zeisler 2015)

Bur. *ဝန်း*: *wanh* < *Qʷanh ‘round’, Tib. *སྐར་མོ་* *sgor-mo* < *sgʷar

(Laufer’s law; cf. §21) < *sgʷar ‘round’

¹⁶ Perhaps Bur. *တန့်* *kanʰ* ‘block, oppose’ is also related.

§64. *-ul > -uy. Before losing final *-l (cf. §63), Burmese changed *ul to -uy.

WBur. ၆၆၆: *thweh* < **thuyh* ‘spittle’, Chi. 唾 *thwaH* < **t^hoj-s*
(19–17m) ‘spit’, Tib. ཐོ་ལེ *tho-le* ‘spit’

OBur. 𑜀𑜢𑜤𑜰𑜫 *mrui* ‘snake’, Tib. སྦྲུ *sbrul* < **smrul* (Simon’s law; cf.
§30) ‘snake’, Chi. 虺 *xjwɨjX* < **mrujʔ* (27–19a) ‘snake’ (cf. §30
n. 38)

WBur. ၆၆၆: *krwe* < OBur. **kruy* < **gruy* ‘shell’, Chi. 蝸 *kwae* <
**k^hroj* (19–04c) ‘snail’

§65. *-l < *-rl. In a few words Chinese **r* corresponds to Burmese -uy. This suggests that before the change *ul > uy (cf. §64), there was a change *rl > *-l. In sum, this correspondence is explained by the series of changes *-url > *-ul > -uy.

OBur. 𑜀𑜢𑜤𑜰𑜫 *nuy* ‘silver’, Tib. 𑐵𑐶 *dnul*, Chi. 銀 *ngin* < **nrə[n]*
(33–01k)

WBur. ၆၆၆: *mweh* < **muyh* ‘body hair’, Chi. 眉 *mij* < **mrər* (27–
14a) ‘eyebrow’

Unfortunately, it seems that there are no Burmese cognates for Tibetan words that end in -ur. Similarly, there are also no Burmese cognates for Old Chinese *-ur. One would expect that such words would develop as open syllables in Burmese.

Taking into account the vowel correspondences as well as final consonants, the change *-ow > -u in Burmese (cf. Hill 2012a: 77, 2012b: 31) must precede *ul > uy. Otherwise, WBur. ၆၆၆: *thweh* < OBur. **thuyh* < **thulh* < **thowlh* ‘spittle’ and WBur. ၆၆၆: *krwe* < OBur. **kruy* < **krul* < **krowl* ‘shell’ would instead yield **thowlh* > *thowh* > **thūh* and **krowl* > **krow* > **kru* respectively.

§66. *-e > *-a before *Dentals*. In Burmese -a- corresponds to Chinese *-e- before dentals. As Old Burmese has no vowel -e-, there is no obstacle to suggesting that the Chinese value is original. For the analogous Tibetan change see §33.

OBur. 𑜀𑜢𑜤𑜰𑜫 *rhyat* (cf. Nishi 1999: 47) ‘eight’, Chi. 八 *peat* < **p^hret*
(20–14a)

Bur. 𑜀𑜢𑜤𑜰𑜫 *prat* ‘be cut in two, cut off’, Chi. 別 *bjet* < **N-pret*
(20–15a) ‘divide, separate’

Bur. ∞ *sa* ‘titivate’, Chi. 鮮 *sjen* < *ser (23–21a) ‘fresh’

This change must precede the loss of *-r in Burmese (§63) in order for the final *-r in ‘titivate’ to have been present to condition the vowel change.

§67. *Merger of *a and *ə.* In general Burmese collapses *a and *ə, which are distinct in Old Chinese.¹⁷

§67a. Examples to be reconstructed *a:

Bur. ၶၶ *khañ* ‘hill’, Chi. 岡 *kang* < *kʰaŋ (03–02a)

Bur. ငါး *nāḥ* ‘fish’, Chi. 魚 *ngjo* < *ŋa (01–31a)

Bur. စား *cāḥ* ‘eat’, Chi. 咀 *dzoX* < *dzaʔ (01–57u)

Bur. နှင်း *nhanḥ* ‘grant, confer, bestow’, Chi. 讓 *nyangH* < *naŋs (03–42i) ‘yield (v.)’

Bur. ဖုတ် *phā* ‘mend, patch’, Chi. 補 *puX* < *Cə-pʰaʔ (01–67c) ‘patch’

Bur. ပြဲ *prāḥ* ‘be diverse, scatter’, Chi. 披 *phje* < *pʰ(r)aj (18–16 j) ‘divide’

OBur. ရာ *ryā* ‘hundred’, Chi. 百 *paek* < *pʰrak (02–37a)

Bur. လင်း *lanḥ* ‘be light, not dark’, Chi. 陽 *yang* < *laŋ (03–38e) ‘bright’

Bur. စပ် *cap* ‘join, unite’, Chi. 接 *tsjep* < *tsap (35–15e) ‘connect with’

OBur. ကြွယ် *klay* ‘wide, broad’, Chi. 侈 *tsyheX* < *k-lajʔ (18–08t) ‘wide, extend’

A complete list of examples of this correspondence is given at §259.

§67b. Examples to be reconstructed *ə:

Bur. အဝ် *ap* ‘needle’, Chi. 箴鍼 *tsyim* < *t.qəm (38–04no)

OBur. ရပ် *ryap* ‘stand, stop, halt’, Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’

Bur. ရက် *rak* ‘weave (v.)’, Chi. 織 *tsyik* < *tək (05–13f)

Bur. နား *nāḥ* ‘ear’, Chi. 耳 *nylX* < *nəʔ (04–40a)

Bur. ရင် *rañ* ‘breast’, Chi. 膺 *ing* < *q(r)əŋ (06–08e) ‘breast(plate); oppose’

Bur. ပာ *pa* ‘shine’, Chi. 焚 *bjun* < *bən (33–34a) ‘burn’

Bur. မာ *ma* ‘mother’, Chi. 母 *muwX* < *məʔ (04–64a)

Bur. မက် *mak* ‘dream’, Chi. 夢 *mjuwngH* < *C.məŋ-s (06–23a)

¹⁷ The Tibetan cognates add needless clutter and are here omitted (cf. §32).

Bur. ၵၵ *man* ‘ink’,¹⁸ Chi. 黑 *xok* < *ṃ^sək (05–38a) ‘black’

Bur. ၵ *cā* ‘love’, Chi. 慈 *dzi* < *dzə (04–49j) ‘kind (adj.)’

§68. *The Change *aj > i.* Despite the general merger of *ə and *a in Burmese, like Tangut (Jacques 2017b: 299), Burmese provides evidence for a divergent treatment of *a and *ə in a limited phonetic context, namely before the glide *-j (cf. Hill 2014a). Consequently, the generally observed merger of *-a- and *-ə- in Burmese and Tibetan is not a shared innovation, but rather reflects independent changes in the two languages (contra Handel 2008: 431). The change *aj > i in Burmese preceded the general change *-ə- > -a-.

§68a. Examples to be reconstructed *aj; the Burmese reflex is -a-:

Bur. ၵၵ: *krāh* ‘interval’, Chi. 加 *kae* < *k^sraj (18–04a) ‘add’

Bur. ၵ *ka* ‘saddle’, Chi. 荷 *ha* < *[g]^faj (18–01o) ‘carry’, Chi. 駕 *kaeH* < *kraj-s (18–04e) ‘yoke (v.)’

Bur. ၵၵ: *prāh* ‘be divided into parts’, Chi. 披 *phje* < *p^h(r)aj (18–16j) ‘divide’

Bur. ၵၵ *krā* ‘last, take time’, Chi. 枷 *kaeH* < *kraj-s (18–04c) ‘stand, support’

Bur. ၵ *ka* ‘dance’, Chi. 歌 *ka* < *k^saj (18–01q) ‘sing, song’

Bur. ၵၵ: *lyāh* ‘extended, be prolonged’, Chi. 施 *syē* < *laj (18–09l) ‘give, bestow, extend’

Bur. ၵၵ *sai* ‘sand’, Chi. 沙 *srae* < *s^sraj (18–15a)

Bur. ၵ *nai?* ‘be inclined on one side’, Chi. 俄 *nga* < *ŋ^saj (18–05h) ‘slanting’

Bur. ၵၵ *kai* ‘overdo, exceed’, Chi. 嘉 *kae* < *k^sraj (18–04g) ‘excellent’

Bur. ၵၵ *kay* ‘be distended’, Chi. 敲 *kje* < *kraj (18–01d) ‘slanting’, 掙 *kjeX* < kraj? (18–01y) ‘pull aside’

Bur. ၵ *phai* ‘avoid, shun’, ၵၵ *phay* ‘push aside’, Chi. 跛 *paX* < *p^saj? (18–16m) ‘walk lame’

Bur. ၵ *phai?* ‘break off a small piece’, Chi. 破 *phaH* < *p^hsaj-s (18–16o) ‘break (v.)’

¹⁸ In Standard Burmese pronounced *hmin* (Myanmar Language Commission 1993); on the apparently sporadic devoicing of some resonants in Standard Burmese see Nishi (1974: 42 note 58; 2016: 128 note 58).

OBur. ຄວ້ယ໌ *klay* ‘wide, broad’, Chi. 移 *tsyheX* < *k-lajʔ (18–08t)
‘wide, extend’

Bur. လဲ *lai* ‘change, exchange’, Chi. 移 *ye* < *laj (18–08q) ‘move
(v.)’ (cf. §36a n. 48)

Bur. တဝယ် *tay* ‘very’ (intensive), Chi. 多 *ta* < *[t-l]ʔaj (18–08a)
‘many’

§68b. Examples to be reconstructed *əj; the Burmese reflex is *-i-*:

Bur. မီး *mīh* ‘fire’, OTib. མྱི *mye*, Chi. 燬 *xjwijX* < *məjʔ (27–17e)
‘burn’¹⁹

Bur. ນື່ *nīh* ‘near’, Tib. ཉེ *ñe*, Chi. 邇 *nyeX* < *nəjʔ (07–20c) ‘near,
draw near to’

Bur. ມື່ *mrīh* ‘tail’, Chi. 尾 *mijX* < *[m]əjʔ (27–17a)

§69. *Origins of Old Burmese -uiw.* Old Burmese *-uiw* generally corresponds to *-u-* in Tibetan (Hill 2012a: 75–6). Chinese offers both **-u-* and **-o-*, but discussion of the Chinese examples with **-o-* are left to the next section (cf. §70).

WBur. ນັ້ *kuih* ‘nine’, Tib. ངུ *dgu*, Chi. 九 *kjuwX* < *kuʔ (04–12a)

OBur. ປື່ *puiwh* ‘insect’, Tib. ལུ *hbu* ‘worm, insect’, Chi. 蝮
phjuwk < *pʰuk (14–26j) ‘a kind of snake’

OBur. ຣື່ *ruiwh* ‘bone’, Tib. རུ *rus*, Chi. 律 *lwit* < *[r]ut (31–18c)
‘pitch pipe’ (cf. Sagart 2014)

WBur. ນື່ *nui* < *nuiw, Tib. རུ *nu* ‘weep’, Chi. 嗥 *haw* < *gʷu (13–01d)
‘roar, wail’

OBur. ຄື່ *kruwh* ‘try hard’, Tib. ལྷུ *hgrus* ‘zeal, diligence’

OBur. ມື່ *muiwh* ‘sky’, Tib. ལྷུ *dmu* ‘type of sky god’, Tan. ມ *mə*
< *mu (3513) ‘sky’ (cf. Jacques 2014b: 154)

OBur. ນື່ *nuiwh* ‘breast’, Tib. ལུ *nu* ‘suck’

OBur. ກື່ *khuiwh* ‘steal’, Tib. ལུ *rku*

WBur. ກື່ *khuyi* ‘horn’, Tib. ལུ *ru* ‘horn’, ལུ *gru* ‘corner’, Chi. 角
kaewk < *C.kʰrok (11–02a) ‘horn, corner’

¹⁹ If one instead compares Chi. 燬 *xjweX* < *məjʔ ‘fire’ (18–19b), the correspondences become more complicated.

WBur. အဝို့် *akui* < *kuiw ‘elder brother’, Tib. ལྷ་ *khu* ‘paternal uncle’, Chi. 舅 *giuwX* < *[g](r)u? (04–16b) ‘mother’s brother’²⁰

§69a. One may be tempted to reconstruct *u, but this vowel is better suited to those few words in which both Burmese and Tibetan show -u-.

Bur. လူ *lū* ‘person’, Tib. ལུ་ *lus* ‘body’

Bur. ວູ *sū* ‘he’, Tib. ལུ་ *su* ‘who?’

Consequently, I propose to reconstruct the correspondence of Old Burmese -*uiw* with Tibetan -*u* as **uw*.

§70. *The Correspondences of Proto-Burmish *u with Chinese *o*. I reconstruct this correspondence as **əw* since this fills a gap in Chinese and is close to the Burmese value (cf. §202). For the analogous change in Tibetan see §35, with full examples at §256.

OBur. ນູ້ *nuiw?* ‘breast’, Chi. 乳 *nyuX* < *no? (10–32a) ‘milk, nipple’

OBur. ກູ້ *khuiw* ‘steal’, Chi. 寇 *khuwH* < *[k]^h(r)os (10–04a)

WBur. ຊີ້ *khuyi* ‘horn’, Chi. 角 *kaewk* < *C.k^srok (11–02a) ‘horn, corner’

WBur. ກອ້ *kok* < *guk ‘bend (v.)’, Chi. 曲 *khjowk* < *k^h(r)ok (11–04a) ‘bent, crooked’

WBur. ກອ້ *kok* < *guk ‘rice plant’, Chi. 穀 *kuwk* < *k^sok (11–03i) ‘grain’

WBur. ຕອ້ *tok* < *duk ‘blaze, flame, shine’, Chi. 燭 *tsyowk* < *tok (11–12e) ‘torch’

OBur. ຄອ້ *khlo₂nh* < *klunh ‘river’, Chi. 谷 *kuwk* < *C.q^sok (11–14a)²¹ ‘valley’

²⁰ I previously compared Chi. 昆 *kwon* < *k^u[n] (34–01a) ‘elder brother’, which is semantically a better fit and matches the voicing of the initial (Hill 2012a: 76); even the final *-*[n]* is not necessarily fatal, since it could reflect Old Chinese *-*r*. Although one would expect Tibetan to keep the final -*r* (cf. §201a), the comparison of Chi. 水 *sywijX* < *s.tur? (28–14a) ‘water’ with Tib. ལྷ་ *chu* ‘water’ for ‘water’ also shows this same correspondence. Nonetheless, 舅 *giuwX* < *[g](r)u?, which could reflect something like *N-ku?, is generally the more straightforward comparison.

²¹ The comparison of the initials looks more plausible with Schuessler’s reconstruction *k^fok (2009: 158, §§11–14). Nonetheless, the Chinese final -*k* is a problem; a better Chinese comparison to the words in Tibetan and Burmese is probably 江 *kaewng* < *k^roŋ (12–01v) ‘(Yangzi) river’ or potentially 川 *tsyhwen* < *t^lun (34–20a) ‘river’.

WBur. သောက် *sok* < *śuk ‘drink’, Lashi *śu:kH*, Chi. 歎 *sraewk* < *sʰrok (11–21o) ‘suck, inhale’

WBur. တောင် *ton* < *duŋ ‘hill, mountain’, Chi. 冢 *trjowngX* < *[t]roŋʔ (11–13h) ‘tomb mound’

WBur. ခေါင်း *khonh* < *kuŋh ‘be hollow’, Chi. 空 *khuwng* < *kʰoŋ (12–01h)²² ‘hollow, empty, hole’

Bur. ဝံ *cum* ‘pair’, Chi. 雙 *sraewng* < *[sʰ]roŋ (12–24a)

§70a. A reconstruction *-o- for the correspondence of proto-Burmish *-u- to Old Chinese *-o- is unavailable, because there are examples in which Old Burmese has -o,- and Old Chinese *-o-.

WBur. ဆွတ် *chwat* < *chot ‘pluck’, Chi. 絕 *dzjwet* < *[dz]ot (22–16a) ‘cut off, break off’

OBur. လောဝ် *lo,t* ‘be free’, Chi. 脫 *thwat* < *mǝ-ʎʰot (22–13m) ‘peel off’

OBur. ကျပ်နီ *kyo,n* ‘slave’, Chi. 信 *kwaenH* < *krʰons (25–011) ‘servant, groom’

WBur. ဆွဲ *chwai* < *choi ‘hang down’, Chi. 垂 *dzywe* < *[d]oj (19–17a)

§71. *Peiros and Starostin’s Law: Loss of Uvulars*. Inherited uvulars as reflected by Chinese uvulars and Tibetan velars (with some complications; cf. §34) in Burmese are simply dropped in Burmese (Peiros and Starostin 1996: vol. 5, iii). Because Burmese does not permit a distinction in the manner of articulation of the uvular it suffices in reconstruction to use a capital *Q.

Bur. အဝ် *ap* < *Qap ‘needle’, Chi. 箴鍼 *tsyim* < *t.qəm (38–04no)

Bur. အိမ် *im* < *Qim ‘house’, Chi. 窖 *imH* < *q(r)[ə]m-s (38-07-) ‘subterranean room’

Bur. အစ် *ac* < *ik (Wolfenden’s law; cf. §54) < *Qik ‘squeeze, throttle’, Chi. 縊 *ejH* < *qʰik-s (08–05g)²³ ‘strangle’

§71a. When Chinese has a labio-uvular Burmese begins with w-; this correspondence may be reconstructed *Q^w-.

²² Gong also compares 孔 *khuwngX* < *kʰoŋʔ (12–02a) ‘empty’ (1995 [2002]: 89–90).

²³ An alternative possible cognate 結 *ket* < *kʰit < *kʰik (29–01p) ‘tie, knot’ suffers the disadvantage that it would predict a Burmese velar rather than glottal initial.

Bur. $\circ wa < *Q^wa$ ‘elephant foot yam’, Chi. 芋 *hjuH* < $*G^w(r)as$ (01–23o) ‘taro’

Bur. $\circ \dot{C} wan < *Q^wan$ ‘enter’, Chi. 往 *hwangX* < $*G^wan?$ (03–26k) ‘go’

Bur. $\circ \dot{S} wan < *Q^wanh$ ‘round’, Chi. 回 *hwan* < $*G^w^s ar$ (25–12a) ‘turn around’

Bur. $\circ wam < *Q^wam$ ‘bear’, Chi. 熊 *hjuwng* < $*G^wam$ (38–06a)

§71b. In one correspondence, although a Chinese cognate is missing, the correspondence of a velar in Tibetan with initial *w-* in Burmese may be taken to support the reconstruction of an inherited uvular.

Bur. $\text{aw} < *Q^wa$ ‘opening’, Tib. གོ *go* < $*g^wa$ (Laufer’s law; cf. §21) < $*G^wa$ ‘space’

§71c. Nishida points to words where a *gr-* or *kr-* in Tibetan corresponds to a simple *r-* in Burmese (1977: 4–5). The presence of a uvular in the Chinese cognate in many cases suggests the loss of a uvular in Burmese.

Bur. ရှက် *rhak* < $*Q^rak$ ‘ashamed’ (cf. §220f), Tib. རྩལ *khrag* ‘blood’, Chi. 赫 *xae* < $*q^hrak$ (02–10a) ‘red, fiery’

Bur. ရင် *ran* < $*Q^ran$ ‘breast’, Tib. བྲང *brañ*, Chi. 膺 *ing* < $*q(r)əŋ$ (06–08e) ‘breast(plate); oppose’

Bur. အရိပ် *arip* < $*Q^rip$ ‘shadow’, Tib. གྲིབ་མ་ *grib-ma*, Chi. 蔭 *imH* < $*q(r)əm-s$ (38–03b) ‘shade’

Bur. ရွာ *rwā* < $*Q^wra$ ‘rain (v.)’, Chi. 雨 *hjuX* < $*C.G^w(r)a?$ (01–26a)

Bur. ပုရွက် *pu-rwak* < $*Q^wrak$ ‘ant’, Tib. གྲོག་མོ *grog-mo* ‘ant’, Chi. 蚋 *xuwX* < $*q^hr(r)o?$ (10–01n), Zbu Rgy. *qhrôχ*

Bur. ရူး *rūh* ‘mad, insane’, Tib. རྩལ་ལྷོ *hkhrol*

Bur. ရန် *ran* ‘strife, enmity’, Tib. རྩལ་ལྷོ *hgran* ‘compete, vie with’

§71d. There appear to be three exceptions, in which a Chinese uvular corresponds to a Burmese velar.

OBur. ချတ် *kyat* ‘love (v.)’, Tib. སྐྱིད *skyid* ‘be happy’, Chi. 吉 *kjit* < $*C.qit$ (29–01a) ‘auspicious’

WBur. རྩལ་ལྷོ *khrok* < $*?kruk$ ‘frighten, scare’, Lashi *?kju:kH*, Tib. སྐྱིད *skrag* ‘be scared’, Chi. 嚇 *xae* < $*q^hrak$ (02–10b)

Bur. ငှက် *n̄hak* < *^hnak ‘bird’, Lashi ṽ*yoʔH*, Chi. 鷓 *ngek* < *m-^hek
(08–05f) ‘kind of aquatic bird’, Chi. 鳧 *huX* < *m-q^haʔ (01–06e)
‘a bird resembling a quail’

Perhaps the reconstruction of a velar rather than a uvular in Chinese in these cases is a mistake. Otherwise, in light of the fact that the vowel correspondences in these cases are irregular, perhaps these words are simply not cognate.

§71e. In addition, in two words Old Chinese offers a velar correspondence, where we expect a uvular.

Bur. ရင် *ranʔ* ‘mature’, Tib. མཚན *mkhran* ‘hard, solid’, Chi. 梗
kaengX < *k^hraŋʔ (03–11e) ‘suffering’

OBur. ရှပ် *ryap* ‘stand, stop, halt’, Tib. ལྷག *ḥkhrab* ‘strike, stamp,
tread heavily’, Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’ (cf. §15b,
n. 18)

§72. *Lenition of Stops*. In some words a Burmese *w*- corresponds to Tibetan *p*-. Benedict explains that ‘we must suppose that prefixed elements, present or discarded, have exerted an influence on the initial’ (1972: 23). Sagart (2006: 212) also favours this interpretation. Miyake (2012: 249) and Jacques (2014b: 23–5) proposes a similar history of lenition for Tangut.

Bur. ဝါ *wāh* < *C-pāh ‘bamboo’, Tib. སྤ *spa* ‘cane’

Bur. ဝတ် *wak* < *C-pak ‘pig’, Tib. ཕག *phag*

Bur. ဝဉ် *wanʔ* < *C-paŋʔ ‘spin’, Tib. ཕྱ *phan* ‘spindle’

A similar explanation may account for the correspondence of Burmese *r*- to Tibetan *t*-.

Bur. ရက် *rak* < *C-tak ‘weave (v.)’, Tib. ṽtag < *tək (འཇག *hthag*),

Chi. 織 *tsyik* < *tək (05–13f)

Bur. မြင် *mran* < *mC-taŋ ‘see’, Tib. མཚོ *mthon*

§73. **k* < **k*, **q*. Burmese *-k* generally corresponds to Chinese **-k*, but in one word Chinese has **-ʔ*. I reconstruct **-q* as the source of the latter correspondence; this tack may seem rash on the basis of one example, but a proto-segment is also needed to explain a correspondence between Tibetan and Chinese (cf. §§39, 199).

§73a. Examples to be reconstructed *-k:

OBur. ရက် *ryak* ‘day, 24 hrs’, Chi. 夜 *yaeH* < *N.raks (02–27j)
‘night’

Bur. တစ် *tac* < *dik ‘one’, Chi. 隻 *tsyek* < *tek (08–11c) ‘single’

WBur. တောက် *tok* < *duk ‘blaze, flame, shine’, Chi. 燭 *tsyowk* <
*tok (11–12e) ‘torch’

WBur. တောက် *tok* < *duk ‘be toxic’, Chi. 毒 *dowk* < *d^suk ‘poison’
(14–05a)

WBur. ခြောက် *khrok* < *kruk ‘six’, Lashi *khjukH*, Chi. 六 *ljuwk* <
*k.ruk (14–16a)

For a complete list of examples of this correspondence see §263.

§73b. The example to be reconstructed *-q:

WBur. နှောင့် *-nhok* < *[?]nuk < *[?]nuq ‘brain’, Chi. 腦 *nawX* < *n^su?
(16–28f)

§74. *Loss of *-kə*. Here the reconstruction *-kə indexes the correspondence of Chinese velar finals with Burmese open syllables. For an explanation of this reconstruction see §198. For the Tibetan developments see §38.

WBur. ချို *khyui* ‘horn’, Chi. 角 *kaewk* < *C.k^srok (11–02a) ‘horn,
corner’

WBur. ဓေး *ceh* < OBur. *ciyh ‘be sticky, adhesive’, Chi. 漆 *tshit* <
*ts^hi[k] (29–32a) ‘varnish’

OBur. နိယံ *niy* ‘sun’, Chi. 日 *nyit* < *C.ni[k] (29–26a)

OBur. ပိုင် *puiwḥ* ‘insect’, Chi. 蝮 *phjuwk* < *p^huk (14–26j) ‘a kind
of snake’

WBur. လိပ်ပြာ *lipprā* ‘butterfly, soul’, Chi. 魄 *phaek* < *p^hs^rak
(02–38o) ‘soul’

OBur. မွှာ *mlāh* ‘arrow’, Chi. 射 *zyek* < *Cə.lak (02–26a) ‘hit with
bow and arrow’

OBur. ရာ *ryā* ‘hundred’, Chi. 百 *paek* < *p^srak (02–37a)

Bur. လဲ *lai* ‘exchange’, Chi. 易 *yek* < *lek ‘change; exchange’
(08–12a) (cf. §36a n. 48)

2.5.4 *Reprise: Trans-Himalayan to Proto-Burmish*

§75. In the interest of methodological explicitness these changes have been presented inductively, moving step by step from proto-Burmish to proto-Trans-Himalayan. This is a convenient juncture to present the same list of changes in the order in which they occurred historically.

In approximate chronological order these sound changes occur as follows:

Loss of *-kə (cf. §74)

*-q > -k (cf. §73)

Lenition of stops: *C-p > w-, *C-t > r- (cf. §72)

Peiros and Starostin's law: loss of uvulars (cf. §71)

*-əw- > -u- (cf. §70)

*uw > -uiw (cf. §69)

*əj > i (cf. §68)

Merger of 'a' and 'ə' (cf. §67)

*-e > *-a before dentals (cf. §66)

*-rl > *-l (cf. §65)

*-ul > -uy (cf. §64)

Loss of *-r and *-l (cf. §63)

Dempsey's law: merger of *e and *i (cf. §62)

Merger of *-iŋ and *-in (cf. §61)

2.5.5 *Diachronic Mysteries*

§76. The most valuable contribution of a survey of Burmese sound laws is to draw new focus to the exceptions to these sound laws. Having surveyed what is currently known of Burmese historical phonology, those areas in need of better study merit focus. Exceptions to the respective sound laws presented have been provided above, but it is convenient to assemble them together here. In view of the loss of *-r and *-l, the etymologies of the words ဖယ် *phay* 'go aside, put aside', ကြယ် *kray* 'star', and ဝန်း *wanḥ* must be revisited (cf. §63e). In general, Burmese loses inherited uvulars, but in the two words ချတ် *khyat* 'love (v.)' (OBur.) and ခြောက် *khrok* 'frighten, scare' (WBur.), Burmese has an unexpected velar (cf §71d). In addition, the Chinese cognates of the two Burmese words ရင့် *rañ?* 'mature' and ရှပ် *ryap* 'stand, stop, halt' exhibit velars where we expect uvulars (cf. §71e). Burling's law, the loss of preglottalization consonants in Burmese, is on

the one hand probably the most important discovery in Burmese historical phonology yet made. On the other hand, the law has many exceptions, too many to repeat here (cf. §58). Explaining the exceptions to Burling's law is likely to be a profitable area for future research. Finally, all Burmese words spelled with the rimes *-uik* and *-uiñ* are presumed here to be loans, but this presumption is unsafe until all such words have been shown to have non-inherited etymologies.

§77. Chinese enters history as the language written onto cattle or sheep scapulae and turtle plastrons by the diviners of an archaeological culture centred at 小屯 Xiǎotún (c.1200–1050 BCE). The decipherment of these oracle bone inscriptions permits the identification of this culture with the 商 Shāng dynasty of traditional Chinese historiography (K. Chang 1980). Bone inscriptions record questions concerning weather, crops, warfare, and the regulation of the Shāng’s complex ritual life. Although they serve historians as invaluable sources (Keightley 1978), these short formulaic texts are difficult to profitably use in historical linguistics. Linguistic research on the language of the oracle bone inscriptions focuses primarily on syntax (Takashima 2000).

The Shāng fell to their neighbours the 周 Zhōu (c.1046 BCE). Although scapulimancy is attested among the Zhōu, the younger dynasty is more known for inscriptions in cast bronze ritual vessels (Shaughnessy 1991). Such bronze inscriptions, intended in part as family heirlooms, typically record the appointment of the initial owner to public office. Because the texts of some of these inscriptions rhyme and their palaeography is more obviously continuous with later forms of Chinese, bronze inscriptions offer a more fruitful avenue for historical linguistic research than do the earlier oracle bone inscriptions (Behr 2008).

There is no doubt that the Shāng and Zhōu produced writings on more perishable materials such as bamboo and silk; the character 冊 (pre-Qín 𠄎) for ‘book’, attested already in bone inscriptions, portrays bamboo strips bound together. Nonetheless, extant texts on silk and bamboo date only from the Warring States period (fifth century BCE) and later. These excavated texts, which offer a much wider selection of genres than either the bone or bronze inscriptions, are increasingly the subject of research (e.g. Cook 2012), but historical Chinese phonology as traditionally practised makes use of much later sources. This inattentiveness of phonologists to early sources is generally reciprocated by the ignorance of historians and philologists concerning recent progress in Chinese historical phonology (Caboara 2014).

Five texts originating from before the 秦 Qín dynasty (221–206 BCE) have enjoyed uninterrupted circulation to our own day. They are known as the ‘Five Classics’ (Nylan 2001), on account of their status within the Confucian tradition and their incorporation into the state curriculum under the 漢 Hàn dynasty (206 BCE–220 CE). Within traditional Chinese learning, these texts enjoy a pre-eminence in the study of early China. Nonetheless, like all documents with an ancient transmission they are beset by problems of chronology, textual stability, and interpretation. Because the 詩經 *Shījīng* ‘Classic of Poetry’ mostly consists of rhymed poetry it is the one Classic to substantially inform the study of historical phonology.

3.1 Old Chinese

§78. The term ‘Old Chinese’ has several senses that do not necessarily converge; these senses include the language ancestral to all of the Sinitic languages spoken today and the language spoken in the Shāng or Zhōu polities. The most precise way of defining the language referred to as ‘Old Chinese’ is to point to the evidence used for reconstructing this language. From this perspective, Old Chinese is three things: the ancestor of Middle Chinese (§79), the language reflected in the rhyming practices of the *Shījīng* (§86), and the language that informs the structure of the Chinese script (§87). Many reconstruction systems rely entirely on these three types of evidence (cf. Schuessler 2009: 11). However, the system of Baxter and Sagart further includes the evidence of some modern Chinese dialects (especially Mǐn); early loanwords from Chinese into Hmong-Mien, Vietic, and Kra-Dai; and explicit discussions of language in early Chinese texts (Baxter and Sagart 2014: 2–4). The work in your hands uses Old Chinese in the system of Baxter and Sagart (2014); the ensuing discussion presents a precis of this system.¹

Baxter and Sagart’s own presentation of their system is necessarily more authoritative than the summary here, but my restatement may nonetheless prove helpful because of its distinct expository approach. I aim to show how the reader may herself reconstruct Old Chinese. Consequently, the organization is built around the types of evidence that contribute to Old Chinese

¹ The system of Baxter and Sagart has not met with universal endorsement. Positive reviews include G. Starostin (2015), Goldstein (2015), and Hill (2017b). Negative reviews include Schuessler (2015), Ho (2016), and Harbsmeier (2016). On the one hand many criticisms apply *mutatis mutandis* to all six vowel systems (Ho 2016, esp. 183–4) or even to all efforts in historical linguistics (Harbsmeier 2016, esp. 484–7). On the other hand some criticisms concern details only (Schuessler 2015). Replies to the negative reviews are in press. I discuss some reasons for my choice of Baxter and Sagart’s system below (cf. §105). An additional benefit of their system is that it is easily converted into simpler systems, such as Schuessler’s (2009), whereas it is not straightforward to convert a simpler system into Baxter and Sagart’s.

reconstruction. In contrast, Baxter and Sagart present a reconstructed system as a system, combining all possible sources of evidence in favour of the system's architecture at all points in the argument.

In the ensuing presentation, I first discuss each type of evidence (§§79–91). Next comes a survey of the simplex initials, built on the basis of the three traditional sources (§§92–124). Thereafter follows treatment of those elements of Baxter and Sagart's system, generally the 'pre-initials', buttressed by the less traditional sources (§§125–171). Again relying on the three traditional sources, comes discussion of the medial *-r- (§172), vowels (§§173–182), tones (§§183–186), and final consonants (§§187–189).

3.1.1 Middle Chinese

§79. The internal reconstruction of Middle Chinese provides a bedrock upon which all efforts to elucidate Old Chinese phonology build. The Middle Chinese phonological system exhibits several imbalances and asymmetries. Each such infelicity affords an opportunity for internal reconstruction. The nature of internal reconstruction as a method dictates that a complex attested system descend from an elegant precursor. One may thus a priori guess that the phonology of Old Chinese achieved through internal reconstruction is simpler than the true state of affairs. With this danger of oversimplification in mind, after the internal reconstruction reduces the number of distinct Old Chinese phonological units relative to Middle Chinese, it is necessary to consider evidence that Old Chinese maintained distinctions lost in Middle Chinese.

The term 'Middle Chinese' refers to the phonological representation of Chinese characters as reflected in the 隋 Sui dynasty rime book, the 切韻 *Qièyùn*, written in 601 CE by 陸法言 *Lù Fǎyán*.² Scholars ubiquitously approach the description of the categories reflected in the *Qièyùn* through the rime tables of the 宋 Song dynasty, most famously the 韻鏡 *Yùnjìng* published by 張麟之 *Zhāng Línzhī* in 1161 CE, but the 七音略 *Qīyīnlüè*, which appeared the same year in the 通志 *Tōngzhì* encyclopedia by 鄭樵 *Zhèng Qiào*, is also influential. The interpretation of these sources is complex and controversial (cf. Branner 2000, Baxter and Sagart 2014: 8–20, Handel 2014, Jacques 2017c).

Employing Chinese data for the purposes of comparative linguistics does not require mastery of these texts and their philology; the Middle Chinese

² The 601 CE edition is extant only in fragments from Dūnhuáng and Turfan. The earliest available complete derivative work is 王仁昉 *Wáng Rénxiù*'s 刊謬補缺切韻 *Kānmiù Bùquē Qièyùn* of 706 CE (see Chang 1974: 62, Takata 2004, and Bottéro 2013). The exposition here generally makes reference to the *Qièyùn*, glossing over differences between it and later derivative works. Chinese historical phonology has typically relied on the substantially later 廣韻 *Guǎngyùn* of 1007–8 CE (Baxter and Sagart 2014: 16–20).

transcription system of William Baxter (1992: 27–86) mechanically reflects all distinctions made in the analysis of the *Qièyùn*. Although some effort is made here to explain the meaning of Baxter’s conventions, these details are not relevant for comparative Trans-Himalayan research. In practice, transcriptions into Baxter’s system are useable as a romanization of philologically attested primary data, the same function served by the transliteration into Roman letters of the Tibetan or Burmese alphabets. The reader willing to accept Baxter’s transcription at face value may skip ahead to §86.

§80. *Structure of the Qièyùn*. The four tone categories of Middle Chinese serve as the overarching principle for the *Qièyùn*’s organization. The dictionary is divided into five volumes, with two volumes for characters in the Middle Chinese level tone (平聲 *píngshēng*) and one each for the rising (上聲 *shàngshēng*), departing (去聲 *qùshēng*) and entering (入聲 *rùshēng*) tones. The terms for these four tone categories, coined by 潘約 Shěn Yuē (441–513 CE) and 週顛 Zhōu Yóng (fl. sixth century CE) (cf. Baxter 1992: 304), are in Middle Chinese each an example of the tone in question: 平 *píng* (MChi. *bjaeng* ‘level’), 上 *shàng* (MChi. *dzyangX* ‘rising’), 去 *qù* (MChi. *khjoH* ‘departing’), and 入 *rù* (MChi. *nyip* ‘entering’). In Baxter’s system the capital letters *-X* and *-H* represent the ‘rising’ and ‘departing’ tones respectively. Both the ‘level’ and ‘entering’ tones are represented with no final capital letter, but a syllable in the ‘entering’ tone ends with a final stop whereas a syllable in the ‘level’ tone is either open or ends with a nasal.

The *Qièyùn* divides the characters classed under each tone into a total of 193 rime categories (韻目 *yùnmù*) (cf. §81). Within each rime category those characters with homophonous readings appear together. These homophone groups (小韻 *xiǎoyùn* or 紐 *niǔ*) are the smallest unit of the work’s organization. The pronunciations of the characters in a single homophone group are presented using the 反切 *fǎnqiè* method traditionally credited to 孫炎 Sūn Yán (220–80 CE) but perhaps used by the earlier scholars 應劭 Yīng Shào (140–206 CE) and 服虔 Fú Qián (late second century) (Branner 2000: 38). The *fǎnqiè* method represents a character’s pronunciation by giving two further characters; the first character shares the same onset as the character annotated and the second character has the same rime as the character annotated.³ To give a concrete example, the character 東 *tuwng* is glossed with 德 *tok* and 紅 *huwng*, where the pronunciation *tuwng* has the initial of *t-* of 德 *tok*

³ I use ‘onset’ in this setting to indicate the phonetic quality shared by the reading of a character and the reading of the first of its two *fǎnqiè* spellers (反切上字 *fǎnqiè shàngzì* hereafter ‘*fǎnqiè* onset spellers’). As described below, assuming that the sameness of this relationship is transitive ‘onset’ becomes equivalent to 聲類 *shēnglèi*. I reserve ‘initial’ for sets of ‘onsets’ in complementary distribution. Although not equivalent, ‘onset’ is thus closer to an allophone whereas ‘initial’ is closer to a phoneme.

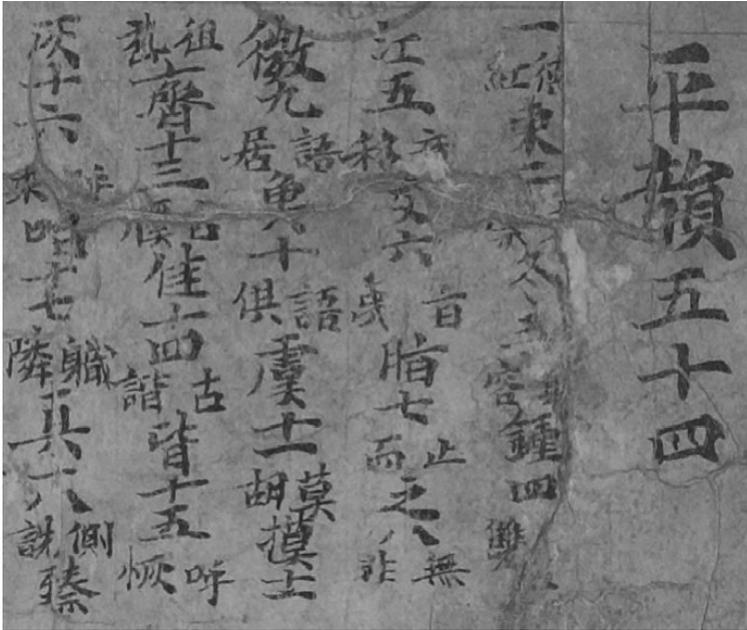


Figure 3.1a Opening of the *Qièyùn* from a *Dūnhuáng* fragment (PChin. 2017)

and the rime *-uwng* of 紅 *huwng*; one can represent this relationship an equation: 東 *tuwng* = 德 *t(ok)* + 紅 *(h)uwng*. The analysis of the pronunciation of ‘fake’ as *f(ol)d* + *(c)ake*, is an analogous use of the *fānqiè* method in English.

Figure 3.1 shows the opening of the first *pingsheng* volume of the *Qièyùn* as it appears in a *Dūnhuáng* fragment, which lists the first eighteen of the fifty-four rimes of this volume together with the *fānqiè* spellings of the names of the rime categories. Note that the first rime category is 東 *tuwng*, which is given the *fānqiè* spellings *tuwng* = 德 *t(ok)* + 紅 *(h)uwng*. Figure 3.2 shows two homophone groups from the 刊謬補缺切韻 *Kānmiù Būquē Qièyùn* of 706 CE (Long 1968: 7, Zhou 1983: 49)

§81. *Rime Categories of the Qièyùn*. As already noted, the *Qièyùn* classifies the readings of characters according to 193 different rime categories. The *Qièyùn* itself makes no effort to meaningfully group these rimes together into higher-order categories or to elucidate systematic relationships among them.⁴ Nonetheless, Baxter’s transcription of Middle Chinese rimes appears to

⁴ Once the phonetic value of the rimes has been made clear from other material it emerges that the order of rimes in the volumes belonging to different tones are parallel and phonetically

Transcription	Translation
平韻五十四	There are 54 level tone rimes
一 德紅東	1. 東 <i>tuwng</i> = 德 <i>t(ok)</i> + 紅 <i>(h)uwng</i>
二 都宗冬	2. 冬 <i>towng</i> = 都 <i>t(u)</i> + 宗 <i>(ts)owng</i>
三 職容鐘	3. 鐘 <i>tsyowng</i> = 職 <i>tsy(ik)</i> + 容 <i>(y)owng</i>
四 古雙江	4. 江 <i>kaewng</i> = 古 <i>k(uX)</i> + 雙 <i>(sr)aewng</i>
五 章移支	5. 支 <i>tsyē</i> = 章 <i>tsy(ang)</i> + 移 <i>(y)e</i>
六 旨夷脂	6. 脂 <i>tsyij</i> = 旨 <i>tsy(ijX)</i> + 夷 <i>(y)ij</i>
七 止而之	7. 之 <i>tsyi</i> = 止 <i>tsy(iX)</i> + 而 <i>(ny)i</i>
八 無非微	8. 微 <i>mji</i> = 無 <i>m(ju)</i> + 非 <i>(p)ji</i>
九 語居魚	9. 魚 <i>ngjo</i> = 語 <i>ng(joX)</i> + 居 <i>(k)jo</i>
十 遇俱虞	10. 虞 <i>ngju</i> = 遇 <i>ng(juH)</i> + 俱 <i>(k)ju</i>
十一 莫胡模	11. 模 <i>mu</i> = 莫 <i>m(aek)</i> + 胡 <i>(h)u</i>
十二 徂嵇齊	12. 齊 <i>dzej</i> = 徂 <i>dz(u)</i> + 嵇 <i>(h)ej</i>
十三 古腭佳	13. 佳 <i>kea</i> = 古 <i>k(uX)</i> + 腭 <i>(h)ea</i>
十四 古諧皆	14. 皆 <i>keaj</i> = 古 <i>k(uX)</i> + 諧 <i>(h)ej</i>
十五 呼恢灰	15. 灰 <i>xwoj</i> = 呼 <i>x(u)</i> + 恢 <i>(kh)woj</i>
十六 呼來哈	16. 哈 <i>xoj</i> = 呼 <i>x(u)</i> + 來 <i>(l)oj</i>
十七 職隣真	17. 真 <i>tsyin</i> = 職 <i>tsy(ik)</i> + 隣 <i>(l)in</i>
十八 側詵臻	18. 臻 <i>tsrin</i> = 側 <i>tsr(ik)</i> + 詵 <i>(sr)in</i>
...	...

Figure 3.1b Transcription and translation of Figure 3.1a

motivated, e.g. within the *pingshēng* rimes those that end with *-n* occur in a sequence and within the *rùshēng* rimes those that end with *-t* occur in a sequence (Oh 2017: 602). Later rime tables, beginning with the thirteenth-century 四聲等子 *Sishēng dēngzǐ*, group together rimes into 攝 *shè*, a category roughly analogous to nuclear vowels (Coblin 2006b: 133).

reflect a language with the nuclear vowels *-i-*, *-e-*, *-ea-*, *-ae-*, *-i-*, *-a-*, *-u-*, *-o-* and the codas *-ng*, *-k*, *-w*, *-wng*, *-wk*, *-m*, *-p*, *-j*, *-n*, *-t*, *-i*, but one must remember that this system is not an attempt at a phonetic or phonological representation of Middle Chinese but rather a transcription of all of the categories of the *Qièyùn* (and the rime tables). Thus, the ‘*jaep*’ in the transcription of a character 劫 as *kjaep* means that this character appears under the *yè* 業 *ngjaep* rime in the *Qièyùn*.⁵ The entire inventory of 193 rime categories is here omitted as unnecessary for the ensuing discussion.⁶

§82. *Initials Categories of the Qièyùn*. Whereas rime categories are part of the organization of the *Qièyùn* as a document (i.e. they are predefined as categories by their physical presentation), the work reveals initial categories less straightforwardly. It would have been convenient if the *Qièyùn* only ever used one character to represent a given initial in all *fānqiè* spellings of character readings that begin with that initial. Unfortunately, the *Qièyùn* is content to employ various *fānqiè* spellers to indicate the same initial. In order to distinguish which *fānqiè* spellers refer to the same category, following a method elaborated by 陳澧 Chén Lǐ in his 切韻考 *Qièyùn kǎo* of 1842, one links *fānqiè* onset spellers (反切上字 *fānqiè shàngzì*) into chains by iteratively collecting the *fānqiè* onset speller used in the *fānqiè* spelling of another *fānqiè* onset speller. To pursue the English analogy, if *fake* = *f*(old) + (c)*ake*, *fold* = *ph*(one) + (t)*one*, and *phone* = *f*(ake) + (l)*oan*, then *fake*, *fold*, and *phone* all begin with the same sound. To take a Chinese example, the following chain shows that 枯, 可, 苦, 康, 空, 楷, 口, and 客 all share the same onset:⁷

可 *khaX* = 枯 *kh(u)* + 我 *(ng)aX*
 枯 *khu* = 苦 *kh(uX)* + 胡 *(h)u*
 苦 *khuX* = 康 *kh(ang)* + 杜 *(d)uX*
 康 *khang* = 苦 *kh(uX)* + 岡 *(k)ang*

⁵ As in the example just given, when reporting rime categories, I provide the *pīnyīn* reading of the character that names the category, the character itself, and its Middle Chinese reading, which is also an instance of the rime category in question.

⁶ Since the original edition of the *Qièyùn* is not extant, research relies on later versions that offer different numbers of rime categories (Chang 1974: 74 *et passim*, Bottéro 2013). For lists of the rime categories see Chang (1974: 74), Baxter (1992: 82–5), Handel (2009: 329–38), Baxter and Sagart (2014: 17–20). The Appendix (§260) offers a look-up chart for Middle Chinese rimes on the basis of Baxter’s transcription system.

⁷ Sometimes separate chains are linked by making use of the appearance of a character in two places in the *Qièyùn*; this happens when a character has two different pronunciations. Both pronunciations are noted under both entries (with the notation 又音 *yòuyīn* ‘also pronounced’ applied to the alternative pronunciation). Thus, a character and its two pronunciations redundantly appear in two places in the body of the text. If the same pronunciation has two different *fānqiè* initial spellers in its two locations these *fānqiè* initial spellers can be used to link two chains that would otherwise remain broken (cf. Jacques 2006: 13–14).

Transcription

奇 渠羈反, 異又居宜反,
通俗作奇九

琦 玉名

騎 乘馬

鷓 似鳥, 三首六尾

魑 小兒鬼又渠寄反

碕 曲岸又巨機反

岐 山名又巨支反亦作整

錡 釜屬又魚倚反三足

穌 木別生

祁 巨支反從示十五

祇 磻祇

岐 山名又渠羈反

郊 邑

歧 磻路合從山從止非

駢 勁

疢 病《詩》云「俾我底兮」

鞮 鞞

蚺 畫亦作𧈧

悝 愛又弋支反

跂 行兒又墟鼓反亦作趙

芪 艸母

軹 長轂

鷓 鷄

洑 水都

Translation

1. 奇 *gje* (渠 *gio* + 羈 *kje*), 異 also pronounced *kje* (居 *kjo* + 宜 *ngje*), the vulgar writing is 奇. A total of nine characters have the pronunciation *gje*.

2. 琦 name of a precious stone.

3. 騎 ride a horse.

4. 鷓 like a crow, with three heads and six tails.

5. 魑 ghost of a small child; also pronounced 渠 *gio* + 寄

6. 碕 curved shore, also pronounced *gij* (巨 *gioX* + 機 *kjij*).

7. 岐 name of a mountain; also pronounced *gje* (巨 *gioX* + 支 *tsye*); also written 整.

8. 錡 a type of cauldron; also pronounced *ngjeX* (魚 *ngjo* + 倚 *'jeX*), with three legs.

9. 穌 [something] growing separately [from] a tree', [i.e. an arboreal parasite.]

1. 祁 *gjie* (巨 *gioX* + 支 *tsye*), from 示 'spirit'. A total of fifteen characters have the pronunciation *gje*.

2. 祇 The first syllable of 袷袷 'monastic robes'.

3. 岐 name of a mountain; also pronounced *gje* (渠 *gio* + 羈 *kje*).

4. 郊 town (邑).

5. 歧 crossroad. From 山 not from 止.

6. 駢 strong (勁).

7. 疢 sick; the Odes say 俾我底兮 'makes me sick!'

8. 鞮 leather belt that connects a horse with a cart (鞞).

9. 蚺 poisonous insect (畫), also written 𧈧 and 𧈩.

10. 悝 love; also pronounced *ye* (弋 *yik* + 支 *tsye*)

11. 跂 walk like a child (i.e. crawl); also pronounced *khje* (墟 *khjo* + 豉 *dzye*), also written 趙.

12. 芪 first syllable of 芪母, a kind of medicinal grass.

13. 軹 protruding part of a hub (長轂).

14. 鷓 chicken (鷄).

15. 洑 aggregation of water.

Figure 3.2 Two homophone groups from the 刊謬補缺切韻 *Kānmiù Būquē Qièyùn* of 706 CE

空 *khuwng* = 苦 *kh(uX)* + 紅 *(h)uwng*

楷 *khøjX* = 苦 *kh(uX)* + 駭 *(h)øjX*

口 *kuwX* = 苦 *kh(uX)* + 後 *(h)uwX*

客 *khæk* = 苦 *kh(uX)* + 格 *(k)æk*

The result of applying this method to all *fānqiè* onset spellers in the *Qièyùn* is fifty-one chains of *fānqiè* onset spellers (聲類 *shēnglèi*). These onset classes are not phonemes, but merely chains of onset *fānqiè* spellers assembled philologically. The *Qièyùn* is silent on the phonetic value of these fifty-one onset classes. For their phonetic value we turn to the rime tables.

The *Yùnjing* explicitly distinguishes initials into place and manner of articulation with terms such as labial (唇 *chún*), dental (舌 *shé*), voiceless (清 *qīng*), voiceless aspirated (次清 *cìqīng*), etc. The *Qīyīnlüè* distinguishes thirty-six initials by giving an example of each.⁸ Thus, what the *Yùnjing* describes as a ‘voiceless labial’ the *Qīyīnlüè* refers to acrophonically as the 幫 *p(ang)* initial. Whereas associating sounds with the fifty-one onsets of the *Qièyùn* on the basis of internal evidence is not possible, associating sounds with the thirty-six initials of the *Qīyīnlüè* and the articulatory categories of the *Yùnjing* is feasible. Hereafter I refer to ‘the rime tables’ when the distinction between the *Yùnjing* and the the *Qīyīnlüè* is clear or unimportant.

Some effort must be taken to reconcile the thirty-six rime table initials of relatively known phonetic interpretation with the *Qièyùn*’s fifty-one onsets of unknown phonetic value. There are cases where the rime tables split categories which can be linked in the *Qièyùn* and cases where the rime tables conflate categories which cannot be linked in the *Qièyùn* (Baxter 1992: 45–61, Baxter and Sagart 2014: 14–16). The splits reflect conditioned changes in the pronunciation of Chinese during the centuries intervening between the compositions of the the works in question and need concern us no further here.⁹ The latter cases, in which the rime tables collapse categories distinct in the *Qièyùn*, are of interest because the rime tables may correctly subsume under one initial category *fānqiè* onset chains that are in complementary distribution with respect to *Qièyùn* rime categories. Let us consider two examples (Táng 2002: 112–14).

In the first example the rime tables categorize some characters as having the 照母 *zhàomǔ* initial (here provisionally written *č-*) which the *Qièyùn* puts

⁸ The preface to the *Yùnjing* contains a list of the same thirty-six initials, but the body of the text does not classify characters according to these initials.

⁹ The ninth-century Buddhist monk 守溫 *Shǒuwēn* is traditionally credited with enumerating the thirty-six initials, but fragments from 敦煌 *Dūnhuáng* potentially creditable to him enumerate only thirty initials (Pulleyblank 1970: 206–7, Coblin 2006a). The thirty initials omit some of the subsequent innovations. In particular, the labio-dental fricatives (*qīngchún* 輕唇), viz. 非 *f-*, 敷 *fh-*, 奉 *v-*, 微 *m-* of the later thirty-six initials (Baxter 1992: 41, 46–7) are not listed in the thirty initials, although the fragment may show an awareness of their distinct pronunciation (Pulleyblank 1970: 210, Coblin 2006a: 118).

<i>fǎnqiè</i> onset speller (its rime)	<i>fǎnqiè</i> onset speller (its rime)
側 \check{c}_1ik (zhí 職 <i>tsyik</i>)	之 \check{c}_2i (zhī 之 <i>tsyī</i>)
莊 \check{c}_1jang (yáng 陽 <i>yang</i>)*	職 \check{c}_2ik (zhí 職 <i>tsyik</i>)
阻 \check{c}_1joX (yú 魚 <i>ngjo</i>)	章 \check{c}_2jang (yáng 陽 <i>yang</i>)
鄒 \check{c}_1juw (yóu 尤 <i>hjuw</i>)	諸 \check{c}_2jo (yú 魚 <i>ngjo</i>)
簪 \check{c}_1im (qīn 侵 <i>tshim</i>)	旨 \check{c}_2ijX (zhǐ 脂 <i>tsyij</i>)
仄 \check{c}_1ik (zhí 職 <i>tsyik</i>)	止 \check{c}_2iX (zhǐ 之 <i>tsyī</i>)†
爭 \check{c}_1eang (gēng 耕 <i>keang</i>)	脂 \check{c}_2ij (zhǐ 脂 <i>tsyij</i>)
	征 \check{c}_2eng (qīng 清 <i>tshjeng</i>)
	正 \check{c}_2eng (qīng 清 <i>tshjeng</i>)
	占 \check{c}_2em (yán 鹽 <i>yem</i>)
	支 \check{c}_2e (zhī 支 <i>tsye</i>)
	煮 \check{c}_2joX (yú 魚 <i>ngjo</i>)

*The reading of the character 莊 \check{c}_1jang is described as an initial voiceless affricate (齒音 *chǐyīn*, 清 *qīng*) on chart 31 of the *Yùnjīng* and as initial ǎ (照 *zhào*) on chart 34 of the *Qiyīnlüè*.

†The reading of the character 止 \check{c}_2iX is described as an initial voiceless affricate (齒音 *shǐchǐ*, 清 *qīngzhuó*) on chart 8 of the *Yùnjīng* and as ǎ (照 *zhào*) on chart 8 of the *Qiyīnlüè*.

Figure 3.3 The *fǎnqiè* onset speller chains \check{c}_1 - and \check{c}_2 -, distinguishable in the *Qièyùn* but not in the rime tables

in the distinct *fǎnqiè* chains 側莊阻鄒簪仄爭 and 之職章諸旨止脂征正占支煮 (here provisionally distinguished as \check{c}_1 - and \check{c}_2 - respectively); see Figure 3.3. The initials \check{c}_1 - and \check{c}_2 - must be considered distinct because there are some rime categories compatible with both, in particular *-ik* (zhí 職 *tsyik*), *-jang* (yáng 陽 *yang*), and *-jo* (yú 魚 *ngjo*), i.e. \check{c}_1 - and \check{c}_2 - are not in complementary distribution with respect to the *Qièyùn* rime categories. Thus, in his transcription system Baxter distinguishes *tsr*- (provisional \check{c}_1 -) and *tsy*- (provisional \check{c}_2 -).

In the second example the rime tables categorize characters as having the 來母 *laimǔ* initial (here provisionally written *l*-), which the *Qièyùn* puts in the distinct *fǎnqiè* chains 盧郎落魯來洛勒賴練 and 力良呂里林離連縷 (here provisionally distinguished as *l*₁- and *l*₂- respectively); see Figure 3.4. In this case there are no rimes that occur in both *fǎnqiè* onset chains. Thus, the rimes

<i>fǎnqiè</i> onset speller (its rime)		<i>fǎnqiè</i> onset speller (its rime)	
盧 <i>l₁u</i>	(<i>mó</i> 模 <i>mu</i>)	力 <i>l₂ik</i>	(<i>zhí</i> 職 <i>tsyik</i>)
郎 <i>l₁ang</i>	(<i>táng</i> 唐 <i>dang</i>)	良 <i>l₂jang</i>	(<i>yáng</i> 陽 <i>yang</i>)
落 <i>l₁ak</i>	(<i>duó</i> 鐸 <i>dak</i>)	呂 <i>l₂joX</i>	(<i>yú</i> 魚 <i>ngjo</i>)
魯 <i>l₁uX</i>	(<i>mó</i> 模 <i>mu</i>)	里 <i>l₂iX</i>	(<i>zhī</i> 之 <i>tsyi</i>)
來 <i>l₁oj</i>	(<i>hāi</i> 哈 <i>xoj</i>)	林 <i>l₂im</i>	(<i>qīn</i> 侵 <i>tshim</i>)
洛 <i>l₁ak</i>	(<i>duó</i> 鐸 <i>dak</i>)	離 <i>l₂je</i>	(<i>qí</i> 齊 <i>tsij</i>)
勒 <i>l₁ok</i>	(<i>dé</i> 德 <i>tok</i>)	連 <i>l₂jen</i>	(<i>xiān</i> 仙 <i>sjen</i>) [†]
賴 <i>l₁ajH</i>	(<i>tài</i> 泰 <i>thajH</i>)	縷 <i>l₂juX</i>	(<i>yú</i> 虞 <i>ngju</i>)
練 <i>l₁enH</i>	(<i>xiān</i> 先 <i>sen</i>) [*]		

^{*}The reading of the character 練 *l₁enH* is described as a initial liquid resonant (舌齒 *shéchǐ*, 清濁 *qīngzhuó*) on chart 23 of the *Yùnjǐng* (Figure 3.6) and as *l-* (來 *lái*) on chart 23 of the *Qiyīnlüè* (Figure 3.7).

[†]The reading of the character 連 *l₂jen* (*xiān* 仙 *sjen*) is described as a initial liquid resonant (舌齒 *shéchǐ*, 清濁 *qīngzhuó*) on chart 23 of the *Yùnjǐng* (Figure 3.6) and as *l-* (來 *lái*) on chart 23 of the *Qiyīnlüè* (Figure 3.7).

Figure 3.4 The *fǎnqiè* onset speller chains *l₁-* and *l₂-*, distinguishable in the *Qièyùn* but not in the rime tables

themselves sufficiently index the two types of *l-*. The two are in complementary distribution and may be regarded as allophones of the same phoneme (perhaps a ‘light *l*’ and a ‘dark *l*’). Because of their complementary distribution, Baxter’s transcription uses *l-* for the Middle Chinese pronunciations of characters written with both *fǎnqiè* chains.¹⁰

By testing in this way all pairs of *fǎnqiè* onset chains in the *Qièyùn* that are not assigned by the rime tables to distinct initials, as to whether or not the two chains are in complementary distribution relative to *Qièyùn* rime categories, one reduces the fifty-one distinct *fǎnqiè* onset chains to forty-two distinct *Qièyùn* initials (聲母 *shēngmǔ*), as presented in Figure 3.5.¹¹

¹⁰ I have taken a methodologically unwarranted short cut. What I show here is that the rimes of the initial *fǎnqiè* spellers themselves are in complementary distribution, but better would be to show that all of the rimes in which words spelled with these spellers occur are in complementary distribution.

¹¹ The terms in Figure 3.5 are not necessarily those of any particular primary source, but instead are traditional in the teaching of Middle Chinese phonology. Although there is no traditional Chinese name for initial *zr-*, I herein refer to it as 侯 *sì* (Baxter and Sagart 2014: 15–16).

The reader may protest that by observing the patterns of distribution between the fifty-one *fǎnqiè* onset chains in the *Qièyùn* and the 193 rime categories of the *Qièyùn*, one could establish without reference to the rime tables that the *fǎnqiè* onset chain of which 盧 *lú* is a member and that of which 力 *lì* is a member can be united, whereas the chains of which 側 *cè* and 之 *zhī* are respectively members cannot be. This alternative method, reducing the fifty-one *fǎnqiè* onset chains to a smaller number of distinct initial categories while ignoring the rime tables avoids the anachronism of using a book from 1161 to analyse the categories of a book from 601. Nonetheless, the alternative method has the practical disadvantage of arriving at a number of initials lower than forty-two, which the entire edifice of historical Chinese linguistics operates with. Although conceptually this is an advantage, since it demonstrates that the rime tables distort one's perception of the *Qièyùn*, and one may express the hope that in the future the forty-two initials will be abandoned as the dross of tradition, to propose an alternative analysis here would take us well beyond the scope of this work's intention and potentially confuse the student, because one uniformly finds forty-two initials discussed in other works. To give an example, initials 泥 *n-* and 娘 *nr-*, although in complementary distribution, are usually regarded as distinct Middle Chinese initials because they are distinguished in the rime tables.¹²

The true drawback of ignoring the rime tables is that one then loses the phonetic information that the two *fǎnqiè* onset chains which 盧 *lú* and 力 *lì* respectively belong to are classed in the rime tables as having an initial liquid resonant (舌齒 *shéchi*, 清濁 *qīngzhuó*) or lateral (來目 *láimù*), and that the two chains which 側 *cè* and 之 *zhī* respectively belong to are classed in the rime tables as having an initial voiceless affricate (齒音 *shéchi*, 濁清 *qīngzhuó*) or 照母 *zhàomǔ* initial.

§83. *The 'Ranks' of the Rime Tables and 'Divisions' of the Qièyùn.* Without explanation, the rime tables classify rimes among four 等 *děng* 'ranks'. These 'ranks' refer fundamentally to the *mise en page* of these two particular documents, each rank corresponding to a row on a page. Although the linguistic meaning of these 'ranks' is obscure, they bear certain relationships with distributional classes of co-occurrences between initials and rimes in the *Qièyùn* (Schuessler 2009: 7, Shen Ruiqing 2017). In English it is useful to distinguish between 'rank' as the term for the four rows of the rime tables and 'division' for the analogous but distinct categories in the *Qièyùn*, even though the Chinese term 等 *děng* is the same in both cases (Shen Ruiqing 2017: 13).

¹² Note that thirty initials of the *Dūnhuáng* fragments (see §82 note 9 above) omit initial 娘 *nr-*. Initials 匣 *h-* and 雲 *hj-* (the latter a subset of the 喻 *yù* initial category of the rime tables) are also in complementary distribution.

	l-	T-	Tr-	Ts-	Tsy-	Tsr-
Division-i	✓	✓		✓		
Division-ii			✓			✓
Division-iii	✓		✓		✓	
Division-iv	✓	✓		✓		

Figure 3.8 Co-occurrence of rimes of the four divisions with various types of Middle Chinese initials

(*zhāngzǔ* 章組 *Tsy-*) occur only with division-iii rimes.¹⁴ Dental initials (*shétóu* 舌頭 *T-*) occur only with division-i and division-iv rimes. In fact, rimes of division-i and division-iv pattern identically with regard to their co-occurrence with initials.¹⁵ Thus, from the perspective of the *Qièyùn*, it is impossible to distinguish between division-i and division-iv; they can be treated as a single division-i/iv (see Figure 3.8).

These statements of attested co-occurrence between a class of rimes and a class of initials may be understood as the defining criteria of the three divisions (viz. i/iv, ii, and iii) based on the internal evidence of the *Qièyùn*. In other words, the unsatisfactory characterization of the ranks as an idiosyncrasy of the page formatting of the rime tables is thus paraphrasable as linguistically meaningful distributional classes in the *Qièyùn*.

A more thoroughgoing presentation of the co-occurrence restrictions of the initial classes with rimes further permits division-i/iv and division-ii to be collapsed. Division-i/iv rimes occur with dental (*shétóu* 舌頭 *T-*) and affricate initials (*chítóu* 齒頭 *Ts-*) but not with retroflex (*shéshǎng* 舌上 *Tr-*) or retroflex affricate (*zhuāngzǔ* 莊組 *Tsr-*) initials. Division-ii occurs with retroflex (*shéshǎng* 舌上 *Tr-*) and retroflex affricates (*zhuāngzǔ* 莊組 *Tsr-*) but not with dental (*shétóu* 舌頭 *T-*) or affricate (*chítóu* 齒頭 *Ts-*) initials. Thus, division-i/iv is in complementary distribution with division-ii; those places where the one is allowed the other is forbidden, although both are forbidden from the palatals (*zhāngzǔ* 章組 *Tsy-*). This complementary distribution permits division-i/

¹⁴ If these co-occurrence patterns were articulated in terms of distinct *fānqiè* onset chains (聲類 *shēnglèi*) instead of with initials (聲母 *shēngmǔ*), one could further observe that *l*₂- only occurs with division-iii rimes.

¹⁵ Most Chinese dialects show a prevocalic glide in division-iv words, e.g. 牽 Mandarin *qiān* < MCh. *khen*. The presence of this medial is presumably the reason the rime tables place these words in division-iv rather than division-i. Baxter argues that this medial arose due to a sound change affecting inherited front vowels between the composition of the *Qièyùn* and the composition of the rime tables (1992: 241–3).

	l-	T-	Tr-	Ts-	Tsy-	Tsr-
Type A	✓	✓	✓	✓		✓
Type B	✓		✓		✓	

Figure 3.9 Co-occurrence of the rimes of type A and B with various types of Middle Chinese initials

iv and division-ii to be united. From this new perspective division-*i/iv/ii* bears the name ‘type A’ and division-*iii* bears the name ‘type B’ (see Figure 3.9). The distributional categories of the *Qièyùn* itself permit analysis in terms either of the three division-*i/iv*, division-*ii*, and division-*iii* or of the two types A and B. Whether one speaks of divisions or types is simply a question of which distributional facts are in focus. Both ways of looking at the co-occurrence of initial categories with rime categories are synchronically true of Middle Chinese as reflected in the *Qièyùn*. Nonetheless, in practice the terminology of ‘divisions’ is used with reference to Middle Chinese and the terminology of ‘types’ is used with reference to Old Chinese.

In Baxter’s Middle Chinese notation, division-*ii* rimes are marked with the vowels *-ea-* and *-ae-* and division-*iii* rimes are marked with a main vowel *-i-* or pre-vocalic *-j-* (orthographically omitted after initial palatals, i.e. *zhāngzǔ* 章組 *Tsy-*) (Baxter 1992: 67–75).¹⁶ The lack of an indication of division-*ii* or division-*iii* using these conventions itself indexes syllables of division-*i/iv* in Baxter’s system; among these division-*iv* syllables are indicated with the nuclear vowel *-e-*, whereas division-*i* syllables occur with *-a-*, *-u-*, or *-o-*. Following a suggestion of Norman (1994), Baxter and Sagart posit pharyngealization in Old Chinese as the origin of type A syllables and non-pharyngealization as the origin of type B syllables (2014: 68–76). For the present purposes this hypothesis can be viewed as a mechanical rewriting of Middle Chinese syllables without *-j-* as Old Chinese syllables with *-ʕ-* (not applied to syllables with the main vowel *-i-*) and the concomitant omission of *-j-* in the Old Chinese ancestors of Middle Chinese words that contain *-j-*.¹⁷

§84. *Medial -w-* (合口 *Hékǒu*) According to the Rime Tables. The presence or absence of a medial *-w-* in Middle Chinese is of significance for the reconstruction of Old Chinese. Reference to the *Qièyùn* alone does not allow for the identification of this distinction. The rime tables make the distinction

¹⁶ Note that in Baxter’s system *-ea-* occurs only in division-*ii* whereas *-ae-* occurs in both division-*ii* and division-*iii*, so it is only in the absence of *-j-* or *-y-* in the onset that *-ae-* by itself indexes division-*ii*.

¹⁷ To the extent that one relies on late sources such as the *Guāngyùn*, the post-*Qièyùn* sound change *TSrj > TSr- complicates this otherwise mechanical rewriting (Baxter 1992: 53–4).

explicit. A given table of the *Yùnjìng* (but not of the *Qīyīnlüè*) is labelled on its far right as either entirely 合口 *hékǒu* ‘closed mouth’ or 開口 *kāikǒu* ‘open mouth’.¹⁸ As these terms themselves suggest, all researchers analyse the syllables categorized under these rubrics as respectively with *-w-* and without *-w-* (e.g. Baxter 1992: 62, Schuessler 2009: 9, Baxter and Sagart 2014: 203–4).

The *hékǒu* versus *kāikǒu* distinction is not contrastive after labial initials, as revealed by the inconsistent placement of labial initial words in the rime tables and inconsistent use of *fānqiè* rime spellers (反切下字 *fānqiè xiàzì*) with these words in the *Qièyùn* (Baxter 1992: 62–3).

§85. *The 重紐 Chóngniǔ Problem.* Historical Chinese phonologists in the tradition of Karlgren (1964 [1957]) fill out the categories of the *Qièyùn* and rime tables with phonetically meaningful alphabetic representations. In most cases – rimes, initials, *hékǒu/kāikǒu* – the phonetic terminology of the rime tables or a look at Chinese dialects immediately suggests a phonetic interpretation of the philological category in question. However, in one case, the so-called 重紐 ‘*chóngniǔ* problem’, a distinction present in the *Qièyùn* resisted confirmation and analysis for a long time.

As with other niceties of Middle Chinese phonology, the *chóngniǔ* problem boils down to an observation about the *mise en page* of the *Qièyùn* and the rime tables. The term ‘*chóngniǔ*’ means ‘repeated button’, where ‘button’ refers to the dot that separates homophone groups within the same rime category in the presentation of rime books deriving from the *Qièyùn*. The extant fragments indicate that the original edition of the *Qièyùn* did not use this device (Bottéro 2013: 36). In the preface to the earliest complete version, namely 王仁昫 Wáng Rénxù’s 刊謬補缺切韻 *Kānmù Būquē Qièyùn* of 706 CE, the author says that he will separate homophone groups with red dots (Bottéro 2013: 41), but such dots are not visible on the published facsimile (Zhou 1983: 434–527). Nonetheless, even when such dots are missing, one can notice a new homophone group where the text gives a new *fānqiè* spelling followed by an explicit numeric indication of the number of characters that fall into that particular homophone group (see Figure 3.2 above).

Eight rimes of the *Qièyùn* (viz. *zhī* 支 *-je*, *zhī* 脂 *-ij*, *zhài* 祭 *-jejH*, *xiāo* 宵 *-jew*, *qīn* 侵 *-im*, *yán* 鹽 *-jem*, *zhēn* 真 *-in*, and *xiān* 仙 *-jen*) contain a pair of homophone groups that have incommensurate chains of *fānqiè* rime spellers

¹⁸ In fact, the situation is more complex. First, some tables are labeled 開合 *kāihé*. Second, modern textbooks more or less tacitly ‘correct’ the primary sources. For example, 中 is treated as 合口 *hékǒu* in textbooks, although it appears on chart 1 of *Yùnjìng*, which is labeled 開 *kāi*. Such discrepancies, seldom discussed explicitly, are in need of systematic and methodologically informed study. I thank Zev Handel for his help with this note and this entire chapter.

and cannot be distinguished on the basis of *hékǒu* versus *kāikǒu* (Baxter 1977: 56, 60–4).

In general, each homophone group of the *Qièyùn* corresponds to one non-empty grid point in the rime tables. One may thus understand the placement of a character in the tables as an acrophonic representation of the table's treatment of all characters in the corresponding *Qièyùn* homophone group. Looking at the treatment of pairs of *chóngniǔ* homophone groups in the rime tables, the one homophone group is put into rank-iii and the other group in rank-iv. As a matter of terminology, characters of a relevant *Qièyùn* homophone group that is put in rank-iii are called 'chóngniǔ rank-iii' characters (重紐三等 *chóngniǔ sānděng*) and characters of the other *Qièyùn* homophone group, the one put in rank-iv, are called 'chóngniǔ rank-iv' characters (重紐四等 *chóngniǔ sìděng*). The pronunciations of both types belong to division-iii (or equivalently type B) in the sense that their lower *fánqiè* spellers are division-iii.¹⁹ In Baxter's transcription, *chóngniǔ* rank-iv are marked with an additional *i* or *j*. For instance, the *chóngniǔ* rank-iii word 碑 Baxter transcribes as *pje*, while he transcribes the *chóngniǔ* rank-iv word 卑 as *pjie*. It turns out that the *chóngniǔ* problem only affects characters of these eight rimes with labial (唇 *chún*) or velar (牙 *yá*) initials.

Nothing in the *Qièyùn* or rime tables draws attention to these *chóngniǔ* homophone groups as special or worthy of comment. The grounds for putting these characters in two different homophone groups of the *Qièyùn* were obvious to the authors of that work and the grounds for putting some characters of the one homophone group in rank-iii and some characters of the other in rank-iv were obvious to the authors of the rime tables. However, because *chóngniǔ* doublet homophone groups are in the same *Qièyùn* rime and the same rime table column (i.e. have the same initial), because they match in being both *kāikǒu* or both *hékǒu*, because both have division-iii lower *fánqiè* spellers, and because the readings of characters in both groups are homophonous in all of the better-known Chinese dialects, it is difficult to see what part of the syllable is obviously reconstructible as distinct for the two members of a pair. Thus, the interpretation of these homophone groups is confounding and requires a label to facilitate discussion.

Although the modern Chinese dialects do not generally allow a distinction to be drawn between *chóngniǔ* rank-iii readings and *chóngniǔ* rank-iv readings, plenty of evidence confirms that the phonetic distinction recorded in this distinction was real. For example, in many cases the Hphags-pa script transcriptions of these characters in the fourteenth-century 蒙古字韻 *Měnggǔ zìyùn*

¹⁹ More concretely, there is an overall tendency for *chóngniǔ* rank-iii characters to have lower *fánqiè* spellers of rank-iii and for *chóngniǔ* rank-iv characters either to have *chóngniǔ* rank-iv lower *fánqiè* spellers or to have lower *fánqiè* spellers of rank-iii with initials for which there are no *chóngniǔ* distinctions.

distinguishes *chóngniǔ* rank-iii and *chóngniǔ* rank-iv (Shen Zhongwei 2005); in this source 碑 *pje* is transcribed 碑 <*bue*> and 卑 *pjie* is transcribed as 卑 <*be*> (Shen Zhongwei 2005: 167; Coblin 2007: 122 and 126). Sino-Vietnamese character readings also provide evidence for this distinction; 碑 *pje* has the Sino-Vietnamese reading *bi* whereas 卑 *pjie* has the Sino-Vietnamese reading *ti* (Baxter 1977: 86).

3.1.2 Rhymes of the *Shījīng*

§86. The earliest received Chinese text containing rhymed poetry is the 詩經 *Shījīng*. The collection consists of 305 poems presumed to date from the eleventh to the seventh centuries BCE. Reading the poems of the *Shījīng* aloud in the pronunciation of Peking today, it is clear that many of the poems are intended to rhyme; many of the rhymes are still good. Nonetheless, in many cases the pattern of rhyming also makes clear that some words are meant to rhyme that fail to do so in today's pronunciation. To illustrate this point Baxter draws attention to Ode 8 (1992: 151). Words in small capitals are the rhyme words.

采采芣苢、cǎi cǎi fǒu yǐ
薄言采之。bó yán Cǎi zhī
采采芣苢、cǎi cǎi fǒu yǐ
薄言有之。bó yán Yǒu zhī

采采芣苢、cǎi cǎi fǒu yǐ
薄言掇之。bó yán DUŌ zhī
采采芣苢、cǎi cǎi fǒu yǐ
薄言捋之。bó yán LUŌ zhī

采采芣苢、cǎi cǎi fǒu yǐ
薄言袺之。bó yán Jié zhī
采采芣苢、cǎi cǎi fǒu yǐ
薄言襜之。bó yán Xiē zhī

Colourful is the plantain, we GATHER it;
colourful is the plantain, we HOLD it.

Colourful is the plantain, we PICK it;
colourful is the plantain, we PLUCK it.

Colourful is the plantain, we TAKE IT IN OUR HELD-UP FLAPS;
colourful is the plantain, we TAKE IT IN OUR TUCKED-UP FLAPS.

The pattern of rhymes makes clear that 采 *cǎi* and 有 *yǒu* are intended to rhyme, but as their romanization reveals these syllables do not rhyme in the

standard pronunciation of Peking today. The Middle Chinese pronunciations of these characters, 采 *tshojX* and 有 *hjuwX*, also fail to rhyme.

Such failures of the poems to rhyme where expected have been noticed since at least the sixth century of our era, when 沈重 *Shěn Zhòng* suggested adjusting one's pronunciation to make the rimes of the *Shījīng* work. 陸德明 (550?–630) criticized this view, instead explaining that 古人韻緩，不煩改字 ‘the ancients rhymed loosely, one need not trouble to change the words’ (Baxter 1992: 163 and 829 note 105). The 明 *Míng* dynasty scholar 陳弟 *Chén Dì* (1541–1617) explained that sound change had altered the original pronunciation of at least some words, and that these words normally had a single pronunciation in the mouths of the ancients, even if a pronunciation different from that of his own day (Baxter 1992: 154). 陳弟 appears to have believed that *chaque mot a son histoire* and did not systematically explore the difference between ancient phonological categories and those of his own day. The scholar 顧炎武 *Gù Yánwǔ* (1613–82) was first to undertake a reconstruction of the rime categories of Old Chinese; he elaborated ten rime categories (韻部 *yùnbù*) in the *Shījīng*, which split into the more elaborate categories of Middle Chinese rimes (Baxter 1992: 155–7). Subsequent scholars distinguished categories that the *Shījīng* keeps apart in its rhyming practices, which 顧炎武 *Gù Yánwǔ* had failed to notice. The categories recognized by scholars working within the Chinese philological tradition steadily rose over time to twenty-two.²⁰ As Baxter remarks, ‘it is easy to spot Old Chinese rhymes that would not have been allowed in Middle Chinese; but Old Chinese rhyme distinctions among words which did rhyme in Middle Chinese are easily overlooked’ (1992: 159). In the late twentieth century, armed with the six-vowel hypothesis of Old Chinese, motivated by the internal reconstruction of Middle Chinese (§§93–7, 179–182), the three scholars 鄭張尚芳 *Zhèngzhāng Shàngfāng* (1987), Sergei Starostin (1989), and William Baxter (1992) independently recognized many more rime categories. For example, Schuessler (2009), who also operates in the six-vowel tradition, puts the total number of Old Chinese rime categories at thirty-eight and I count forty-five in Baxter and Sagart’s 2014 book. Baxter (1992) gives detailed statistical evidence that the *Shījīng* indeed distinguishes the more recently proposed categories that result from the six-vowel hypothesis.

The rime category of an Old Chinese word is only directly knowable if that word happens to occur as a rhyme word in the *Shījīng*.²¹ Except for those few

²⁰ Jiāng Yǒng 江永 (1680–1762) recognized thirteen categories, 段玉裁 *Duàn Yùcái* (1735–1815) recognized seventeen categories, 江有誥 *Jiāng Yǒugào* (d. 1851) recognized twenty-one categories, and finally 王力 *Wáng Lì* (1900–1986) recognized twenty-two categories; cf. Baxter (1992: 157–71).

²¹ Explicit analyses of *Shījīng* rhymes include Karlgren (1950), Wáng Lì (1980), Baxter (1992: 583–743), and Wáng Xiǎn (2011).

cases where the Middle Chinese pronunciation of a word may, according to one's overall theory, develop only from a single Old Chinese rime category, in order to speak of the rime category of words that do not appear as rhyme words in the *Shījīng* one must turn to the phonetic information inherent in the Chinese script.

3.1.3 Structure of Chinese Characters

§87. A Chinese character is normally analysable into a phonetic component and a semantic component. For example, the character 被 (18–16e), which writes the word *bjeX* ‘cover oneself with’ is composed of the phonetic component 皮 (18–16a), which as a character itself represents the word *bje* ‘skin’, and the semantic component 衤, a contracted version of 衣 (27–05a) ‘clothes’. The pronunciations *bjeX* and *bje* differ only in tone. The meaning ‘clothes’ is sufficient to distinguish *bjeX* ‘cover oneself with’ from 疲 *bje* ‘weary’ or 陂 *pje* ‘dam’. To take another example, the character 銳 *ywejH* (22–13f) ‘sharp’ is composed of the phonetic 兌 *dwajH* (22–13a) and the semantic component 金 (38–03a) ‘metal, bronze’. Even in their altered Middle Chinese pronunciations *ywejH* and *dwajH* are somewhat similar. The meanings ‘sharp’ and ‘metal’ are related enough to signal to a reader that 銳 indicates *ywejH* ‘sharp’ as opposed to 稅 *sywejH* ‘tax’ or 悅 *ywet* ‘contented’, written with the same phonetic.²² At the time of the development of the Chinese script, in order for a character typically associated with a particular word to serve as a phonetic indication of a word with an unrelated meaning, the two words must have been similar in sound. To reconstruct pronunciations at the time of the script’s elaboration it is necessary to have an explicit theory of what this similarity of sound may have consisted of. Such a theory provides criteria against which the Middle Chinese

²² Usually it is simple to determine which component of a character is the phonetic component and which is the semantic component. The MChi. reading of the phonetic component bears some relationship to the MChi. reading of the character in question, whereas the semantic component bears some relationship to its meaning. However, analysing a character into these two components is not always straightforward. The *說文解字 Shuōwén Jiězì* by 許慎 Xǔ Shèn (d. 149 CE) analyses characters into phonetic and semantic components and its analyses are usually given the benefit of the doubt. Nonetheless, with a more thorough knowledge of the history of Chinese palaeography available to us now, certain judgements of Xǔ Shèn reveal themselves as errors. For example, he identifies 土 (土 in early texts) *thuX* ‘earth’ (01–36a) as the phonetic in 牡 *muwX* ‘male quadruped’ (13–75a), but early texts make clear that the element 土 (in which the lower horizontal line is longer than the higher one) was originally 士 (in which the lower horizontal line is shorter than the higher one) *dziX* ‘male’ (04–51a). Thus, the character 牡 (士 in early texts) is historically made up of two semantic components – 牛 (牛 in early texts) *ngjuw* ‘cattle’ and 士 (士 in early texts) *dziX* ‘male’ – and altogether lacks a phonetic component (Schuessler 2009: 31). On such characters, composed of two or more semantic components without a phonetic component (會意 *huiyi*), see Handel (2016).

pronunciations of the two words in question can be judged similar or dissimilar. Pronunciations which are dissimilar necessitate explanation in terms of sound change. This methodology is similar to looking for those cases when a *Shījīng* rhyme no longer rhymes in Middle Chinese and then explaining how the words in question might once have rhymed.

The term 諧聲 ‘*xiéshēng* series’ serves to designate a suite of characters sharing the same phonetic component. Zhū Jùnshēng 朱駿聲 (1788–1858) arranged characters by their phonetics in his 說文通訓定聲 *Shuōwén tōngxùn dìngshēng* (1832). Karlgren produced a similar work, with the advantage that he provides reference numbers for each series (1964 [1957]). Nevertheless, these two works are now outdated; I instead use the reference numbers from Schuessler (2009). In some cases Schuessler thinks that two phonetic series that Karlgren divides should be united, but he does not implement this unification. For example, he suggests combining the series built on 𠄎 *ngjaek* (02–14) with that built on 朔 *sraewk* (02–34), but does not combine the two series in the presentation of his book (2009: 68, 73). In addition, Baxter and Sagart propose the unification of some series, which Schuessler does not accept. For example, Baxter and Sagart (2014: 143) put 喪 *sang* (03–54a) in the series built on 亡 *mjang* (03–65a), but Schuessler (2009: 87) doubts the correctness of this analysis. Because the present work follows Baxter and Sagart’s reconstructions, but uses Schuessler’s reference numbers, the reader should be cognizant that the argument at times requires two characters to be understood as in a single phonetic series despite their reference numbers implying otherwise.

段玉裁 Duàn Yùcái (1735–1815) first elaborated the principle, called the ‘*xiéshēng* hypothesis’, that the same phonetic component in the writing of two characters implies that the words expressed by these characters have the same rime category in the *Shījīng* (Li 1974: 221).²³ In other words, characters with the same phonetic component write words that would have rhymed in the language of the *Shījīng*. 李方桂 Li Fang-kuei adds the stipulation that each Old Chinese rime category have one vowel (Li 1974–5: 243, Baxter 1992: 348, Schuessler 2009: 11). For words that occur as rhyme words in the *Shījīng* and are represented by characters of the same *xiéshēng* series, whether or not the readings of these characters rhyme is a testable hypothesis. There are many such cases. For example, 結 *ket* < *k^{si}[t] (29–01q) and 纈 *het* < *g^sit (29–01y) rhyme in Ode 8.3 and 脫 *thwaɣH* < *l^sot-s (22–13 m) and 峴 *syweɣH* < *l^sot-s (22–13g) in Ode 23.3. For characters that do not occur as rhyme words in the *Shījīng* the *xiéshēng* hypothesis is necessarily an assumption.

²³ The twelfth-century scholar 徐藏 Xú Chǎn made a similar observation, but less explicitly and less influentially (Behr 2005: 34).

The structure of the Chinese script not only provides a way of confirming the rime category of words that do not occur as rhyme words in the *Shījīng*, but also provides the primary mechanism for exploring the initials of Old Chinese, about which the *Shījīng* is silent. The analogous theory that is used for initials, also called the ‘*xiéshēng* hypothesis’, is the presumption that all readings in a single *xiéshēng* series originally began with sounds of the same place of articulation (Li 1974–5: 228, Baxter 1992: 348, Schuessler 2009: 11).

The *xiéshēng* series built on 皮 *bje* (18–16) illustrates both the rhyme and the initial facets of the *xiéshēng* hypothesis:

皮 *bje*
 被 *bjeX*
 陂 *pje*
 披 *phje*
 跛 *paX*
 簸 *paX, paH*
 破 *phaH*
 婆 *ba*

All Middle Chinese readings in this series have homorganic initials (唇 *chún* bilabials), and it is reasonable to assume that this state of affairs is a continuation of what prevailed in Old Chinese. These readings show two Middle Chinese rimes, *-a* (歌 *ka*) and *-je* (支 *tsye*). However, words with these rimes regularly rhyme in the *Shījīng*; for example, 皮 *bje* rhymes with 紕 *da* in Ode 18.1 and 亘 *ngje* rhymes with 何 *ha* in Ode 47.1. Noting that in this series the Middle Chinese rime *-a* (歌 *ka*) occurs only in type A words and the Middle Chinese rime *-je* (支 *tsye*) occurs only in type B words, in order to reconcile the Middle Chinese pronunciations of the series with the *xiéshēng* hypothesis one could propose that **-a* developed to Middle Chinese *-e* in type B syllables.²⁴

In practice, there is seldom need to consult the rhymes of the *Shījīng*. Although in some cases the reconstruction of the main vowel in a *xiéshēng* series is ambiguous if one relies solely on the Middle Chinese pronunciations of the characters in the series (cf. §178), because Schuessler (2009) takes account of the rhymes of the *Shījīng* in his presentation of the *xiéshēng* series,

²⁴ This proposal is valid at the level of Han Chinese, but in fact OChi. **-aj* > MChi. *-a* in type A syllables and MChi. *-e* in type B syllables. Final **-j* is required for two reasons: (1) to account for pronunciations such as Foochow dialect *muai* 2 and Sino-Korean *may* for the character 磨 (MChi. *ma*) (Baxter 1992: 293–4); (2) to leave OChi. **-a* available as an origin of MChi. *-u* to explain such phenomena as the early transcription of ‘Buddha’ as 浮屠 (MChi. *bjuw du*; see Pulleyblank 1983: 78) or cognates such as 吾 (MChi. *ngu*) ‘I, me’ compared to Tib. འོ་ལྷ་ *na* and Bur. ငါ *nā* ‘id.’.

it generally suffices to consult his work, rather than the poems of the *Shījīng* itself. Thus, for example, the series built on 歛 (23–11), containing such Middle Chinese pronunciations as 蕤 *kjwot*, 闕 *khjwot*, and 櫛 *gjwot*, could indicate either *-a- or *-o- as nuclear vowel. This ambiguity could be resolved by noting that 蕤 *kjwot* rhymes with 愜 *trjwet* and 說 *ywet* in Ode 14.2; since the latter two Middle Chinese pronunciations descend unambiguously from *-o-, it is clear that *kjwot* must also, but one need not turn to the Odes since Schuessler resolves the ambiguity himself by reconstructing 蕤 *kjwot* < *kot, 闕 *khjwot* < *k^hot, 櫛 *gjwot* < *got, etc. (2009: 240).

Schuessler (2009) does not explicitly distinguish those series which are in principle reconstructible on the basis of Middle Chinese pronunciations and on the assumption of the *xiéshēng* hypothesis alone versus those series that require the consultation of the *Shījīng* to disambiguate unambiguous reconstruction. In addition, there is not universal accord on the analysis of rhymes in the *Shījīng* and Schuessler does not specify which analysis he relies upon (see §86 n. 21). Delicate is the balance between the merits of taking a few inexplicit decisions on faith versus the merits of doing all the work again oneself; greater explicitness in future works on Old Chinese reconstruction is a desideratum.

3.1.4 *Less Traditional Sources of Data for Reconstructing Old Chinese*

§88. Baxter and Sagart additionally make use of data not normally consulted in the reconstruction of Old Chinese, viz. proto-Min (§89), early Chinese loanwords into non-Sinitic languages (§90), and morphological speculation (§91). For two reasons, separately tracing the epistemological contribution of each these forms of evidence, working backwards from Middle Chinese to the Old Chinese of their reconstruction, is not currently feasible. First, it is seldom the case that the evidence of a particular Chinese dialect or a particular recipient of Chinese loanwords is the sole and unambiguous authority for a distinction that otherwise there would be no reason to draw; thus, whereas it is feasible to reconstruct proto-Burmese from Old Burmese consulting Lashi only to confirm whether a Burmese voiceless aspirate descends from a plain voiceless or a pre-glottalized obstruent in proto-Burmish (cf. §56), it is not as simple to expand the repertoire of Old Chinese initials with reference to Min. Second, Baxter and Sagart (2014) do not work out the relative chronology of the sound changes they propose. Until the relative chronology of changes is clarified it will not be possible to work backwards step by step from Middle Chinese to Old Chinese.

In general, these three less traditional sources of data have no bearing on either the simplex initials or the rhymes of Old Chinese, but instead Baxter and Sagart (2014) bring them to bear only with respect to ‘pre-initials’. Although the plausibility of ‘pre-initials’ and their place in Baxter and Sagart’s system

are introduced below (§105), for the purposes of introducing the novel types of data that they employ it is convenient to pre-emptively refer to ‘pre-initials’ in this and the immediately following sections.

§89. *Proto-Min*. In the study of Chinese dialects it is traditional to describe a living dialect with reference to the categories of the *Qièyùn*. This is an unmotivated practice, which in a happy development is gradually receding (Norman 2007, Handel 2010). One of the first efforts to show the weakness of the traditional approach is an influential article by Jerry Norman (1973) in which he showed that the initial categories of the *Qièyùn* are inadequate to predict either initial manner types or tonal developments in the Mǐn dialects of southern China. For example, Middle Chinese 並 *b-* corresponds to *p-*, *p^h-* and *v-* in the 建陽 Kienyang dialect; Norman reconstructs the antecedents of these segments respectively as **b*, **bh*, and **-b* in proto-Mǐn (cf. Figure 3.10).²⁵ Because of the lenition seen in Kienyang, Norman refers to the proto-Mǐn segments of the *-b* type as ‘softened initials’ (1973: 237). Baxter and Sagart use their theory of tightly and loosely attached pre-initials to account respectively for the voiced aspirated and the softened initials (§138).

§90. *Early Chinese Loans into Non-Sinitic Languages*. Baxter and Sagart sporadically employ comparisons to Sinitic loans in three non-Sinitic families, namely Vietic, Kra-Dai, and Hmong-Mien. In each case, they understand a particular feature of a given loanword requiring explanation as a reflection of a feature of the donor word, a feature which in many cases cannot be reconstructed on the basis of Middle Chinese and *xièshēng* evidence.

Fricative initials in Vietnamese sometimes correspond to a ‘pre-syllable’ in other Vietic languages; for example, Vietnamese *vái* ‘cotton’, *vôi* ‘lime’,

Middle Chinese	Proto-Mǐn	Foochow 福州	Amoy 廈門	Chaochow 潮州	Kienyang 建陽	Kienow 建甌
白 <i>baek</i> ‘white’	* <i>b</i>	pa 8	peʔ 8	peʔ 8	pa 8	pa 6
雹 <i>baewk</i> ‘hail’	* <i>bh</i>	p ^h oi 8	p ^h auʔ 8	p ^h ak 8	p ^h o 8	p ^h au 6
薄 <i>bak</i> ‘thin’	* <i>-b</i>	po 8	pɔʔ 8	poʔ 8	vɔ 8	pɔ 6

Figure 3.10 Proto-Mǐn correspondences to Middle Chinese 並 *b-* (after Norman 1973)

²⁵ There are some inconsistencies in the data that Norman (1973) gives. For example, the Amoy word he gives for ‘thin’ appears as pɔʔ 8 on page 224 but as poʔ 8 on page 227. These inconsistencies do not affect the current discussion, but the reader interested in Mǐn should take heed.

and *vá* ‘hit’ have the Thavung cognates *kpaas’l*, *kpuul’*, and *tpan’* respectively (Ferlus 1982: 98); one can thus understand Vietnamese fricatives as potential evidence of an erstwhile pre-initial. In early Chinese loans Baxter and Sagart take Vietnamese spirantization as evidence of an original Chinese pre-initial (2014: 47). However, Vietnamese initial fricatives have multiple origins. Initial *v-* descends from **w-* as well as **Cp-* and **Cb-*; these two origins are still distinct in Alexandre de Rhodes’s (1651) *Dictionarium Annamiticum Lusitanum et Latinum*, the former written *v-* and the latter *çb-* (Ferlus 1982: 89–90). To preclude **w-* as the source of *v-* in any particular word, and thereby secure **Cp-* or **Cb-* as its origin, Baxter and Sagart could have cited the relevant form in de Rhodes’s dictionary. Initial *d-* [z] descends from **j-* as well as **Ct-* and **Cd-* (Ferlus 1982: 90).²⁶ Ferlus claims that **j-* as an origin of *d-* occurs only in Sino-Vietnamese words, i.e. a layer of Chinese loans more recent than those which concern Baxter and Sagart, but he does not provide an argument on the basis of tonal correspondences to defend this claim. Initial *r-* descends from **r-* as well as **Cs-* and **Cś-* (Ferlus 1982: 91–3). Initial *gi-* [z] (Middle Vietnamese *dž-*) descends from **kj* as well as **Cč-* and **Cj-* (Ferlus 1982: 93, 102). Only initial *g-/gh-* [ɣ] uniformly descends from lenited velars (Ferlus 1982: 91, 99–100). Because Vietnamese initial fricatives have multiple origins, Baxter and Sagart’s use of Vietnamese initial fricatives as prima facie evidence of a lost pre-syllable is not sufficient.

Baxter and Sagart also cite evidence from other Vietic languages, in particular Pong, Sách, and Rục. They understand an attested pre-syllable *k-* in Rục (e.g. *kəcək* ‘bandit’) as evidence that a Chinese donor word had this same pre-syllable (e.g. 賊 *dzok* < **k.dzək* [05–23a] ‘bandit’) (2014: 47–8). They take Rục *t-* as evidence of Old Chinese **s-* (2014: 136–7), e.g. 肝 *kan* < **s.k’a[r]* (24–011) ‘liver’ versus Rục *təkɑ:n* ‘id.’ and 劍 *kjaemH* < **s.kr[a]m-s* (36–06i) ‘sword’ versus Rục *təkiəm* ‘id.’. Much in developments of pre-syllables in Vietic remains shadowy. Nonetheless, the hypothesis of a *k-* pre-syllable continuing unchanged in Rục from the time at which it was borrowed from Old Chinese (through a line of borrowing which remains to be established in detail) is not implausible in view of the remarkable state of conservation of early phonological oppositions in the Rục language.

For Sinitic loanwords in the Kra-Dai family, Baxter and Sagart make use of Lakkia, the ‘only language in the family that simplifies clusters having a nasal as their second element by preserving the first consonant and transferring nasality onto the main vowel’ (2014: 36). The preservation of the cluster initial they use as evidence for **k-* and **t-* in Old Chinese, whether tight or loose.

²⁶ Forms in [] reflect the pronunciation of Hanoi in our day. Gregerson (1969: 156) argues that Middle Vietnamese <d-> reflects unlenited /d-/, which poses a difficulty for Baxter and Sagart’s analysis.

Baxter and Sagart refer to Chinese loans in proto-Hmong-Mien for evidence of Chinese *m- or *N- in Old Chinese; in their account these pre-initials are indistinguishably reflected by pre-nasalization of the proto-Hmong-Mien initial (2014: 48).

Aside from the particular reconstructed values Baxter and Sagart propose, their reconstruction is an improvement on all others if it captures systematic relationships among these types of evidence. However, it is not entirely clear to me that these various types of evidence all point in the same direction, e.g. that in all cases of a voiced initial in Middle Chinese corresponding to softened initials in Mǐn the Vietnamese loan will begin with a fricative and Lakkia and Rục will maintain pre-initials. Nonetheless, Baxter and Sagart occasionally do point out conspiracies of this type. Figure 3.11 is perhaps their most convincing evidence that these data systematically correspond (Baxter and Sagart 2014: 37).

§91. *Morphological Speculation.* Baxter and Sagart (2014) rely on morphological speculation to motivate some elements of their reconstruction. Their reliance on morphological conjecture requires some methodological reflection. This method is not philological, as is the use of *Shījīng* rhymes or *xiéshēng* series to modify the internal reconstruction of Middle Chinese. This method is also not the comparative method, as is the use of proto-Mǐn data and loans into non-Sinitic languages. The method of adjusting a proto-language on the basis of morphological speculation is internal reconstruction. Nonetheless, a distinction must be drawn between internal reconstruction as used to reconstruct Old Chinese on the basis of distributional irregularities in Middle Chinese and this internal reconstruction that makes reference to morphological conjecture. The former is a method akin to phonemic analysis that relies purely on phonological distributional patterns, whereas the latter, by making reference to morphology, necessarily also makes reference to meaning. Because it relies

Chinese	Lakkia	Vietnamese	Rục	proto-Mǐn
紙 *k.te? > <i>tsyex</i> 'paper'	khjei 3	giáy	kəcáy	*tʃ-
賊 *k.dzʰək > <i>dzok</i> 'bandit'	kjak 8	giặc	kəcák	*dzh-
牀 *k.dzraŋ > <i>dzrjang</i> 'bed'			kəcɛiŋ	*dzh-
箴 *t.[k]əm > <i>tsyim</i> 'needle'	them 1	găm		*tʃ-
溺 *kə.nʰewk-s > <i>newH</i> 'urine'	kjĩ:w 5			

Figure 3.11 Combining the evidence of Kra-Dai, Vietic, and Mǐn

on meaning, in order to be used in phonetic reconstruction morphology must be sufficiently clear in a later form of the language to allow its recognition.

Consideration of both a real and an imaginary instance of internal reconstruction further brings into focus the methodological issues at stake. Saussure's formulation of Indo-European laryngeals is the *locus classicus* for internal reconstruction.²⁷ Focusing just on Sanskrit, the root \sqrt{yuj} (< IE * yeug) 'join' has the class VII present *yunákti* 'joins', with the nasal infix *-ná-*, and the past participle *yuktá-* 'joined', whereas the root $\sqrt{pū}$ 'purify' has the class IX present *punāti* 'purify' and the past participle *pūtá* 'purified'. Saussure realized that the introduction of a sound change * $\text{vH} > \bar{v}$ allows one to presume that the class IX presents are ultimately analysable as class VII, i.e. * $\sqrt{\text{puH}}$ having the class VII present **punáHti* and the past participle **puHtá* (cf. Clackson 2007: 56).²⁸ In this case the realization that two patterns are sufficiently analogous to be subsumed as one warrants the presumption of a sound change. Because none of the uses to which Baxter and Sagart put morphological conjecture in the service of phonological reconstruction is parallel with this case, I have invented a scenario in English that has a structure more parallel to their method.

The first step is to identify something in a synchronic system that looks like (possibly defunct) morphology. Good candidates are typically what Matisoff would call 'allofams', i.e. words that share both a phonetic and a semantic similarity (cf. Matisoff 1978). Consider *drink* and *drench*. The next step is to search for other examples of the pattern. This search requires as explicit as possible a description of both the phonology and the semantics of the pattern, even if the pattern requires some speculation, for example the interpretation of *drench* as 'make drink'. The search turns up *rise/raise*, *lie/lay*, *sit/set*, and *fall/fell*. In each case there is a pair of verbs, a non-causative and a causative; the non-causative is strong and the causative is weak. Since strong verbs are inherited, and would be presumed to be inherited even in ignorance of the history of English, it is judicious to derive the causative from the non-causative.

²⁷ Saussure's discovery of Indo-European laryngeals was not the first example of the method. As early as 1843 in his *Schulgrammatik* Kühner points to the Indo-European *nasalis sonans* with his comment that *-n* 'geht bisweilen in α über' (p. 17). He points in particular to accusative singular *-a* of consonant stems such as $\kappa\omicron\rho\alpha\kappa\alpha$ *kóraka* 'raven' (compare *-n* in ἵππον *hippon* 'horse') and the third person plural perfect middle ending *-atai* as in $\tau\epsilon\tau\acute{\alpha}\chi\alpha\tau\alpha$ *tetákhatai* 'they have been arrayed' (compare *-ntai* as in $\epsilon\sigma\tau\alpha\nu\tau\alpha$ *héstantai* 'they have been stood'). The relevant passage is lacking in the original 1836 edition of the same work and in his earlier *Ausführliche Grammatik* (1834–5). Both Brugmann and Saussure would later claim discovery of the *nasalis sonans* (see Joseph 2012: 133–5, who, however, slightly misstates the bibliographic relationships among Kühner's various Greek grammars). Without acknowledging a predecessor, Brugmann (1876) builds his argument on exactly the two environments that Kühner drew attention to.

²⁸ In the presentation of this example I use modern notation and not that of Saussure's original (1879).

The causative always has vowel *-e-* or diphthong *-ai-* and palatalizes the *-k* of *drink*. If one assumes that non-segmental alternations of this kind arise from segmental sources it is possible to postulate something like an **-e-* causative suffix. With this hypothesis in hand, one may explore the interaction of this hypothesis with the overall set of stable hypotheses about the history of English.

This methodology is more convincing when the meaning of the morphological alternation in question is supported with philological evidence from as early texts as possible. Unfortunately, in current practice morphological alternations are usually argued for on the basis of dictionary definitions and are seldom exhibited with textual attestations. Until the philology is there to back up the reality of the morphological analysis, the use of morphological speculation in the phonetic reconstruction of Chinese should be treated with great caution.²⁹

Some of Baxter and Sagart's morphological speculations are more convincing than others. The clearest case is a voicing alternation between transitive and intransitive verbs in Middle Chinese (§135). Rather less obvious are prefixes such as **m₂-* in body parts and **m₃-* in animal names (2014: 55–6).³⁰ The English words 'head', 'heel', 'heart', and 'hand' all begin with 'h', but English is not conventionally described as having an 'h' prefix in these words. The Latin words for domesticated animals *cattus* 'cat', *caballus* 'horse', *capra* 'goat', and *camelus* 'camel' all begin with *ca-*, but this syllable is not normally reckoned an 'animal prefix' (Hill 2014d: 629–30; also cf. §13d and §26a-b).³¹ Of course, a morpheme is nothing more than a conventional association of form and meaning (Hockett 1987: 65–76). Just as the association of 'h' with body parts in English or *ca-* with domesticated animals in Latin is available to any listener, the associations of form and meaning that Baxter and Sagart index with these prefixes are there to be observed, but whether native hearers of Old Chinese understood them as prefixes and whether they continue inherited material also bequeathed to other languages are both difficult questions to answer.

²⁹ Morphological speculation is most convincing when presented in a comparative context. For example, the causative formation of English *drink/drench* is much clearer in the Gothic pairs *drigkan/dragkjan*, *urreisen/urraisjan*, *ligan/lagjan*, *sitan/satjan*, and is clearer still in Sanskrit *sīdati* < **sīdēti* versus *sādāyati* < **sodējeti* (cf. Fortson 2010: 98 §5.32). The comparative contextualization of Chinese historical morphology is almost entirely absent.

³⁰ In support of the reconstruction of an *m-* 'animal prefix' Sagart cites the modern Mandarin forms 蚂蚱 *màzhà* 'grasshopper', 馬蜂 *máfēng* 'hornet', 螞蟥 *máhuáng* 'leech', and 螞蟻 *mǎyí* 'ant', Fuzhou *ma₃₁ u₅₂* 'dragonfly', Guangzhou *ma₂₃ khəŋ₂₁ ləŋ₂₁* 'praying mantis', Bao'an Cantonese *ma₂₁ tsəu₅₃ sy₁₁* 'bat', and Gongha Hakka *ma₄₄ sam₃₅* 'cicada' (1999b: 85).

³¹ I thank Arnaud Fournet for drawing my attention to these Latin examples (*per litteras* 10 February 2017).

3.2 Simplex Initials of Old Chinese

§92. Reconstruction of the simplex initials of Old Chinese can be conceptualized as proceeding in two steps. An internal reconstruction of Middle Chinese serves as the first step (§§93–97). As a second step *xiéshēng* contacts provide motivation for further hypotheses (§§98–104). Internal reconstruction tends to reduce the number of initials. The resultant simpler inventory of initials tidies up the *xiéshēng* series and brings violations of the *xiéshēng* hypothesis into sharper focus. Suggesting explanations for these apparent violations again expands the number of initials.

3.2.1 Internal Reconstruction of Middle Chinese Initials

§93. Patterns of complementary distribution in Middle Chinese allow one to suggest that multiple Middle Chinese initials arose as conditioned variants of the same Old Chinese initial. Making use of the patterns of complementary distribution one can preclude the existence in Old Chinese of *h-* (匣 *xiá*) (§94), the palatal affricates (*zhāngzǔ* 章組 *Tsy-*) (§95), *l-* (來 *lái*), the retroflex stops (*shéshāng* 舌上 *Tr-*), and the retroflex affricates (*zhuāngzǔ* 莊組 *Tsr-*) (§96). Internal reconstruction also permits the postulation of a series of initial labio-velars and provisionally labio-glottals (§97). Figure 3.12 presents the initials of Old Chinese to the extent that they can be recovered on the basis of the internal reconstruction of Middle Chinese.

§94. *Origin of Middle Chinese* 匣 *h-*. Middle Chinese initial *h-* (匣 *xiá*) is in complementary distribution with Middle Chinese *g-* (群 *qún*). Initial *g-* only occurs in type B syllables whereas *h-* only occurs in type A syllables (Schuessler 2009: 13; cf. Figure 3.13). As Karlgren suggests (1923: 21–2), this distribution allows one to assume that Old Chinese had no **h-*, and that there was a regular change **g-* > 匣 *h-* in type A syllables.

§95. *Origin of Palatal Affricates*. Whereas dental initials (端 *t-*, 透 *th-*, 定 *d-*) occur only with type A rimes, palatal affricates (章 *tsy-*, 昌 *tsyh-*, 船 *zy-*) occur only with type B rimes. As Karlgren notes (1923: 24), this complementary distribution allows for the interpretation that the palatal affricates in type B rimes developed from dentals (端 *t-* < **tʰ-*, 章 *tsy-* < **t-*, etc.) (Schuessler 2009: 12).

§96. *Origin of 來 l- and the Retroflex Consonants*. No type A rimes with the main vowels *-ae-* and *-ea-* (division-ii) occur with dental initials (*shétóu* 舌頭 *T-*) and only very rarely with initial 來 *l-*. No type A rimes with

Plain (type B):	*p-	*p ^h -	*b-	*m-
	*t-	*t ^h -	*d-	*n-
	*ts-	*ts ^h -	*dz-	*s- *z-
	*k-	*k ^h -	*g-	*ŋ-
	*k ^w -	*k ^{hw} -	*g ^w -	*ŋ ^w -
	*ʔ-			*x-
	*ʔ ^w -			*x ^w -
	*r-		*hj-	
			*y-	
Pharyngealized (type A):	*p ^ʕ -	*p ^{hʕ} -	*b ^ʕ -	*m ^ʕ -
	*t ^ʕ -	*t ^{hʕ} -	*d ^ʕ -	*n ^ʕ -
	*ts ^ʕ -	*ts ^{hʕ} -	*dz ^ʕ -	*s ^ʕ - *z ^ʕ -
	*k ^ʕ -	*k ^{hʕ} -	*g ^ʕ -	*ŋ ^ʕ -
	*k ^{wʕ} -	*k ^{hwʕ} -	*g ^{wʕ} -	*ŋ ^{wʕ} -
	*ʔ ^ʕ -			*x ^ʕ -
	*ʔ ^{wʕ} -			*x ^{wʕ} -
	*r ^ʕ -		*hj ^ʕ -	
			*y ^ʕ -	

Figure 3.12 Old Chinese initials on the basis of Middle Chinese internal reconstruction

	Type A	Type B
見 k-	干 kan	建 kjonH
溪 kh-	看 khanH	褰 khjen
群 g-	---	乾 gjen
匣 h-	寒 han	---

Figure 3.13 The Middle Chinese complementary distribution of 群 g- and 匣 h- (after Schuessler 2009: 13)

the main vowels *-a-*, *-o-*, *-u-*, or *-e-* (division-i/iv) occurs with retroflex stops (*shéshǎng* 舌上 *Tr-*). Noting this complementary distribution of the initials and main vowels, Jaxontov proposed that the dental and retroflex initial classes were originally the same (1960a: 2–9, also see Baxter 1992: 262–7).³² Noting

that typologically a medial *-r-* is known to give rise both to *l-* and to retroflex initials (e.g. *dr- > ʈ- in Lhasa Tibetan (cf. Tournadre and Dorje 2009: 388), *r- > ʎ- in Classical Sanskrit (cf. Fortson 2010: 204 §10.8, 211 §10.34)), it is reasonable to conjecture that Middle Chinese initial 來 *l-* was initial *r- in Old Chinese and that Middle Chinese retroflex initials derive from Old Chinese dental initials followed by medial *-r-* (知 *tr-* [ʈ] < *tr- etc.). Similar considerations lead to the conclusion that the retroflex affricates (*zhuāngzǔ* 莊組 *Tsr-*) originate from affricates followed by a medial *-r-* (cf. Baxter 1992: 203–6).³³

§97. *Old Chinese Labio-velars*. Middle Chinese syllables with medial *-w-* (合口 *hékǒu*) fall neatly into two categories. The first category consists of syllables with checked rimes that occur only after velars (牙 *yá*) or glottals (喉 *hóu*). This category includes such Middle Chinese rimes as *táng/yáng* 唐阳 *-wang/-jwang*, *dēng* 登 *-wong*, *gēng-èr* 庚二 *-waeng*, *gēng* 耕 *-weang*, and *xiān* 先 *-wen*. Thus, there are no Middle Chinese syllables of the type *trwaeŋ, *tswen, *lwong or *dwang. The second category includes all other rimes (*-win*, *-won*, etc.), which appear freely with all initials. This constrained distribution of medial *-w-* in Middle Chinese suggests that Old Chinese had no freely occurring medial *-w-*; these two distributional classes imply two separate origins for *-w-*. One source of *-w-* (*-*w₁-*) arose only after velars and glottals but could occur in any rime, whereas another source of *-w-* (*-*w₂-*) arose in certain rimes, but could occur with any initial. After velars and glottals the outcomes of these two sources are conflated in those rhymes that do not require velar and glottal initials (i.e. *kw₁ang, *kw₁in, *kw₂in, *tw₂in > *kwang*, *kwin*, *twin*). Haudricourt (1954a: 359; see also Jaxontov 1960b: 104, 1970: 54) explains the origin of *-*w₁-* by positing the former existence of unitary labio-velar consonants, e.g. 光 *kwang* < *k^wsaj (03–22a), 壙 *khwangH* < *k^{wh}saj-s (03–23n), etc. (cf. Baxter 1992: 214–18). For the moment one may presume the existence of labio-glottals also (e.g. 枉 *jwangX* < *ʔ^waj? [03–26q], 汪 *wang* < *ʔ^wsaj [03–26 r]. etc.), but on the basis of *xièshēng* evidence these are better reconstructed as labio-uvulars (cf. §101). For the origin of the Middle

³² Jaxontov originally proposed medial *-l-*, but subsequent researchers have generally amended this to *-r-* (see Baxter 1992: 262). On the basis of *xièshēng* connections between initial 來 *l-* and velars, von der Gabelentz similarly proposed clusters such as *kl- (1881: 99, §223).

³³ Han dynasty Buddhist transcriptions of Sanskrit *r-* with MChi. initial 來 *l-* may reinforce the impression that the ancestor of this segment was pronounced as *r-* at the time of the transcription, e.g. Skt. *saṃghārāma* 僧伽藍 *song gja lam*, Skt. *arhat* 阿羅漢 *'a la xanH*, Skt. *anuttarā-* 阿耨多羅 *'a nuwH ta la*, Skt. *pāramitā* 波羅蜜 *pa la mjit*, Skt. *śarīra* 舍利 *syaeX lijH*. However, since inherited *l- (cf. §99) was lost before the encounter with Buddhism, this evidence does not support the reconstruction of the ancestor of MChi. 來 *l-* as *r- in contrast to *l-.

Chinese medial *-w-* that is not restricted as to its co-occurrence with class of initial (**-w₂-*), see §178.

3.2.2 Expanding the Old Chinese Initials Using *Xiéshēng* Evidence

§98. According to the *xiéshēng* hypothesis, in a given phonetic series only initials from the same point of articulation occur (Li 1974–5: 228, Schuessler 2009: 11; cf. §87). All those *xiéshēng* series which mix Middle Chinese pronunciations with non-homorganic initials provide an opportunity to explain the divergent Middle Chinese pronunciations as phonetically conditioned developments of Old Chinese readings with homorganic initials.

§99. *Laterals*. Some *xiéshēng* series, such as the series built on 它 (18–09), present character readings with Middle Chinese initials 以 *y-*, 定 *d-* and 澄 *dr-*. In such series, 定 *d-* is always found in type A syllables and 以 *y-* in type B syllables. Following a suggestion of Pulleyblank (1973: 117–18), Baxter and Sagart understand *xiéshēng* series of this type as originally having lateral initials in all cases (2014: 109), suggesting the sound changes **l- > 以 y-*, **l^(s)r- > 澄 dr-*, and **l^s- > 定 d-*.

也 *yaeX* < **l-* (18–09g)

池 *drje* < **lr-* (18–09t)

地 *dijH* < **l^s-* (18–09b)

As confirmation of the lateral origins of initials in such series, Baxter and Sagart draw attention to the preservation of lateral initials in the 瓦鄉 Wǎxiāng and 閩 Mǐn dialects as well as in loanwords into Vietnamese and Hmong-mien (2014: 109–10), e.g. 地 *dijH* < **l^s-* (18–09b) ‘earth, ground’ pronounced /li 22/ in the Wǎxiāng dialect Gǔzhàng.

§100. *Voiceless Resonants*. In some *xiéshēng* series with predominant voiced resonant initial readings, the occasional character instead has a reading with a voiceless obstruent initial. Dǒng Tóng hé 董同龢 posited a voiceless labial nasal to explain the voiceless obstruent initial readings in series with predominantly bilabial nasal initial readings (1949: 12–14). Pulleyblank extended the proposal to the velar, labio-velar, and dental nasals and the voiceless lateral (1962: 92, 121, 141). Baxter adds the voiceless rhotic (1992: 201–2). Baxter and Sagart accept these previous proposals (2014: 111–16).

§100a. The voiceless velar nasal develops to 曉 *x-* in both type A and type B syllables. The series built on 媯 (24–15) furnishes evidence for the reconstruction of a type A voiceless velar nasal and the change **ŋ^s- > 曉 x-*.

媯 *xanX* < *ŋ^s- (24–15a)

雁 *ngaenH* < *ŋ- (24–15b)

The series built on 我 (18–05) furnishes evidence for the reconstruction of a type B voiceless velar nasal and the change *ŋ- > 曉 *x*-.

我 *ngaX* < *ŋ^s- (18–05a)

儀 *ngje* < *ŋ- (18–05u)

犧 *xje* < *ŋ- (18–05z)

§100b. The voiceless labial nasal develops to 曉 *x*- in both type A and type B syllables. The series built on 黑 (05–38) furnishes evidence for the reconstruction of a type A voiceless labial nasal and the change *m^s- > 曉 *x*-.

黑 *xok* < *m^s- (05–38a)

墨 *mok* < *m^s- (05–38c)

The series built on 威 (20–19) furnishes evidence for the reconstruction of a type B voiceless dental nasal and the change *m̥- > 曉 *x*-.

威 *xjwiet* < *m̥- (20–19a)

滅 *mjiet* < *m- (20–19b)

§100c. The voiceless dental nasal behaves differently in type A and type B syllables. The series built on 嘆 (24–35) furnishes evidence for the reconstruction of a type A voiceless dental nasal and the change *ŋ^s- > 透 *th*- (cf. Baxter 1992: 193).

嘆 *than* < *ŋ^s- (24–35a)

難 *nan* < *n^s- (24–35d)

難 *nyen* < *n- (24–35i)

The series built on 女 (01–56) furnishes evidence for the reconstruction of a type B voiceless dental nasal and the change *ŋ- > 書 *sy*- (cf. Baxter 1992: 194).

女 *nrjoX* < *nr- (01–56a)

如 *nyo* < *n- (01–56g)

恕 *syoH* < *ŋ- (01–56t)

The series built on 耳 (04–40) furnishes evidence for the reconstruction of a type B voiceless dental nasal with medial *-r-* and the change *ŋr- > 徹 *trh*- (cf. Baxter 1992: 195–6).

耳 *nylX* < *n- (04–40/0981a)

恥 *trhiX* < *ŋr- (04–40/0959a)

§100d. The voiceless lateral develops differently in type A and type B syllables. The series built on 俞 (10–23) furnishes evidence both for the reconstruction

of a type A voiceless lateral and the sound changes *l̥- > 透 *th-* and for the reconstruction of a type B voiceless lateral and the sound change *l̥- > 書 *sy-*.

俞 *yu* < *l- (10–23a)
 飲 *duw* < *l̥- (10–23t)
 輸 *syu* < *l̥- (10–23s)
 偷 *thuw* < *l̥- (10–23u)

§100e. The voiceless rhotic develops differently in type A and type B syllables. The series built on 豐 (26–23) furnishes evidence for the reconstruction of a type A voiceless rhotic and the sound change *r̥- > 透 *th-*.

豐 *lejX* < *r̥- (26–23a)
 禮 *lejX* < *r̥- (26–23d)
 體 *thejX* < *r̥- (26–23i)

The series built on 虛 (01–51) furnishes evidence for the reconstruction of a type B voiceless rhotic and the sound change *r̥- > 徹 *trh-*.

虛 *lu* < *r̥- (01–51a)
 鑪 *lu* < *r̥- (01–51 m)
 廬 *ljo* < *r- (01–51q)
 攄 *trhjo* < *r̥- (01–51x)

Figure 3.14 summarizes the development of Old Chinese voiceless resonants in Middle Chinese (cf. Baxter and Sagart 2014: 112).³⁴

Type A		Type B	
OChi.	MChi.	OChi.	MChi.
*ŋ̥-	曉 <i>x-</i>	*ŋ̥-	曉 <i>x-</i>
*ŋ̥-		*ŋ̥-	
*ŋ̥-	透 <i>th-</i>	*ŋ̥-	書 <i>sy-</i>
*l̥-		*l̥-	
*r̥-		*r̥-	徹 <i>trh-</i>

Figure 3.14 The development of Old Chinese voiceless resonants in Middle Chinese

³⁴ Baxter and Sagart also present evidence that a western dialect of early Chinese instead underwent the changes *ŋ̥(-) > *ŋ̥(-) > 曉 *x-* (2014: 112–14). The examples Baxter and Sagart discuss include initials *ŋ̥- (type A), *l̥- (type A), and *l̥- (type B), i.e. they do not give an example of *ŋ̥- (type B) > 曉 *x-*. They also make no comment about the development of *r̥(-) in this western dialect.

§101. *Uvulars*. Some *xiéshēng* series mix readings with Middle Chinese velars (見 *k*-, 群 *g*-, 匣 *h*-, 曉 *x*-) and readings with initial glottal stop (影 ʔ-) or initial 以 *y*-. Following a proposal of Pan (1997), Baxter and Sagart propose that the fricative (匣 *h*-, 曉 *x*-), glottal (影 ʔ-), and glide (以 *y*-) initials found in such series originate from uvular initials (2014: 43–6; also cf. Sagart and Baxter 2009).³⁵ Their explanation for the velar stops (見 *k*-, 群 *g*-) occurring in the relevant series is discussed below (§124). In support of the uvular hypothesis one can mention Vovin’s comparison of the titles for foreigner dignitaries attested in the early Han period 護于 *huH hju* < *[g]^wak-s *_G^w(r)a (02–08k, 01–23a), which he sees as a transcription of proto-Yeniseian *qaʔ-gā ‘great ruler’, and 單于 *dzyen hju* < *dar *_G^w(r)a (24–21a, 01–23a) which he compares to Old Turkic *tarqan* (Vovin 2007: 180).

§101a. The series built on 𠂔 (21–01) furnishes evidence for the reconstruction of voiceless, voiceless aspirated, and voiced uvulars and the changes *q- > 影 ʔ-, *q^h- > 曉 *x*-, *_G- > 匣 *h*-.

𠂔 *kat* (21–01a)
 謁 *jot* < *q- (21–01x)
 歇 *xjot* < *q^h- (21–01u)
 褐 *hat* < *_G- (21–01g)

§101b. Baxter and Sagart restrict the change *_G- > 匣 *h*- to type A syllables; doing so makes *_G- in type B syllables available as an origin of 以 *y*- in a series such as that built on 衍 (24–29).

衍 *yenH* < *_G- (24–29a)
 愆 *khjen* (24–29b)
 餽 *khjen* (24–29c)

Baxter and Sagart do not posit an initial *j- in Old Chinese; they take *l- (cf. §99) and *_G- (or *_G^w-; cf. §101d) and pre-initials before *r- (cf. §123b) as the only three sources of Middle Chinese 以 *y*-.

§101c. Baxter and Sagart derive the Middle Chinese initial 𠂔 *hj*- uniformly from Old Chinese *_G^w- in type B syllables (Sagart and Baxter 2009: 233–4). This hypothesis accounts for the distribution of initial 𠂔 *hj*- to (nearly) exclusively type B syllables with medial -w- (Baxter 1992: 209). The series built on 王 (03–26) furnishes evidence for the reconstruction of the voiced labio-uvular stop in type B syllables, along with the change *_G^w- > 𠂔 *hj*-.

王 *hwang* < *_G^w- (03–26a)
 匡 *khwang* (03–26m)
 狂 *gwxang* (03–26o)

³⁵ It is also possible to reconstruct a series with only Middle Chinese velar initials as uvular, if it contains some readings that begin with 曉 *x*- (cf. §102).

枉 *jwangX* < *q^w- (03–26q)

汪 *wang* < *q^{wʳ}- (03–26r)

The series built on 于 (01–23) also supports the proposal *G^w- > 云 *hj*-.

于 *hju* < *G^w(r)- (01–23a)

汚 *wae* < *q^{wʳ}r- (01–23c')

訐 *xju* < *q^{wh}(r)- (01–23v)

§101d. At first glance a series such as that based on 冑 (23–17) appears to point instead to the proposal *G^w- > 以 *y*-.

冑 *wen* < *q^{wʳ}- (23–17a)

駟 *xwen* < *q^{whʳ}- (23–17k)

捐 *ywen* < *G^w- (23–17g)

鞞 *hwenX* < *G^{wʳ}- (23–17j)

However, the two proposals *G^w- > 云 *hj*- and *G^w- > 以 *y*- are reconcilable when one realizes that there is no need to invoke the former before Old Chinese front vowels and the second is required only in this environment; i.e. the two are in complementary distribution (Baxter and Sagart 2014: 44–6, Sagart and Baxter 2009: 226, 234).

§101e. Figure 3.15 shows the evolution of Old Chinese uvulars in Middle Chinese (cf. Baxter and Sagart 2014: 46).

§102. *Origins of Middle Chinese* 曉 *x*-. Noting that Middle Chinese 曉 *x*- has *ŋ- (cf. §100a), *m- (cf. §100b), and *q^h- (cf. §101a) as origins in Old Chinese, there is no need to posit *x- as an initial in Old Chinese. If a series,

Type A		Type B	
OChi.	MChi.	OChi.	MChi.
*q ^ʳ - >	影 ʳ-	*q- >	影 ʳ-
*q ^{hʳ} - >	曉 <i>x</i> -	*q ^h - >	曉 <i>x</i> -
*G ^ʳ - >	匣 <i>h</i> -	*G- >	以 <i>y</i> -
*q ^{wʳ} - >	影 ʳ(<i>w</i>)-	*q ^w - >	影 ʳ(<i>w</i>)-
*q ^{whʳ} - >	曉 <i>x</i> (<i>w</i>)-	*q ^{wh} - >	曉 <i>x</i> (<i>w</i>)-
*G ^{wʳ} - >	匣 <i>h</i> (<i>w</i>)-	*G ^w - >	云 <i>hj</i> (<i>w</i>)- or 以 <i>y</i> - /_*-e- and *-i-

Figure 3.15 The development of Old Chinese simplex uvulars in Middle Chinese

such as that built on 𠄎 (25–12), only has velar readings but some of these are 曉 *x-*, then it may be reconstructed as a uvular series.

- 桓 *hwan* < **G^w*- (25–12f)
- 烜 *xjweX* < **q^{wh}*- (25–12s)

§103. *Origins of Middle Chinese* 邪 *z-*. Baxter (1992: 206) projects Middle Chinese initial 邪 *z-* and 俟 *zr-* backwards into Old Chinese. Schuessler (2009: 27) also allows for Old Chinese **z-*, although perhaps only as a ‘pre-initial’ before *-w-*. Baxter and Sagart suggest origins of Old Chinese 邪 *z-* involving a ‘pre-initial’ **s-* before a voiced simplex onset (cf. §§111, 129, 145, and 162–5). As ‘pre-initials’ have not yet been discussed here (cf. §105), nothing more will be said of these proposals at present. It suffices to say that Baxter and Sagart see no need to reconstruct an initial **z-* in Old Chinese.

§104. *Inventory of Old Chinese Simplex Onsets*. Starting with the Old Chinese initials recoverable on the basis of Middle Chinese internal reconstruction (Figure 3.12), adding to these the initials postulated on the basis of

Plain (type B):	p-	t-	ts-	k-	k ^w -	q-	q-	ʔ-	
	p ^h -	t ^h -	ts ^h -	k ^h -	k ^{wh} -	q ^h -	q ^{wh} -		
	b-	d-	dz-	g-	g ^w -	ɣ-	ɣ ^w -		
		s-							
	m-	n-		ŋ-	ŋ ^w -				
				l-	r-				
	ɱ-	ɱ-		ŋ̊-	ŋ̊ ^w -				
				l̊-	r̊-				
	Pharyngealized (type A):	p ^ʕ -	t ^ʕ -	ts ^ʕ -	k ^ʕ -	k ^{wʕ} -	q ^ʕ -	q ^ʕ -	ʔ ^ʕ - ʔ ^{wʕ} -
		p ^{hʕ} -	t ^{hʕ} -	ts ^{hʕ} -	k ^{hʕ} -	k ^{whʕ} -	q ^{hʕ} -	q ^{whʕ} -	
b ^ʕ -		d ^ʕ -	dz ^ʕ -	g ^ʕ -	g ^{wʕ} -	ɣ ^ʕ -	ɣ ^{wʕ} -		
		s ^ʕ -							
m ^ʕ -		n ^ʕ -		ŋ ^ʕ -	ŋ ^{wʕ} -				
				l ^ʕ -	r ^ʕ -				
ɱ ^ʕ -		ɱ ^ʕ -		ŋ̊ ^ʕ -	ŋ̊ ^{wʕ} -				
				l̊ ^ʕ -	r̊ ^ʕ -				
				l̊ ^ʕ -	r̊ ^ʕ -				

Figure 3.16 Old Chinese simplex initials

xiéshēng series, specifically the laterals (§99), the voiceless resonants (§100), and uvulars (§101), and removing initials *x- (§102) and *z- (§103) results in the inventory of consonants shown in Figure 3.16.

3.3 Old Chinese Pre-initials

§105. At face value the term ‘pre-initial’ is oxymoronic, since ‘initial’ means ‘first’ and nothing precedes what is first. Nonetheless, because Baxter and Sagart (2014: 52–3) use this term I cannot avoid it here. Baxter and Sagart’s conception of pre-initials, similar to Tibetan ལྷོ་འཕྲུག་ *šion-lyjug* consonants, is made more precise in their theory of Old Chinese phonotactics. Presuming that there is no voicing distinction among pre-initials, they postulate *p-, *k-, *t-, *m-, *N-, and *s-. Each of these pre-initials may appear either as a ‘tight’ pre-initial directly before a simplex initial (e.g. *t.k-) or as a ‘loose’ pre-initial with an intervening vowel *-ə- before the following simplex initial (e.g. *tə.k-). The segment *r is permitted as both an initial and a medial in Baxter and Sagart’s system; thus, one can have three types of cluster with *r, namely *tr-, *t.r-, and *tə.r-. Baxter and Sagart are silent about the phonetic distinction, if any, between *tr- and *t.r-.

In their 2014 monograph Baxter and Sagart make little effort to motivate or defend this theory of Old Chinese phonotactics, but instead trace the development of each facet of the system exegetically. Earlier, Sagart (1999b: 13–19) made greater efforts to elaborate the theory, but much of the evidence he then put forward, such as that Cantonese *kə-la:k-twi* ‘armpit’ and Foochow *kə-lou?-a* ‘id.’ suggest a tight pre-initial *k- in the word 腋 *kak* < *k.lʰak ‘armpit’ (1999b: 14–15), no longer holds in the more recent version of their reconstruction; 腋 *kak* they now reconstruct *[C.q]ʰak.

The strongest motivation for faith in pre-initials known to me is the explicit use of two characters to render a single word, normally written with a single character (Boltz 2007).³⁶ As an example Baxter and Sagart cite the phrase 無念爾祖 (*mju nemH nyeX tsuX* < *ma nʰim-s nər? tsʰaʔ) in Ode 235.5, which appears to mean ‘do not remember your ancestors!’, with 無 *ma as a common negation marker. However, the Mao commentary (second century BCE) annotates the poem with the remark 無念, 念也 “‘do not remember!’ means

³⁶ The Chinese philological tradition was not innocent of the use of two-syllable forms of generally one-syllable words. Wolfgang Behr (2001) traces explicit discussion of what he calls ‘allegro’ versus ‘lento’ forms of the same word from the *Shibēn* 世本 (second century BCE) into the nineteenth century.

“remember!” (Kargren 1946: 6); Baxter and Sagart interpret 無 *mə- as a loose prefix that marks the verb 念 *n^sim-s > *nemH* ‘think of’ as volitional (cf. §§136 and 170a) and thus capable of use as an imperative (Baxter and Sagart 2014: 179, Sagart 1999b: 81, citing Behr 1994). Regarding the lines 無競維人, 四方其訓之 (*mju gjaengHywij nyin, sijH pjang gi xjunH tsyi* < *ma m-kraŋʔ-s ɕ^wij niŋ, s.lij-s C-paŋ ɕə ʎun-s tə) in Ode 256.2, which appears to mean ‘Not strong is this man, the four realms comply with him’, the Mao commentary says 無競, 競也 “not strong” means “strong” (Kargren 1946: 101). Here the character 無 *ma- potentially spells out the *m- prefix that Baxter and Sagart posit for 競 *gjaengH* < *m-kraŋʔ-s ‘strive, compete’.

Such examples also occur with the apparent negation marker 不. Thus, Ode 235.1 contains the lines 有周不顯、帝命不時 (*hjuwX tsyuw phij xenX, tejH mjaengH pjuw dzyi* < *ɕ^wəʔ tiw pə q^henʔ, t^ʰek-s m-riŋ-s pə də) ‘These Zhōu are greatly illustrious, god appointed them’, in which the phrase 不時 *pə də is unintelligible without recourse to the commentaries. The Mao commentary remarks 不時, 時也. 時是也 “not 時 *də” means 時 *də, 時 *də means 是 *deʔ “this” (Kargren 1944: 88). It thus seems that 不時 *pə də was somehow an alternate form of the deictic pronoun 是 *deʔ ‘this’.

In some cases, only in the overall context of the poem is it clear that the reading of 不 as a negation marker is not sensible.

-
- | | | |
|----|----------------------------------|---|
| 1. | 我車既攻、
我馬既同。
四牡龐龐、
駕言徂東。 | Our carriages are well-worked,
our horses are (assorted:) well matched;
the four stallions are fat,
we yoke them and march to the East. |
| 2. | 田車既好、
四牡孔阜。
東有甫草、
駕言行狩。 | The hunting carriages are fine,
the four stallions are very big;
in the East there are the grasslands of the (royal) parks,
we yoke and go (there) to hunt. |
| 3. | 之子于苗、
選徒噐噐。
建旒設旆、
搏獸于敖。 | These gentlemen go to the summer hunt,
they count the footmen with great clamour;
they set up the tortoise-and-snake banner and the oxtail flag;
they catch animals in Áo. |
| 4. | 駕彼四牡、
四牡奕奕。
赤芾金舄、
會同有繹。 | We yoke those four stallions,
the four stallions are large;
there are red knee-covers and gold-adorned slippers;
the meeting (of the princes) is grand. |

- | | | |
|----|----------------------------------|---|
| 5. | 決拾既飲、
弓矢既調。
射夫既同、
助我舉柴。 | The thimbles and armlets are (helpful:) convenient,
the bows and arrows are well-adjusted;
the archers are assorted,
they help us to rear a pile. |
| 6. | 四黃既駕、
兩驂不猗。
不失其馳、
舍矢如破。 | The four yellow horses are yoked,
the two outer horses do not deviate to the sides;
(the drivers) do not fail when they gallop the horses;
when (the archers) let off the arrows, they (split:) pierce (the game). |
| 7. | 蕭蕭馬鳴、
悠悠旆旌。
徒御不驚、
大庖不盈。 | with light whinnies the horses neigh;
long-trailing are the pennons and banners;
The footmen and charioteers are (not) attentive,
the kitchen will (not) be filled. |
| 8. | 之子于征、
有聞無聲。
允矣君子、
展也大成。 | These gentlemen go on the expedition,
it is audible but there is no noise;
truly, they are noblemen;
indeed a great achievement! |

(Ode 179, Karlgren 1950: 123–4)

Regarding the lines 徒禦不驚，大庖不盈 (*du ngjoX pjuw kjaeng, daH baew pjuw yeng* < *d'a *m-q^h(r)a? pə kreŋ, l'at-s br'u pə leŋ) in the seventh stanza of Ode 179, the Mao commentary offers the remark 不驚，驚也... 不盈，盈 “not attentive” is attentive ... “not filled” filled’ (Karlgren 1944: 58, Sagart 1999b: 88, citing Behr 1994, Boltz 2007: 759). The overall tenor of the poem certainly supports this interpretation. Also note that the Old Burmese cognate ပျဉ်း *phlaññ?* < *^hpliŋ? ‘fill up’ (Atsi ^h*piŋ*⁵⁵) confirms the *p- initial of Old Chinese 不盈 *pjuw-yeng* < *pə-leŋ (04–61a, 09–15a) ‘fill’.

Examples of two characters writing words typically written with one also appear in texts more recent than the *Odes*. For example, the 說文解字 *Shuōwén jiězì* (100 CE) says of the characters 聿 (31–18a) and 筆 (31–18d):

聿 (*[m.]rut > *lut > *ywit*)

所以書也 ‘that with which one writes’

楚謂之聿 ‘In Chǔ, it is called 聿 *[m.]rut.’

吳謂之不律 ‘In Wú, it is called 不律 *pə.[r]ut.’

燕謂之弗 ‘In Yān, it is called 弗 *put.’

筆 (*p.[r]ut > *prut > *pit*)

秦謂之筆 ‘In Qín, it is called 筆 *p[r]ut’ (cf. Baxter and Sagart 2014: 43)

The variation among 弗 *put, 筆 *prut, and 不律 *pə.rut is good evidence for ‘tight’ versus ‘loose’ clusters; in particular, the equation of the single-character word 聿 ‘brush’ with the two-character spelling 不律 strongly suggests the articulation of two distinct vowels in this word.³⁷

Although the aforementioned examples of two characters writing words normally written with one character strongly supports the theory that Old Chinese had iambic words with loose pre-initials, the dialect and loanword features that Baxter and Sagart (2014) otherwise take as evidence for pre-initials do not confirm the pre-initials in these particular examples. In other words, even if one accepts the existence of pre-initials on the basis of philological evidence, it is not clear that Baxter and Sagart reconstruct these pre-initials in the correct places.

However, a comment in the 顏氏家訓 *Yán shì jiā xùn* by 顏之推 *Yán Zhītuī* (531–91 CE) explicitly discusses pronunciation of a word for which the readings of Middle Chinese, and the evidence of Mǐn dialects, also appear to support a tight pre-initial in accordance with the hypotheses of Baxter and Sagart’s system. At least in this one example all sources of evidence are available and in concord.

窮訪蜀土，呼粒[lip]為逼，[pik]時莫之解。吾云：‘《三蒼》、《說文》，此字白 下為匕，皆訓粒。《通俗文》音方力反[pik]。’眾皆歡悟

I have exhaustively visited [the] Shǔ 蜀 region, and they pronounce 粒 *li* [MC *lip* ‘grain, particle’] as 逼 *bī* [MC *pik* ‘compel’]; but at the time they had no way to explain it. I said: ‘In the *Sān cāng* 《三倉》 and the *Shuōwén* 《說文》, this word is written with 白 *bái* above and 匕 *bǐ* below [i.e. as 𠂔], and is glossed in both cases as 粒 *lì* [‘grain, particle’]. The *Tōngsú wén* 《通俗文》 gives its pronunciation as 方力切 [*p(jang) + (l)ik = pik*’]. They were all delighted to discover this. (Baxter and Sagart 2014: 307 and 406 note 113).

The Middle Chinese pronunciations *lip* and *pik* for the word ‘grain, particle’ (written 粒 (37–15f) or 𠂔 (03–16a)) suggest an old Chinese initial *p.r- with a tight pre-syllable. Proto-Mǐn *lhəp D ‘grain of rice’ (cf. Shaowu /sən 7/) confirms *C.rəp with a tight pre-syllable (Baxter and Sagart 2014: 307; cf. §140).

³⁷ Nonetheless, in this case the ‘loose’ versus ‘tight’ distinction is one of dialect, suggesting that all three pronunciations descend from a common ancestor, i.e. although it is evidence of Old Chinese complex onsets, this passage does not serve as evidence of a ‘loose’ versus ‘tight’ distinction existing within a single synchronic system. Perhaps the people of Wú pronounced all their pre-initials loose and the people of Qín pronounced all of their pre-initials tight.

In 1999 Sagart took as a working assumption that a given morpheme existed in three forms, namely unprefixated, tightly prefixated, and loosely prefixated, and ‘that the three types of forms existed side by side in Old Chinese, perhaps as stylistic or social variants’ (1999b: 15). This assumption of Sagart’s undermines the methodological principle of *Ausnahmslosigkeit*,³⁸ by availing itself of the wildcard of arbitrarily selecting one of three forms of a root to happen to survive into Middle Chinese. To evoke stylistic or social variation as possible explanations for the different types of prefixation is to abandon the search for a uniform and predictive reconstruction of Old Chinese. A superior reconstruction would propose only one type of pre-initial, explain the two types as regular outcomes of a yet earlier reconstructed phonology, or propose a morphological meaning to the two types of prefixation.

Although the *prima facie* evidence for Old Chinese pre-initials is weak, the theory embraces a wider variety of sources of evidence than other reconstructions of Old Chinese and affords a notation system that allows systematic exploration of the evidence. These advantages make Baxter and Sagart’s system the best choice of Old Chinese reconstruction for comparative research.

3.3.1 *Reconstructing Tight Pre-initials Using Xiéshēng Evidence*

§106. Baxter and Sagart propose the tight pre-initials *s- (cf. §§107–178), *p- (cf. §119), *k- (cf. §120), *t- (cf. §121), *m-, and *N- (cf. §123). In addition, in some cases they believe that evidence is sufficient to posit *p-, *k- or *t-, but it is unclear which of these three to reconstruct; such cases they notate *C- (cf. §124).

§107. *Tight Pre-initial *s-*. Although all researchers agree that Old Chinese had onset clusters beginning with *s-, there is considerable disagreement over the the circumstances in which one ought to reconstruct such clusters (cf. Handel 2012). The pedigree of Baxter and Sagart’s approach stretches back at least to Karlgren (1964 [1957]), who posited *s- before resonants to explain the appearance of Middle Chinese initial ʃ s- in phonetic series in which resonant initials predominate (Baxter 1992: 222). Li (1971: 19, 1974: 241), Baxter (1992: 222–32), Sagart (1999b: 62–73), and Sagart and Baxter (2012) take up Karlgren’s proposal and widen the distribution of *s- to other phonetic contexts.

³⁸ *Ausnahmslosigkeit der Lautgesetze*, ‘exceptionlessness of sound laws’, is the methodological assumption promoted by the neogrammarians that if a certain sound occurs in two morphemes in the same phonetic environment then it will change (or not change) in both morphemes in an identical manner. See Jankowsky (1972) and Amsterdamska (1987).

Li Fang-kuei reconstructs a prefix *s- before resonants in order to explain *xiéshēng* contacts between resonant initials and initial 心 *s-* (Li 1971: 18–20, 1974: 241–3). Baxter and Sagart expand the use of *s- to explain the appearance of 心 *s-* (cf. §108), 生 *sr-* (cf. §109), 書 *sy-* (cf. §110), 邪 *z-* (cf. §111), 俟 *zr-* (cf. §112), 船 *zy-* (cf. §113), 莊 *tsr-* (cf. §114), 清 *tsh-* (cf. §115), 初 *tsrh-* (cf. §116), and 從 *dz-* (cf. §117) in *xiéshēng* series where these initials are not expected (cf. Sagart and Baxter 2012). Baxter and Sagart also suggest tight *s- origins of 精 *ts-* (cf. §131), 見 *k-* (cf. §§146 and 153b), and 群 *g-* (cf. §153b) on the basis of evidence other than *xiéshēng* series.

§108. *Tight Pre-initial *s- as an Origin of Middle Chinese 心 s-*. Baxter and Sagart follow Karlgren (1957) and Li Fang-kuei in reconstructing a prefix *s- before resonants to explain *xiéshēng* contacts between resonant initials and initial 心 *s-* (Li 1971: 18–20, 1974: 241–3; cf. §§108a–d). They expand this proposal also to account for the appearance of 心 *s-* in uvular (§108e–g) and affricate series (§108h).

§108a. The series based on 亡 (03–54/03–65) provides evidence for the change *s.m^s- > 心 *s-* in type A syllables.

亡 (pre-Qín 亡) *mjang* < *m- (03–65a)
 盲 *maeng* < *mr^s- (03–65q)
 荒 *xwang* < *m^s- (03–65v)
 喪 (pre-Qín 喪) *sang* < *s.m^s- (03–54a) (cf. Sagart and Baxter 2012: 35–7)

The series based on 戍 (31–22/20–19) provides evidence for the change *s.m- > 心 *s-* in type B syllables.

戍 *swit* < s.m- (31–22h) (cf. Baxter and Sagart 2012: 30)
 威 *xjwiet* < *m- (20–19a)
 滅 *mjiet* < m- (20–19b)

§108b. The series based on 西 (04–39/26–31) provides evidence for the change *s.n^s- > 心 *s-* in type A syllables.

西 *sej* < *s.n^s- (26–31a)
 迺 *nojX* < *n^s- (04–39a)
 迺 *nojX* < *n^s- (04–39-)

The series based on 襄 (03–42) provides evidence for the change *s.n- > 心 *s-* in type B syllables.

襄 *sjang* < *s.n- (03–42a)
 攘 *nyang* < *n- (03–42e)

讓 *nyang* < *n- (03-42f)

讓 *nyang* < *n- (03-42g)

§108c. The series based on 魚 (01-31) provides evidence for the change *s.ŋ^s- > 心 *s*- in type A syllables.

魚 *ngjo* < *ŋ- (01-31/0079a)

漁 *ngjo* < *ŋ- (01-31/0079g)

虯 *ngjo* < *ŋ- (01-31/0079m)

穌 *su* < *s.ŋ^s- (01-31/0067a)

蘇 *su* < *s.ŋ^s- (01-31/0067c)

The series based on 辭 (21-11) provides evidence for the change *s.ŋ- > 心 *s*- in type B syllables.

辭 *sjet* < *s.ŋ- (21-11a)

擊 *ngjet* < *ŋ(r)- (21-11g)

槩 *ngjet* < *ŋ(r)- (21-11j)

§108d. The series based on 易 (08-12) provides evidence both for the change *s.l^s- > 心 *s*- in type A syllables and for *s.l- > 心 *s*- in type B syllables.

易 *yek* < *l- (08-12a)

剔 *thek* < *l^s- (08-12h)

髻 *dejH* < *l- (08-12r)

錫 *sek* < *s.l^s- (08-12n)

賜 *sjeH* < *s.l- (08-12t)

§108e. The series based on 員 (23-10) provides evidence for the change *s.q^w^s- > 心 *sw*- in type A syllables.

員 *hjun* < *G^w- (23-10/0227a)

圓 *hjwen* < *G^wr- (23-10/0227c)

墳 *xjwon* < *q^h- (23-10/0227d)

隕 *hwinX* < *G^wr- (23-10/0227g)

損 *swonX* < *s.q^w^s- (23-10/0435a)

The series based on 亘 (25-12) provides evidence for the change *s.q^w- > 心 *sw*- in type B syllables.

亘 *hwan* < *G^w^s- (25-12a)

烜 *xjweX* < *q^w^h- (25-12s)

宣 *sjwen* < *s.q^w- (25-12t)³⁹

³⁹ It is not clear to me how Baxter and Sagart decide between *s.q^w- and *s.q^w^h- as possible reconstructions for the initial met in 宣 *sjwen* (25-12t).

There are no type B syllables that Baxter and Sagart reconstruct with *s- prefixed to uvulars but without labialization (i.e. *s.q- rather than *s.q^w-) or medial -r- (cf. §114b).

§108f. Baxter and Sagart (2014: 137) point to the pair 契 *khejH* < *[k^h]et-s (20–01b) ‘script notches’ and 楔 *set* < *s.q^ɕet (20–01i) ‘wedge’ in favour of a change *s.q^ɕ- > 心 s- in type B syllables. This pair can be viewed either as an etymological or as a *xiéshēng* connection. In either approach the mismatch of a uvular with a velar is a problem. One could in principle reconstruct the initial of 契 *khejH* with a uvular (cf. §124), but the series overall does not have any words other than 楔 *set* which are incompatible with a velar initial reconstruction. Baxter and Sagart previously reconstructed this word with initial *s.ŋ- (Sagart and Baxter 2012: 41), a reconstruction which has the advantage of showing a velar initial. The change *s.q- > 心 s- is the voiceless equivalent of *s.g- > 邪 z- (cf. §111).

§108g. The series built on 午 (01–30) provides evidence for the change *s.q^h- > 心 s- in type B syllables (cf. Baxter and Sagart 2014: 140).⁴⁰

卸 *sjaeH* < *s.q^h- (01–30-)
 午 *nguX* < *[m].q^{hɕ}- (01–30a)
 澣 *xuX* < *q^{hɕ}- (01–30k)

It is not clear to me how Baxter and Sagart choose *s.q^h- rather than *s.q- as the initial of 卸 *sjaeH* or indeed why they do not reconstruct this series with velar nasals, viz. 卸 *sjaeH* < *s.ŋ- (01–30-), 午 *nguX* < *ŋ^ɕ- (01–30a), and 澣 *xuX* < *ŋ^ɕ- (01–30 k).

Baxter and Sagart (2014: 140) also propose that *s.q^{h(ɕ)}- develops into 清 *tsh-* in another dialect (cf. §115d).

§108h. Baxter and Sagart (2014: 136) posit the changes *s.ts- > 心 s- on the basis of etymological speculation (cf. §127), but the proposal appears also to receive support from *xiéshēng* evidence. In particular, the series built on 叉 (13–60) provides support for this change in type A syllables.

叉 *tsraewX* < *ts^ɕr- (13–60a)
 搔 *saw* < *s.ts^ɕ- (13–60f)

The series built on 黍 (29–32) provides support for this change in type B syllables.

黍 *tshit* < *ts^h- (29–32a)
 膝 *sit* < *s.ts- (29–32c)

⁴⁰ Although Baxter and Sagart (2014) reconstruct the type A initial cluster *s.q^{hɕ}- for 變 *sep* (35–19c), it is unclear why.

Baxter and Sagart similarly propose *s.ts^h- > 心 s-, but this change they support with etymological speculation (§127b) and Mǐn dialect evidence (§143), not with *xiéshēng* evidence.

§109. *Tight Pre-initial *s- as an Origin of Middle Chinese 生 sr-*
 Baxter and Sagart posit a variety of origins of Middle Chinese 生 sr- involving a *s- pre-initial in Old Chinese. In the most obvious case, they suggest a change of *s.r- to 生 sr-.⁴¹ It is reasonable to expect that those combinations of *s- with a following consonant which develop to Middle Chinese 心 s- develop instead to Middle Chinese 生 sr- when the consonant in question is followed by medial -r-, i.e. if *s.m-, *s.n-, *s.ŋ-, *s.l-, *s.q-, *s.q^h-, *s.ts-, *s.ts^h- > 心 s-, then *s.mr-, *s.nr-, *s.ŋr-, *s.lr-, *s.qr-, *s.q^hr-, *s.tsr-, *s.ts^hr- > 生 sr-. Baxter and Sagart indeed propose *s.ŋr- > 生 sr- (cf. §109c), but appear not to reconstruct any words with the initials *s.mr-, *s.nr-, *s.lr-,⁴² *s.tsr-, or *s.ts^hr-; they fail to discuss the absence of such syllables. They propose that *s.qr- changes to 莊 tsr- rather than 生 sr- (cf. §114) and allow both 生 sr- and 初 tsrh- as divergent dialect treatments of *s.q^h(^s)r- (2014: 140; cf. §128).

§109a. The series built on 婁 (10–29) provides a clear example of *s.r- > 生 sr- in type B syllables (Baxter and Sagart 2014: 144).

婁 *lju* < *r- (10–29a)
 樓 *luw* < *r^s- (10–29d)
 鞦 *kjuH* < *kr- (10–29i)
 數 *srjuX* < *s.r- (10–29r)

Baxter and Sagart appear not to reconstruct any words with the type A initial cluster *s.r^s-, although they do reconstruct *s.r^s- (cf. §132).

§109b. The series based on 𠄎 (02–14/02–34) provides evidence for the change *s.ŋr- > 生 sr- in type B syllables.

𠄎 *ngjaek* < *ŋr- (02–14a)
 𠄎 *ngak* < *ŋ^s- (02–14i)
 朔 *sraewk* < *s.ŋr- (02–34a)⁴³

Baxter and Sagart appear not to reconstruct any words with the type A initial cluster *s.ŋ^sr-.

⁴¹ Baxter and Sagart (2014) reconstruct both *sr- and *s.r- in Old Chinese. It is not clear whether this distinction is meant to reflect any phonetic reality or whether it only reflects an analysis of the morphological structure.

⁴² Baxter and Sagart (2014: 150) do reconstruct *s.ŋ^sr- in the word *tsrhaewng* < *s-ŋ^sron ‘window’, variously written 窻 (12–19l), 窗 (12–19-) or 窻 (12–19m); cf. §126b.

⁴³ Although the Middle Chinese reading 朔 *sraewk* suggests a type A syllable. This appearance is a result of the change *TSrj- > *TSr- (Baxter 1992: 267–9, 580–1, Baxter and Sagart 2014: 225). The phonetic series suggests the rime *-ak (cf. 𠄎 *ngjaek* (02–14a)), but *sraewk* from a type A syllable should go back to *s^srok; OChi. type A *s^srak should yield MC *sraek*.

§110. *Tight Pre-initial *s- as an Origin of Middle Chinese* 書 *sy-*. Baxter and Sagart propose four origins of 書 *sy-* involving an erstwhile pre-initial *s-, namely *s.t-, *s.t^h-, *s.k-, and *s.k^h-; these changes only occur in type B syllables (2014: 135, 137, 138, 140). The changes *s.k-, *s.k^h- > 書 *sy-* they suggest only occurred before front vowels (2014: 137, 140). This restriction is a result of the ‘first palatalization’ of Old Chinese, whereby velars palatalize before front vowels, e.g. *ki- > *tsyi-* (Pulleyblank 1962: 98–107, Baxter 1992: 210–13, Gong 1994 [2002]: 66–77). Prefixed velars before front vowels underwent the same change as an intermediate change, i.e. *s.ki- > *s.tsyi-. The further change *s.tsyi- > *syi-* occurred as a sub-case of the more general *sts- > s- (cf. §108h).

§110a. Because *xiéshēng* series freely mix homorganic initials of different manner types, if an aspirate and unaspirate initial merge on their way to Middle Chinese it is not possible to distinguish them on the basis of *xiéshēng* evidence. Thus, Baxter and Sagart distinguish aspiration (*s.t- versus *s.t^h- and *s.k- versus *s.k^h-) on the basis of aspiration in Mǐn or other dialects (2014: 138, 140; cf. §139b–c).

§110b. Although Baxter and Sagart do not use *xiéshēng* evidence to reconstruct *s.t- as a source of 書 *sy-* (2014: 135), the series based on 者 (01–38) provides evidence for the change *s.t^h- > 書 *sy-* in type B syllables (2014: 138).

者 *tsyaeX* < *t- (01–38a)
 奢 *syae* < *s.t^h- (01–38e)
 都 *tu* < *tʰ- (01–38eʹ)
 暑 *syoX* < *s.t^h- (01–38x)

§110c. Baxter and Sagart posit the change *s.k- > 書 *sy-* before front vowels in type B syllables. They believe that *s.k- develops into 見 *k-* in type A syllables, but their evidence for this latter proposal does not come from *xiéshēng* series (cf. §146). By implication Baxter and Sagart believe that *s.k- develops into 見 *k-* also in type B syllables, but they neither explicitly state so nor give a relevant example.

著 *syij* < *s.k- (26–06q)
 耆 *gij* < *gr- (26–06l)
 稽 *kej* < *kʰ- (26–06o)

§110d. Baxter and Sagart only posit the change *s.k^h- > 書 *sy-* before front vowels in type B syllables; they appear not to discuss the development of *s.k^h- in other phonetic environments.

支 *tsyē* < *k- (07–03a)
 翅 *syēH* < *s.k^h- (07–03e)
 技 *gjeX* < *gr- (07–03k)

The reason that Baxter and Sagart propose an aspirate initial in 翹 *syeh* < *s.k^h- (07–03e) is because of aspirated dialect pronunciations such as Mandarin *chì* /tʂʰ_ɿ 5/ and Guǎngzhōu /tʂʰi 5/, which indicate a Middle Chinese reading *tsyheH* (2014: 140).

§111. *Tight Pre-initial *s- as an Origin of Middle Chinese* 邪 *z-*. Baxter and Sagart (2014: 141) suggest that before type B voiced uvular stops the tight pre-initial *s- assimilated to 邪 *z-*. The series based on 羊 (03–39) provides evidence for the change *s.g- > 邪 *z-* in type B syllables. This change is the voiced equivalent of *s.q- > 心 *s-* (cf. §108f).

祥 *zjang* < *zG- < *s.g- (03–39n)

羊 *yang* < *G- (03–39a)

姜 *kjang* (03–05a)

Baxter and Sagart also reconstruct *s.d- and *s-m-t- as sources of 邪 *z-*, but not on the basis of *xiéshēng* evidence (2014: 141–2; cf. §§129 and 145).

§112. *Tight Pre-initial *s- as an Origin of Middle Chinese* 侯 *zr-*. If Old Chinese *s.g- becomes 邪 *z-*, then one expects Old Chinese *s.gr- to become 侯 *zr-*. The series containing 矣 (04–30l) provides evidence of just this change (Baxter and Sagart 2014: 141).

侯 *zriX* < *s.[g]r- (04–30m)

矣 *hiX* < *q- (04–30l)

§113. *Tight Pre-initial *s- as an Origin of Middle Chinese* 船 *zy-*. The series built on 示 (26–07) provides evidence for the change *s.g- > 船 *zy-* before front vowels in type B syllables. This change parallels the change of *s.k- > 書 *sy-*, also before front vowels in type B syllables (cf. §110c).

示 *zyijH* < *s.g- (26–07a)

視 *dzyijH* < *g- (26–07h)

禡 *gij* < *g^s- (26–07i)

In general Baxter and Sagart believe that *s.g- develops into 群 *g-*, but their evidence for this latter proposal does not come from *xiéshēng* series (cf. §153b).

§114. *Tight Pre-initial *s- as One Origin of Middle Chinese* 莊 *tsr-*. Baxter and Sagart maintain that a tight pre-initial *s- before *qr- gives rise to Middle Chinese 莊 *tsr-* (2014: 137).

§114a. The series based on 乙 (20–04/30–07) provides evidence for the reconstruction of *s.q^r- and the change *s.q^r- > 莊 *tsr-* in type A syllables.

札 *tsreat* < *s.q^hr- (20–04/0280b)

乙 *'it* < *qr- (30–07/0505a)

§114b. The series based on 聿 (37–19) provides evidence for the reconstruction *s.qr- and the change *s.qr- > 莊 *tsr-* in type B syllables.

澌 *tsrip* < *s.qr- (37–19/0688f)

揖 *jip* < *q- (37–19/0688g)

§114c. Baxter and Sagart also propose a change *s.tr- > 莊 *tsr-* (2014: 136), but on the basis of etymological speculation rather than *xiéshēng* evidence (cf. §131).

§115. *Tight Pre-initial *s- as One Origin of Middle Chinese* 清 *tsh-*. Baxter and Sagart take Middle Chinese 清 *tsh-* as a reflex of a voiceless resonant prefixed with *s- if there is evidence of connections to words that are otherwise known to have resonant initials, whether voiced or voiceless (2014: 149–50).

§115a. The series based on 人(𠂔) (32–28) provides evidence for the change *s.ŋ^s- > 清 *tsh-* in type A syllables.

千(𠂔) *tshen* < *s.ŋ^s- (32–28/0365a)

人(𠂔) *nyin* < *n- (32–28/0388a)

Baxter and Sagart cite no *xiéshēng* evidence for the same change in type B syllables, but they do reconstruct the change in some words, e.g. 次 *tshijH* < *[s-ŋ]i[j]-s (26–29a) ‘second adj.’ (2014: 333).⁴⁴

§115b. The series based on 兌 (23–13) provides evidence for the change *s.l- > 清 *tsh-* in type B syllables.

兌 *dwajH* < *l^s- (22–13a)

銳 *ywejH* < *l- (22–13f)

悅 *tshjwejH* < *s.l- (22–13g)

Baxter and Sagart appear not to reconstruct any words with the type A initial *s.l^s-.

§115c. Baxter and Sagart use etymological reasoning to propose a changes *s.th^s- > 清 *tsh-* with one example (2014: 139). However, it is possible to see the same example as an instance of *xiéshēng* contact in the series built on 隹 (28–11) that argues for this same change.

隹 *tsywij* < *t- (28–11a)

推 *thwoj* < *t^{h^s}- (28–11a')

⁴⁴ Although Baxter and Sagart do not explicitly give a reason for the reconstruction *tsh* < *s-ŋ- in this word, one may presume they have an etymological relationship with 二 *nyijH* < *ni[j]-s (29–28a) ‘two’ in mind.

催 *tshwoj* < *t^sh^s- < *s.t^hs- (28–11j’)

Nonetheless, the series built on 隹 (28–11) is generally poorly behaved, with many apparent violations of the *xiéshēng* hypothesis, e.g. the word 惟 *ywij* < *^Gwij (28–11n) ‘copula’ has both a different main vowel and a different place of articulation from 隹 *tsywij* < *tur (28–11a) ‘a kind of bird’ (cf. Schuessler 2009: 37).⁴⁵ Thus, *xiéshēng* evidence stemming only from this series is not strong evidence for the change *s.t^hs- > 清 *tsh-*.

Laurent Sagart (*per litteras* 21 February 2017) kindly draws my attention to the *xiéshēng* series built on 未 (14–18) – not discussed in Baxter and Sagart 2014. This series also supports the change *s.t^hs- > 清 *tsh-*.

戚 *tshek* < *s.t^hs- (14–18f)

俶 *tsyhuwk* < *t^h- (14–18h)

督 *towk* < *t- (14–18n)

§115d. Baxter and Sagart (2014: 140) propose that *s.q^h(^s)- develops into both 清 *tsh-* and 心 *s-* (cf. §108g) according to dialect. In support of this proposal they point to the two Middle Chinese pronunciations *sjek* < *s.q^hAk and *tshjak* < *s.q^hak of 寫 (02–35a) ‘slipper, shoe’. The question naturally arises as to why they see the series built on 寫 (02–35) as uvular. None of the words written with characters in this series have initial velar or glottal readings in Middle Chinese, so it is not at all a typically uvular series. Baxter and Sagart’s hypothesis that the series built on 寫 (02–35) is a uvular series appears to be based both on the loan into proto-Mien *xja B ‘to write’ from the word 寫 *sjaeX* < *s.q^hA? ‘depict’ (02–35f) and on the presumption that this word also exhibits the same root found in 卸 *sjaeH* < *s.q^hA(?)^s (01–30-) ‘to unload’; the series built on 午 (01–30), to which 卸 *sjaeH* < *s.q^hA(?)^s (01–30-) ‘to unload’ belongs, is a clear uvular series. This example shows how intricately intertwine the various kinds of evidence Baxter and Sagart employ.

§115e. Baxter and Sagart propose a change *s.r^s- > 清 *tsh-*, but on etymological grounds rather than *xiéshēng* evidence (cf. §132).

§116. *Tight Pre-initial *s- as One Origin of Middle Chinese* 初 *tsrh-*. Baxter and Sagart propose *s.r^s- (§116a) and *s.t^h(^s)r- (§116b) as two sources of Middle Chinese 初 *tsrh-*.

§116a. The series based on 疋 (01–62) provides evidence for the change *s.r^s- > 初 *tsrh-* in type B syllables.

⁴⁵ Jacques (2000) proposes the reconstruction 惟 *ywij* < *tə-wuj (28–11n), i.e. *tə-^Gwuj in a form compatible with the reconstruction system of Baxter and Sagart 2014. The early change of *-uj* to *-ij* after labio-velars and labio-uvulars then permitted 維 (an alternative writing of 惟) to serve as phonetic in words with the etymological rime *-ij*. Conformation to the *xiéshēng* hypothesis appears to be Jacques’s main reason for proposing the *tə- loose pre-initial.

疋 *srjo* < *sra (01–62/0090a)
 楚 *tsrhjoX* < *s.raʔ (01–62/0088a)

In Type A syllables the development of *s.r- is instead to 清 *tsh-* (cf. §132).

§116b. Baxter and Sagart propose the change *s.tʰ(ʳ)r- > 初 *tsrh-*, supported with only one example (2014: 139). They reconstruct 揣 *tsrhjweX* < *tsʰrorʔ < *s.tʰrorʔ (25–24q) ‘to measure, to estimate’ without explicit argumentation. However, their mention of the alternative reading of this character *tsyhwenX* < *tʰorʔ ‘id.’ suggests the following argument: the two readings of this character *tsrhjweX* and *tsyhwenX* would normally yield the reconstructions *tsʰrorʔ and *tʰorʔ. Since the same meaning is associated with both readings and the readings differ only in initial, one is tempted to segmentally derive one reading from the other. A hypothesized change *s.tʰr- > *tsʰr- provides convenient satisfaction to this temptation and becomes more persuasive because of the similarity to the changes *s.tʳr- > 莊 *tsr-* and *s.tʰs- > 清 *tsh-* proposed for other reasons (cf. §§131 and 115c respectively). However, if *s- is a morphological affix, one would expect it to contribute something to the meaning, and concomitantly one would expect that the reading *s.tʰrorʔ > *tsrhjweX* would show a meaning derived from the meaning of *tʰorʔ > *tsyhwenX*. A potential tack to circumvent this objection is to speculate that the proto-form was only *s.tʰrorʔ and that the two readings *tsrhjweX* and *tsyhwenX* reflect divergent dialect developments. It is unclear whether or not Baxter and Sagart hold this view. The character 揣 (25–24q) has a third reading *twaX*, which they do not take into account.

§117. *Tight Pre-initial *s- as One Origin of Middle Chinese* 從 *dz-*. Baxter and Sagart take Middle Chinese 從 *dz-* as a reflex of *s.b- when there is *xiéshēng* evidence of connections between labials and affricates (2014: 142).

§117a. The series based on 𠂔 (03–58) provides evidence for the change *s.b- > 從 *dz-* in type B syllables.

𠂔 *pjang* < *p- (03–58/0741a)
 𠂔 *dzjangH* < *bz- < *zb- < *s.b- (03–52/0729a)

The two readings of the early character 𠂔 as *bjihH* ‘nose’ (鼻 in later texts) and *dzijH* (< *bz- < *zb- < *s.[b]-) ‘self’ (自 in later texts) further support the proposal *s.b- > 從 *dz-* in type B syllables (Baxter and Sagart 2014: 142).

§117b. It is perhaps concerning that the *s- pre-initial-related origins of 精 *ts-* < *s.qr-, 清 *tsh-* (< *s.l-, *s.ŋʳ-, *s.r-), and 從 *dz-* (< *s.b-) are in no way parallel.

§118. *The Distribution of Pre-initial *s-*. The distribution of pre-initial *s- that Baxter and Sagart (2014) arrive at is not very elegant or symmetrical. They do not reconstruct *s.p^(s)-, *s.p^{h(s)}-, *s.k^{h(s)}-, or *s.dz^(s)-, although they do reconstruct *s.b- and *s.k^h-. As mentioned (cf. §109), they do not reconstruct *s.mr-, *s.nr-, *s.lr-, *s.tsr-, or *s.ts^hr-, although they do reconstruct *s.l̥r- and *s.ŋr-. It is clear that much work remains to be done on Old Chinese phonotactics.

§119. *Tight Pre-initial *p-*. Tight pre-initial *p- explains the appearance of Middle Chinese pronunciations with initial 幫 *p-* and 滂 *ph-* in series that are not predominantly labial-initial (Baxter and Sagart 2014: 151).

§119a. The series based on 去 (35–01/35–21) provides evidence for the change *p.k- > 幫 *p-* in type B syllables. Baxter and Sagart appear not to give examples of this sound change in type A syllables.

法 *pjop* < *p- < *p.k- (35–21k)
劫 *kjaep* < *k(r)- (35–01h)

§119b. The series based on 亨 (03–17/03–60) provides evidence for the change *p.q^hs- > 滂 *ph-* in type A syllables. Baxter and Sagart appear not to give examples of this sound change in type B syllables.

烹 *phaeng* < *p.q^hs-r- (03–60a)
亨 *xaeng* < *q^hs-r- (03–17b)

§119c. The series based on 粵 (09–27) provides evidence for the change *p.r̥- > 滂 *ph-* in type B syllables.

娉 *phjiengH* < *p.r̥- (09–27c)
騁 *trhjengX* < *r̥- (09–27/0817a)

Baxter and Sagart appear not to reconstruct any words with the type A initial *p.r̥s-.

§119d. For *p- before resonants see §122.

§120. *Tight Pre-initial *k-*. Tight pre-initial *k- explains the appearance of Middle Chinese pronunciations with initial 見 *k-* and 溪 *kh-* in series that are not predominantly velar-initial.

§120a. The series based on 壬 (09–17/09–01) provides evidence for the change *k.l̥s > 見 *k-* in type A syllables. Baxter and Sagart appear not to give examples of this sound change in type B syllables.

𠄎 (𠄎) *keng* < *k.l̥s- (09–01/0831a)
壬 (𠄎) *thengX* < *l̥- (09–17/0835a)
梃 *dengX* < *l̥s- (09–17/0835j)
程 *yeng* < *l- (09–17/0835y)

§120b. The series based on 𠄎 (13–03/13–43) provides evidence for the change *k._r^s- > 溪 *kh*- in type A syllables. Baxter and Sagart appear not to give examples of this sound change in type B syllables.

考 *khawX* < *k._r^s- (13–03d)
老 *lawX* < *r^s- (13–43a)

§120c. Baxter and Sagart normally reconstruct a series that shows *xiéshēng* contacts between velars and glottals as deriving from inherited uvulars (cf. §101). However, they also permit a pre-initial *k- before *ʔ- as an alternative explanation for such *xiéshēng* series. They take the series based on 鬼(𪛗) (28–01/28–09) as evidence for the change *k.ʔ- > 見 *k*- (2014: 151).

鬼(𪛗) *kjwijX* < *k.ʔ- (28–01/0569a)
畏(𪛗) *jwijH* < *ʔ- (28–09/0573a)

Baxter and Sagart make little effort to explain how they decide whether a *xiéshēng* series should be analysed as uvular-initial versus glottal-initial with the occasional *k- prefix. It appears that they prefer not to have two *xiéshēng* series that write the same type of Old Chinese syllable; by proposing *k.ʔ- as the origin of 見 *k*- in the reading of 鬼 *kjwijX* they are able to understand the series built on 鬼 as encoding Old Chinese syllables of the shape *ʔuj as opposed to the series built on 貴, which encodes Old Chinese syllables of the shape *Quj (Baxter and Sagart 2014: 151, 391 note 79). The inclusion of readings with initial 曉 *x*- and 以 *y*- in the series built on 貴 (31–02) essentially compels one to understand this series as uvular-initial in Baxter and Sagart's system.⁴⁶

𪛗 *xwojH* < *q^h_s- (31–02f)
遺 *ywojH* < *g(r)- (31–02m)

§120d. For *k- before resonants see §122.

§121. *Tight Pre-initial *t-*. Tight pre-initial *t- explains the appearance of Middle Chinese pronunciations with dental (*shétóu* 舌頭 *T*-),⁴⁷ palatal (*zhāngzǔ* 章組 *Tsy*-), or retroflex initials (*shéshǎng* 舌上 *Tr*-) in series that do not predominantly contain readings with these initials (Baxter and Sagart 2014: 157–9).

⁴⁶ In violation of the *xiéshēng* hypothesis, Baxter and Sagart reconstruct many of the readings in the series built on 貴 (31–02) as having velar initials, e.g. 簣 *khweajH* < *k^h_r- (31–02j), 贖 *ngweajH* < *[ŋ]^h_r- (31–02p). To my knowledge they have given no account of these reconstructions, but an obvious explanation to consider is that characters with velar readings are younger coinages, created after uvulars had already vanished.

⁴⁷ Although Baxter and Sagart include *t._r^s- > 端 *t*- in the table that summarizes the correspondences involving *t- (2014: 157), I am unable to locate an explicit discussion of this change in their volume.

§121a. The series based on 九 (ㄅ) (04–12/13–23) provides evidence for the change *t.kr- > 知 tr-.

肘 (ㄅ) *trjuwX* < *t.kr- (13–23a)

九 (ㄅ) *kjuwX* < *k- (04–12a)

§121b. The series based on 出 (31–16) provides evidence for the change *t.k^h- > 昌 *tsyh-* in type B syllables.

出 *tsyhwit* < *t.k^h- (31–16a)

掘 *gjut* < *g- (31–16s)

§121c. The series based on 徑 (09–01) provides evidence for the change *t k^hr- > 徹 *trh-* in type B syllables.

徑 *kengH* < *k^s- (09–01f)

寮 *khengH* < *k^hs- (09–01j)

陁 *heng* < *g^s- (09–01l)

輕 *kheang* < *k^hs-r- (09–01q)

經 *trhjeng* < *t.k^hr- (09–01x)

§121d. For *t- before resonants see §122.

§122. *Tight Stop Pre-initials before Resonants.* Before resonants, divergent dialect treatment of *p-, *t-, and *k- on the way to Middle Chinese often leads to alternate readings of the same character (Baxter and Sagart 2014: 162).

稟 (38–19a) *pimX* < *pr- < *p.r-, versus *limX* < *p.r-

熱 (37–08h) *tsyip* < *t- < *t.n-, versus *nep* < *n^s- < *t.n^s-

袂 (20–03d) *kwet* < *k^{ws}- < *k.m^s-, versus *mjiejH* < *m- < *k.m-

§123. *Tight Nasal Pre-initials *m- and *N-* On the basis of *xiéshēng* evidence the tight pre-initials *m- and *N- before obstruents are not easily distinguished from each other, nor are they distinguishable from simplex voiced consonants. Nonetheless, *m-/*N- can be isolated on the basis of *xiéshēng* evidence before the uvulars *q^h- and *g- (§123a) and before *r- (§123b). In addition, *m- is identifiable on the basis of *xiéshēng* evidence before (non-labial) nasals (§123c).

§123a. The pre-initials *m- and *N- before some uvulars are together distinguishable from the voiced uvular *g- on the basis of *xiéshēng* evidence. For example, the series built on 牙 (ㄣ) (01–34/01–45) exhibits connections typical of a uvular series (見 *k-*, 影 ‘-, 以 *y-*), but it also contains readings that begin with 疑 *ng-*. One would like to find a way to credit

this 疑 *ng-* also to an erstwhile uvular. Baxter and Sagart's explanation is a prefix **m-* or **N-* before a voiced uvular **G* or the voiceless aspirated uvular **q^h-*, with the merger **m-q^h-*, **m-g-*, **N-q^h-*, **N-g-* > 疑 *ng-* (2014: 128–31). There is no way to decide on the basis of *xiéshēng* evidence alone which of the four uvular sources of 疑 *ng-* is the correct reconstruction for a given word.

牙 (𪚩) *ngae* < **m.q^hr-*, **m.gr-*, **N.q^hr-*, or **N.gr-* (01–34a)⁴⁸

鴉 'ae < *q^sr-* (01–34h)

舉 (𠂔) *kjoX* (01–45a)

與 (𠂔) *yoX* < **G^s(r)-* (01–45b)⁴⁹

§123b. Baxter and Sagart (2014: 122, 133–4) reconstruct **N.r-* and **m.r-*, both merging with **l-* (> 以 *y-*), in order to account for contacts between 以 *y-* and 來 *l-*. For example, the character 旃 (13–33a) has the two readings *yuw* (< **l-* < **N.r-* or **m.r-*) and *ljuw* (< **r-*).⁵⁰

§123c. One context in which **m-* makes its presence observable in *xiéshēng* relationships is before the (non-labial) nasals **ŋ-* and **n-*. Baxter and Sagart reconstruct the Old Chinese clusters **m.ŋ-* and **m.n-* (> 明 *m-*) (2014: 132–3); these clusters provide an explanation for the occasional intrusion of an 明 *m-* initial word into a series that predominantly has initial 疑 *ng-* or 泥 *n-*. The series built on 兒 (07–11) exhibits 明 *m-* in a 疑 *ng-* series.

兒 *nye* < **ŋ-* (07–11a)

倪 *ngej* < **ŋ^s-* (07–11f)

魔 *mej* < **m.ŋ^s-* (07–11o)

The series built on 爾 (07–20) exhibits 明 *m-* in an 泥 *n-* series.

爾 *nyeX* < **n-* (07–20a)

爾 *nejX* < **n^s-* (07–20d)

彌 *mjieX* < **m.n-* (07–20m)

⁴⁸ Baxter and Sagart (2014: 131) reconstruct this word with initial **m.G^r-*. It appears phonologically odd that **m.q^h-*, **m.G-*, **N.q^h-*, **N.G-* develop to 疑 *ng-*, but that **m.q-* and **N.q-* merge with **G-*.

⁴⁹ Baxter and Sagart (2014: 125) in fact reconstruct this word with initial **m-q(r)-* relying on Mǐn evidence (cf. §140a).

⁵⁰ Baxter and Sagart (2014: 134) postulate that Middle Chinese shows a mixture of two dialect developments. In one dialect **m.r-* develops similarly to **l-* (cf. 蠅 *ying* < **m.r-* (06–24a) and 𪚩 *meangX* < **m^r-* (06–24d)). In the other dialect **m.r-* merges with **m-* (cf. 命 *mjaengH* < **m.r-* (09–32a) and 令 *ljeng* < **r-* (09–19a)). As reconstructing 命 *mjaengH* with **mr-* rather than **m.r-* seems explanation enough, I am unable to follow their reasoning for the need to distinguish two dialect developments. One may further wonder what exact phonetic difference they suppose the notation **mr-* versus **m.r-* to reflect.

§124. *Tight Pre-initials before Uvulars as a Source of Middle Chinese Velars.* As discussed above, Baxter and Sagart reconstruct series that mix glottals and velars as uvulars (§101), but the discussion so far has not treated the velar stops appearing in such series. Baxter and Sagart propose that tightly attached stop pre-initials are the origin of velar initial readings appearing in uvular series (Baxter and Sagart 2014: 28, 45, 168–70).⁵¹

§124a. The series built on 公 (12–13) provides evidence of *C.q^ʰ- and the change *C.q^ʰ- > 見 *k*- in type A syllables.

公 (𠄎) *kuwng* < *C.q^ʰ- (12–13/1173a)

瓮 ‘*uwngH* < *q^ʰ- (12–13g)

容 (𠄎) *yowng* < *gr- (12–11a)

§124b. The series built on 京 (03–10) provides evidence of *C.q^r- and the change *C.q^r- > 見 *k*- in type B syllables.

景 *kjaengX* < *C.q^r- (03–10/0755d)

影 ‘*jaengX* < *q^r- (03–21/0756a)

§124c. The series built on 衍 (24–29) provides evidence of *C.q^hr- and the change of *C.q^hr- > 溪 *kh*- in type B syllables.

衍 *yenH* < *N-q(r)- (24–29/24–29a)⁵²

愆 *khjen* < *C.q^hr- (24–29/24–29b)

§124d. The series built on 气 (30–01) provides evidence of *C.q^h- and the change *C.q^h- > 溪 *kh*- in type B syllables.

乞 *khjit* < *C.q^h- (30–01/0517f)

氣 *xjihH* < *q^h (30–01/0517c)

§124e. The series built on 𠄎 provides evidence of *C.q^{wh}- and the change *C.q^{wh}- > 溪 *kh*- (Baxter and Sagart 2014: 170).

𠄎 *xjwon* < *q^{wh}- (25–02/0158-)

勸 *khjwonH* < *C.q^{wh}- (25–02/0158s)

§124f. A sequence of *m- or *N- and a uvular give rise to initial 疑 *ng*- (cf. §123a).

⁵¹ Sagart and Baxter (2009: 231) proposed that ‘loose’ pre-initials conditioned the shift from uvulars to Middle Chinese velars, but because some of the relevant words do not have ‘softened’ initials in proto-Min they have revised their proposal to instead suggest that ‘tight’ pre-initials before uvulars are the source of the relevant cases of velars (Baxter and Sagart 2014: 385 note 24). For tight pre-initial *N- and *s- before uvulars see respectively §§123a and 108e–g.

⁵² Baxter and Sagart reconstruct *N-q(r)- rather than *G- on the presumption that 愆 *C.q^hra[n] > *khjen* ‘exceed, err’ and 衍 *N-q(r)an? > *yenX* ‘overflow’ derive from the same root (2014: 169).

3.3.2 *Reconstructing Tight Pre-initials on the Basis of Morphological Speculation*

§125. Baxter and Sagart reconstruct seven morphological affixes: the prefixes *s-, *N-, *m-, *t-, and *k-; an infix *-r-; and a suffix *-s (2014: 53). They distinguish between a verb-valence-increasing *s- prefix and a circumstantial-noun *s- prefix (2014: 56, cf. §§126–32). Their prefix *N- decreases verb valence (2014: 54; cf. §§134–5).⁵³ They distinguish five different *m- prefixes (2014: 54–6; cf. §§134 and 136). The presumed *t- prefix they do not use to explain relationships between words, but simply note its occurrence in some words (2014: 56–7); they never reconstruct the pre-initial *t- on the basis of morphological speculation.⁵⁴ The presumed prefix *k- nominalizes verbs (2014: 57; cf. §137). The infix *-r- and final *-s are reconstructed using the conventional sources for Old Chinese historical phonology; Baxter and Sagart assign them with a morphological meaning, but, unlike for the prefixes, do not employ morphological argumentation to posit their existence.

§126. *The Tight Pre-initial *s-* All researchers appears to concur that *s- had a causative function in Old Chinese (cf. Handel 2012). The credit for this proposal, as well as a proposed link between *s- in Chinese and the Tibetan causative prefix *s-*, typically goes to Conrady (1896). However, Conrady did not propose Chinese *s- in the circumstances in which Karlgren, Li, Baxter, and Sagart do, but rather in those places where Baxter and Sagart would reconstruct voiceless nasals (see Conrady 1896: 156).

Baxter and Sagart propose two different morphological functions for an *s- prefix, a valence-increasing verb prefix and a prefix that ‘derives circumstantial nouns (place, time, instrument)’ (2014: 56). Outside the initial presentation of the two prefixes, in their discussion of words presumed to have an etymological relationship Baxter and Sagart generally fail to make explicit which of the two *s- prefixes they believe is at play. They employ etymological arguments in favour of *s- prefix origins of Middle Chinese 心 *s-* (cf. §127), 生 *sr-* (cf. §128), 邪 *z-* (cf. §129), 船 *zy-* (cf. §130), 精 *ts-*, 莊 *tsr-* (cf. §131), 清 *tsh-* (cf. §132), and 初 *tsrh-* (cf. §133).

⁵³ Both ancient Egyptian and the Semitic languages also evince an *s- valence-increasing and *N- valence-decreasing prefix (Moscatti 1964: 125–7). This is a remarkable morphological coincidence between Old Chinese, as Baxter and Sagart reconstruct it, and Afro-Asiatic.

⁵⁴ The pair 臭 *tsyhuwH* < *t-q^hu(?)s (13–12a) ‘foul smell’ and 朽 *xjuwX* < *q^h(r)u? (13–03m) ‘rot, decay’ is perhaps the one case in which they presume a pre-initial *t- on the basis of etymological speculation (Baxter and Sagart 2014: 57). However, they do not discuss the pair explicitly, so one cannot be sure on what ground they reconstruct initial 昌 *tsyh-* as *t-q^h in the first word. For example, one might regard the series built on 臭 (13–12) as uvular because of the velar fricative initial of 嗅 *xjuwH* (13–12c); cf. §§101–2.

§126a. They provide the following four pairs of words to exemplify the valence-increasing prefix:

- 蒸 *tsyng* < *təŋ (06–10h) ‘rise (of steam)’; 升 *syng* < *s-təŋ (06–16a) ‘lift up, save, present to’
 譟 *ngak* < *ŋʰak (02–14k) ‘speak frankly’; 愬 *suH* < *s-ŋʰak-s (02–34b) ‘complain, accuse’
 當 *tang* < *tʰaŋ (03–32q) ‘match (v.); have the value of, rank with’; 商 *syang* < *s-taŋ (03–40a) ‘estimate’
 視 *dzyjX* < *gijʔ (26–07h) ‘look, see’; 示 *zyjH* < *s-gijʔ-s (26–07a) ‘show (v.)’

§126b. They provide the following three pairs of words to exemplify the circumstantial-noun prefix:⁵⁵

- 𠄎 *ngjaek* < *ŋrak (02–14a) ‘go against, reverse’; 朔 *sraewk* < *s-ŋrak (02–34a) ‘first day of month’ (when the moon changes from waning to waxing) (cf. §109b n. 43)
 通 *thuwng* < *ʃoŋ (12–10r) ‘penetrate’; 窗 *tsrhaewng* < *s-ʃroŋ (12–19-) ‘window’ (i.e. ‘where light penetrates’)
 亡 *mjang* < *maŋ (03–65a) ‘flee; disappear; die’; 喪 *sang* < *s-mʰaŋ (03–54a) ‘mourning, burial’ (i.e. ‘circumstances associated with death’)

The second and third examples of the circumstantial-noun prefix are not flawless. The derivation of 窗 *tsrhaewng* < *s-ʃroŋ ‘window’ from 通 *thuwng* < *ʃoŋ ‘penetrate’ involves an *-r-* infix in addition to the *s- prefix and the derivation from 喪 *sang* < *s-mʰaŋ ‘mourning, burial’ from 亡 *mjang* < *maŋ ‘flee; disappear; die’ includes an unexplained change from a type B syllable to a type A syllable.

§127. *Tight Pre-initial *s- as an Origin of Middle Chinese* 心 *s-*
 On the basis of etymological argumentation Baxter and Sagart reconstruct both *s.ts- (cf. §127a) and *s.tsʰ- (§127b) as origins for 心 *s-*.

§127a. Baxter and Sagart offer two pairs of etymologically related words in support of a change *s.ts- > 心 *s-* (2014: 136):

- 節 *tset* < *tsʰik (29–30e) ‘joint of bamboo’; 膝 *sit* < *s.tsik (29–32c) ‘knee’
 叉, 爪 *tsraewX* < *[ts]ʰruʔ (13–60a, 13–59a) ‘claw’; 搔 *saw* < *s-[ts]ʰu (13–60f) ‘scratch (v.)’

⁵⁵ Baxter and Sagart also give an example of the circumstantial-noun prefix, in which the prefix is loose, viz. 以 *yiX* < *lɑʔ ‘take, use’, 鋤 *ziX* < *sə.lɑʔ ‘handle of plough or sickle’ (i.e. ‘instrument of holding’) (2014: 56).

These proposals are not without difficulties. The derivation of ‘knee’ from ‘joint of bamboo’ is an instance neither of the valence-increasing prefix nor of the circumstantial-noun prefix. Sagart and Baxter instead suggest that perhaps ‘we have a Chinese instance of the T[ibeto-]B[urman] *s- animal (and body-part?) prefix from TB *sya – “flesh”’ (2012: 45), which Benedict (1972: 106) has proposed. I concur with Chang that Benedict’s animal prefix is ‘a dubious proposition’ (1973: 336).⁵⁶ The proposal to derive ‘scratch’ from ‘claw’ with a denominative *s- is less problematic, but the absence of medial *-r-* in the verb ‘scratch’ is an obstacle to this proposal.

§127b. Baxter and Sagart offer one pair of etymologically related words in support of a change *s.ts^hc- > 心 s- (2014: 139):

清 *tshjeng* < *ts^hej ‘clear (adj.)’; 星 *seng* < *s-ts^hej ‘star’ (i.e. that which is bright)

They acknowledge the difficulty that ‘clear’ is type B whereas ‘star’ is type A. This proposed pair of cognates would not be compelling except that words for ‘star’ in the Mǐn dialects support initial *tsh- (cf. Amoy /ts^hɿ 1/; cf. §143).

§128. *Tight Pre-initial *s- as an Origin of Middle Chinese* 生 sr- On the basis of the following pair of words, Baxter and Sagart reconstruct *s-q^hr- as one source of Middle Chinese 生 sr- (2014: 129):

許 *xjoX* < *q^h(r)a? (01–30i) ‘place (n.)’; 所 *srjoX* < *s-q^hra?
(01–63a) ‘place (n.); that which’

Without further discussion this derivation is unconvincing. Note, however, that the line 伐木許許 ‘chop trees “hack-hack”’ of Ode 165.2 is quoted in the entry for the character 所 in the 說文解字 *Shuōwén Jiězì* as 伐木所所; thus, the pronunciations of 許 (01–30i) and 所 (01–63a) must have been very similar, or at least both reflected pronunciations that were suitable as onomatopoeia for the sound of chopping wood.⁵⁷

§129. *Tight Pre-initial *s- as an Origin of Middle Chinese* 邪 z- Baxter and Sagart (2014: 141–2) propose that pre-initial *s- before voiced obstruents in type B syllables is one source of Middle Chinese 邪 z-. They propose *s.g- > 邪 z- on the basis of *xiěshēng* evidence (cf. §111). They

⁵⁶ The fact that ‘joint of bamboo’ is type A whereas ‘knee’ is type B further complicates the relationship between the two words. There are other examples of alternations between type A and type B words (Baxter and Sagart 1997: 61–2), with the pair 內 *nop* < *n[u]p ‘bring or send in’ (37–16e) and 入 *nyip* < *n[u]p ‘enter’ (37–16a) as a well-known case. No explanation has been put forward for the origin or derivational meaning of such patterns.

⁵⁷ I thank Adam Smith for drawing my attention to this use of 許 (01–30i) and 所 (01–63a) (*per litteras* 25 May 2017).

OChi. > MChi.	OChi. > MChi.	OChi. > MChi.
*s.p- > ??	*s.p ^h - > ??	*s.b- > 從 dz-
*s.t ^f - > 精 ts-	*s.t ^h ^f - > 清 tsh-	*s.d ^f - > 邪 z-
*s.ts- > 心 s-	*s.ts ^h (^f)- > 心 s-	*s.dz- > ??
*s.k ^F - > *s.tsy- > 書 sy-	*s.k ^h ^F - > *s.tsyh- > 書 sy-	*s.g ^F - > 船 zy-
*s.t- > *s.tr- > 莊 tsr-	*s.t ^h - > *s.t ^h (^f)r- > 初 tsrh-	*s.d- > 邪 z-
*s.k ^f - > 見 k-	*s.k ^h ^f - > ??	*s.dr- > ??
*s.qr- > 莊 tsr-	*s.q ^h (^f)r- > 生 sr- ~ 初 tsrh-	*s.g- > 群 g-
*s.q- > 心 s-	*s.q ^h (^f)- > 心 s- ~ 清 tsh-	*s.gr- > 俟 zr-
		*s.g- > 邪 z-

Figure 3.17 Middle Chinese reflexes of *s- (cf. Baxter and Sagart 2014: 138, 141, 143)

also propose *s.d- > 邪 z- on the basis of proto-Min and loanwords into non-Sinitic languages (cf. §145). For the parallel, yet more complicated, *s-m-t- > 邪 z- they return to etymological argumentation.

著 *trjak* < *trak (01–38n) ‘place (v.)’; 席 *zjek* < *s-m-tAk (02–29a) ‘mat’ (i.e. ‘place for putting things’)

Baxter and Sagart do not, however, account for the morphological function of the *m- prefix in ‘mat’, nor for the -r- infix in ‘place (v.)’.

§130. *Tight Pre-initial *s- as an Origin of Middle Chinese* 船 zy-. In favour of the change *s.g- > 船 zy- Baxter and Sagart (2014: 56) point to the the following verb pair:

視 *dzyijX* < *gij? (26–07h) ‘look, see’; 示 *zyijH* < *s-gij?-s (26–07a) ‘show (v.)’⁵⁸

§131. *Tight Pre-initial *s- as an Origin of Middle Chinese* 精 ts- and 莊 tsr-. Baxter and Sagart (2014: 136) propose a change *s.t^f- > 精 ts- on the basis of presumed etymological relationships between words with Middle Chinese initial 端 t- and those with initial 精 ts-.

登 *tong* < *t^fəŋ (06–09e) ‘ascend’; 增 *tsong* < *ts^fəŋ < *s-t^fəŋ (06–19c) ‘increase (v.)’

⁵⁸ Handel (2012: 76) points out that this pair is the only example of a causative *s- prefix before non-resonant velar initials in Baxter and Sagart’s system.

Baxter and Sagart (2014: 136) similarly propose a change *s-tʰr- > 莊 *tsr-* on the basis of presumed etymological relationships between words with Middle Chinese initial 知 *tr-* and those with initial 莊 *tsr-*.

謫 *treak* < *tʰrek (07–12r) ‘blame (v.)’;⁵⁹ 責 *tsreak* < *tsʰrek < *s-tʰrek (08–14m) ‘demand payment’

The derivation from ‘blame’ to ‘demand payment’ is not obviously a case of valence increase.

§132. *Tight Pre-initial *s- as an Origin of Middle Chinese 清 tsh-*. Baxter and Sagart propose the change *s.rʰ- > 清 *tsh-* to account for Middle Chinese doublets in which one word begins with 清 *tsh-* and the other with 生 *sr-*; they credit these doublets to divergent dialect developments (2014: 150).

採 *tshojX* < *s.rʰəʔ (04–44d) ‘pluck, reap’; 齎 *srik* < *s.rək (04–44d) ‘reap’
 彩 *tshojX* < *s.rʰəʔ (04–44a) ‘colourful’; 色 *srik* < *s.rək (05–31a) ‘colour; countenance’

§134. *The Tight Nasal Pre-initial *m- and *N-*. The nasal prefixes *m- and *N- of Baxter and Sagart’s system are almost always impossible to distinguish using *xiéshēng* evidence; in addition, before stops, using *xiéshēng* evidence, they are indistinguishable from plain voiced onsets. Nonetheless, presumed morphology, as well as proto-Mín (cf. §140) and loanwords into Vietnamese (cf. §155), allows these two pre-initials to be differentiated from each other and from voiced stops in many circumstances.

§135. *Pre-initial *N-* To explain morphological alternations between transitive and intransitive verbs, Pulleyblank (1973: 114) proposed a prefix (that he reconstructed *ñ) which voices a voiceless initial while making a verb intransitive. Often both the transitive and the intransitive verb are written with the same character.

見 (23–02a) *kenH* ‘see’, *henH* ‘appear’
 敗 (21–35f) *paejH* ‘defeat’, *baejH* ‘suffer defeat’
 壞 (28–06d) *kweajH* ‘destroy, ruin’, *hweajH* ‘be destroyed’
 斷 (25–22a) *twanX* ‘cut in two’, *dwanX* ‘be cut in two’
 折 (21–19a) *tsyet* ‘break, bend’ (v.t.), *dzyet* ‘bend’ (v.i.)

⁵⁹ Baxter and Sagart in fact reconstruct 謫 *treak* < *C.tʰrek (07–12r) ‘blame (v.)’, positing the *C. pre-initial on the basis of Vietnamese *dúc* [zʉuk D1] ‘reprove’ (2014: 136).

Sagart (1993: 244) proposed that the Chinese intransitive voicing prefix must be some kind of nasal on the basis of the Mien high-tone voiced initial in the Chinese loanword 折 *dzɛʔ* ‘be cracked’, which suggests a proto-Yao pre-nasalized voiceless initial. Baxter and Sagart have changed little in their evidence for and explanation of *N- since 1997 (cf. Baxter and Sagart 1997: 45–7). In their recent book they present the following verb pairs as evidence of *N- (2014: 116–23):

- 見 *kenH* < *[k]ʰen-s (23–02a) ‘see’; 見 *henH* < *N-[k]ʰen-s (23–02a) ‘appear’
 敗 *paejH* < *pʰra[t]-s (21–35f) ‘defeat’; 敗 *baejH* < *N-pʰra[t]-s (21–35f) ‘suffer defeat’
 壞 *kweajH* < *[k]ʰruj-s (28–06d) ‘destroy, ruin’; 壞 *hweajH* < *N-[k]ʰruj-s (28–06d) ‘be destroyed’
 斷 *twanX* < *tʰo[n]ʔ (25–22a) ‘cut in two’; 斷 *dwanX* < *N-tʰo[n]ʔ (25–22a) ‘be cut in two’
 折 *tsyet* < *tet (21–19a) ‘break, bend’ (v.t.); 折 *dzyet* < *N-tet (21–19a) ‘bend’ (v.i.)
 夾 *keap* < *C.kʰrep (35–03a) ‘press between’; 狹 *heap* < *N-kʰrep (35–03e) ‘narrow’
 置 *triH* < *trək-s (05–12g) ‘put, place; set upright’; 直 *drik* < *N-trək (05–12a) ‘straight’
 清 *tshjeng* < *tsʰeŋ (09–25i) ‘clear (adj.)’; 晴 *dzjeng* < *N-tsʰeŋ (09–25-) ‘clear (of weather)’

§135a. To explain apparent etymological connections between words with Middle Chinese initial 以 *y-* or 定 *d-* (normally from OChi. *l-) and Middle Chinese initial 來 *l-* (from OChi. *r-), Baxter and Sagart (2014: 122) posit an original *N-r- that merges with *l- (i.e. OChi. *N-r- > *l- > MChi. 以 *y-* and OChi. *N-rʰ- > *lʰ- > MChi. 定 *d-*).

- 流 *ljuw* < *ru (13–46a) ‘flow (v.)’; 游 *yuw* < *lu < *[N-]ru (13–33f) ‘float, swim’
 旒 *ljuw* < *[r]u (13–46c) ‘pendants of a banner or cap’; 旒 *yuw* < *lu < *[N.]ru (13–33a) ‘pendants of a banner’
 儻 *lwojH* < *[r]ʰuj-s (28–15p) ‘exhausted’; 隳 *dwoj* < *lʰwəj < *N-rʰuj (28–13a) ‘exhausted’
 婪 *lom* < *[r]ʰ[ə]m (38–18i) ‘covet’; 淫 *yim* < *ləm < *N.r[ə]m (38–15b) ‘excess; licentious’

Baxter and Sagart find no reason to reconstruct *N- before voiceless resonants (2014: 122).

§135b. Before uvulars the prefix *N- induces a velar nasal initial (Baxter and Sagart 2014: 121).

嚇 *xaek* < *q^hrak (02–10b) ‘to frighten’; 愕 *ngak* < *N-q^hak (02–14h) ‘scared’

夏 *haeX* < *[g]ʳraʔ (01–15a) ‘great’; 雅 *ngaeX* < *N-gʳraʔ (01–34g) ‘proper, refined’

The hypotheses *N-q^h > ng- and *N-g > ng- also receive support from *xiéshēng* evidence (§123a).

§136. *Pre-initial *m-* Baxter and Sagart propose a number of morphological *m- prefixes in Old Chinese, including a volitional verb prefix, a ‘human body part prefix’, and an ‘animal prefix’ (2014: 54–6). The verbal prefix *m- was the first *m- prefix to emerge in their work, and it emerged as distinct from *N- only slowly in their system. Some of Baxter’s 1992 examples of *N- pair a noun with a voluntary verb, rather than a transitive verb with an intransitive one (Baxter 1992: 218–19). Such cases instil the suspicion that there is a morpheme other than the detransitivizing *N- at play.

朝 (16–17a) *trjew* ‘morning’, *drjew* ‘(morning ceremony:) audience, court, go to the court of’

背 (05–32e) *pwojH* ‘the back’, *bwojH* ‘turn the back’

Sagart (1999a: 79–86) proposes a prefix *m- with volitional meaning. He presents three examples with lateral initial verbs:

順 *zywinH* < *m-lun-s in 1999, now *Cə.lu[n]-s (34–20c) ‘follow; obey’ (cf. 循 *zwin* < *sə.lu[n] [34–21f] ‘follow’)

贖 *zyowk* < *m-l[u]k in 1999, now *Cə.lok (14–14t) ‘redeem’ (cf. 賣 *yuwk* < *luk [14–14a] ‘sell’)

射 *zyek* < *m-lak in 1999, now *Cə.lAk (02–26a) ‘hit with bow and arrow’ (cf. 釋 *syek* < *lAk [02–25l] ‘release; dissolve’)

Baxter and Sagart no longer reconstruct these three words with a *m- pre-initial; whether or not they would still regard the comparisons made (e.g. of 順 *zywinH* ‘follow; obey’ to 循 *zwin* ‘follow’) as reflecting genuine etymological relationships is unclear.⁶⁰

⁶⁰ It is worrying that the semantic affect of *m- has remained stable since 1999 although the words that originally motivated these semantics are no longer taken as examples of this prefix. This paradox suggests that ‘volition’ may be too broad a meaning, and allow for any number of potentially invalid etymological proposals.

Nonetheless, Baxter and Sagart have subsequently found quite a few potential examples of this *m- voluntary prefix. Although in Middle Chinese (and Sinitic loans in Hmong-Mien) *N- and *m- are indistinguishable, in proto-Min and Sinitic loans into Vietic the two prefixes can be distinguished (§§140 and 155).⁶¹

§136a. Baxter and Sagart propose an *m- prefix before voiceless stops on the basis of apparent etymological relationships between Middle Chinese words with voiced initials and those with voiceless initials (2014: 123).

- 包 *paew* < *p^sru (13–72a) ‘wrap, bundle’; 抱 *bawX* < *[m-p]^su?
(13–72j) ‘carry in the arms’ (volitional)
拄 *trjuX* < *tro?² (10–19e) ‘prop up, support (v.)’; 樹 *dzyuX* < *m-to?²
(10–22j) ‘plant (v.); place upright’ (volitional)
合 *kop* < *k^sop (37–01a) ‘together; put together; combined’; 合 *hop*
< *m-k^sop (37–01a) ‘come together; bring together’ (volitional)
誠 *keajH* < *k^srək-s (04–03c) ‘warn’; 忌 *giH* < *m-k(r)ək-s
(04–05s) ‘warn; avoid’ (volitional)
肚 *tuX* < *t^sa?² (01–36-) ‘belly, stomach’; 肚 *duX* < *m-t^sa?² (01–36-)
‘belly’
兜 *tuw* < *t^so (10–12a) ‘helmet, hood’; 頭 *duw* < *[m-t]^so (10–16e)
‘head (body part)’
髀 *pjieX* < *pe?² (07–29f) ‘femur, haunch’; 髀 *bejX* < *m-p^se?²
(07–29f) ‘femur’

§136b. They propose an *m- prefix before aspirated voiceless stops on the basis of apparent etymological relationships between Middle Chinese words with voiced initials and those with aspirated initials (Baxter and Sagart 2014: 128).

- 奉 *phjowngX* < *p^h(r)onj?² (12–25z) ‘hold with both hands; to present; receive’; 奉 *bjowngX* < *m-p^h(r)onj?² (12–25z) ‘present (v.) with both hands’
撤 *trhjet* < *t^hret (21–20b) ‘remove, take away’; 撤 *drjet* < *m-t^hret (21–20b) ‘remove, take away’
土 *thuX* < *t^hs²a?² (01–36a) ‘earth’; 社 *dzyaeX* < *m-t^hA?² (01–36j) ‘sacrifice to the spirit of the soil’
倉 *tshang* < *ts^hs²an² (03–48a) ‘granary’; 藏 *dzang* < *m-ts^hs²an² (03–49g²) ‘store (v.)’
脛 *kheang* < *k^hs²reŋ² (09–01q) ‘shank bone’; 脛 *hengH* < *m-k^hs²en²-s (09–01k) ‘leg, shank’

⁶¹ With regard to Chinese external evidence, Sagart and Baxter (2010) point to an *m-* prefix in Daai Chin, as described by Hartmann (2001). Although ‘volition’ does appear to cover well the examples that Hartmann presents, this is not her analysis of the prefix’s function. Also compare So-Hartmann (2009: 55–6).

§136c. The voicing effect of the prefix naturally is unrecognizable when it acts upon voiced roots. In these cases, it is alone the semantic difference between different functions of the same Middle Chinese reading (or readings that coincidentally differ only by tone) that leads to Baxter and Sagart postulating the *m- prefix (2014: 131).

- 平 *bjaeng* < *breŋ (09–26a) ‘even (adj.)’; 平 *bjaeng* < *m-breŋ (09–26a) ‘make even’
 下 *haeX* < *g^hraʔ (01–14a) ‘down’; 下 *haeH* < *m-g^hraʔ-s (01–14a) ‘descend’
 毒 *dowk* < *[d]^huk (14–05a) ‘poison (n.)’; 毒 *dawH⁶² < *m-[d]^huk-s (14–05a) ‘to poison (v.)’ (volitional)

§136d. In principle, Baxter and Sagart reconstruct *m.l- when a Middle Chinese word with initial 船 *zy-* has etymological connections with lateral initials (2014: 133), but they put forward only one somewhat problematic example:

- 塍 *zying* < *m.ləŋ (06–09n) ‘raised path between fields’; 勝 *syingH* < *l^həŋ-s (06–09p) ‘overcome; surpass’

The example is problematic because the *m- does not have an obvious function and because the difference between the voiced lateral in 塍 *zying* < *m.ləŋ (06–09n) ‘raised path between fields’ and the voiceless lateral in 勝 *syingH* < *l^həŋ-s (06–09p) ‘overcome; surpass’ is left unaccounted for.

§136e. The ‘animal prefix’ is ground enough for Baxter and Sagart to reconstruct *m- before uvulars in words for ‘frog’ and ‘bird’, where variant pronunciations show voicing alternation (2014: 55).

- 鼃 ‘wea, ‘wae < *q^wre ‘frog’; 鼃 *hwea, hwaē* < *m-q^wre ‘frog’
 鸞 *aewk* < *q^hruk (14–03h) (‘a kind of bird’); 鸞 *haewk* < *m-q^hruk (‘a kind of bird’)

§136f. Baxter and Sagart (2014: 55) also see the ‘animal prefix’ in words for ‘fawn’ and ‘deer’. In the case of ‘fawn’ *xiéshēng* evidence supports the reconstruction (cf. §123c), and for ‘deer’ the form of the word in Bùyāng dialect confirms the pre-initial.

- 麋 *mej* < *m-ŋ^he (07–11o) ‘fawn’
 鹿 *luwk* < *mə-r^hok ‘deer’ (cf. Bùyāng 布央 /ma 0 lok 8/ ‘deer’)

§137. *Pre-initial *k-* Baxter and Sagart propose a pre-initial *k- in three words on the basis of the etymological speculation that they are nouns

⁶² The Middle Chinese reading is unattested (Baxter and Sagart 2014: 132, 389 note 55).

that derive from verbs (2014: 152). The third pair they propose only tentatively, presumably because the derived word is not a noun.

明 *mjaeng* < *mraŋ (03–68a) ‘bright’; 窗 *kjwaengX* < *k^wraŋ? < *kmraŋ? (dial.) < *k-mraŋ? (03–25a) ‘bright window’
 荒 *xwang* < *m^saŋ (03–65e’) ‘wasteland; uncultivated land’; 曠 *khwangH* < *k^{whs}aŋ-s < *[k-m]^saŋ-s (03–23o) ‘desolate, waste’
 儻 *xwik* < *m^r(r)ik (05–07b) ‘still, quiet’; 闕 *khwek* < *k^{whs}ek < *[k-m]^sek < *[k-m]^sik (08–06d) ‘quiet’

3.3.3 Reconstructing Tight Pre-initials Using Proto-Mĭn

§138. Proto-Mĭn develops or fails to develop in a number of ways that merit mention as background to Baxter and Sagart’s use of Mĭn evidence, but lack direct bearing on how they employ proto-Mĭn in the reconstruction of Old Chinese (§139). In their general presentation of proto-Mĭn’s contribution to Old Chinese reconstruction, Baxter and Sagart primarily rely on Jerry Norman’s distinction between plain voiced and aspirated voiced stops; they report that simplex voiced initials from Old Chinese are retained as such in proto-Mĭn, whereas tightly attached pre-initials before voiced stops (including stops secondarily voiced by *m-) lead to proto-Mĭn voiced aspirates (2014: 47–8), i.e. *C.b- > *bh-, *m.p- > *bh- (cf. §140). This schematic presentation does not cover the development of *N-, which they discuss only in a single word (§141), or *s-, which is particularly complex (cf. §§142–7).

§139. *General Picture of Mĭn Developments.* Baxter and Sagart put great weight on proto-Mĭn evidence for certain purposes, but in other situations they ignore distinctions in Mĭn that other sources of evidence fail to draw. Baxter and Sagart do not explain their reasoning for their fickle reliance on proto-Mĭn and those areas that they attend to least are likely to prove most profitable for future research. Before presenting their use of Mĭn evidence for the reconstruction of tight pre-initials in Old Chinese, it is helpful to draw attention both to where Mĭn fails to maintain Old Chinese distinctions (§139a) and to where it makes distinctions that Baxter and Sagart fail to project onto the Old Chinese proto-language (§139c–d).

§139a. Proto-Mĭn merges Old Chinese *p- and *C.p-, so Mĭn evidence is unable to distinguish these two Old Chinese onsets (2014: 168). The following selection of evidence exemplifies this merger. Note that Vietnamese

spirantization is the major reason to reconstruct *C. in the relevant examples (cf. §155).

真 *tsyin* < *ti[n] (32–16a) ‘true, real’, pMǐn *tš-
 正 *tsyeng* < *C.teŋ (09–11j) ‘first (month)’, pMǐn *tš-
 得 *tok* < *tʰək (05–11d) ‘obtain’, pMǐn *t-
 謫 *treak* < *C.tʰrek (07–12r) ‘blame (v.)’, pMǐn *t-
 節 *tset* < *tsʰik (29–30e) ‘joint of bamboo’, pMǐn *ts-
 井 *tsjengX* < *C.tseŋʔ (09–22a) ‘well (n.)’, pMǐn *ts-
 芥 *keajH* < *kʰr[e][t]-s (20–02j) ‘mustard plant’, pMǐn *k-
 筋 *kjin* < *C.[k]ə[n] (33–03a) ‘sinew’, pMǐn *k-

§139b. Old Chinese aspirates are retained as such in proto-Mǐn, as the following examples show:

蜂 *phjowng* < *pʰ(r)oŋ (12–25s) ‘bee’, pMǐn *ph-
 炭 *thanH* < *[tʰ]ʰa[n]-s (24–24a) ‘charcoal, coal’, pMǐn *th-
 春 *tsyhwin* < *tʰun (34–19a) ‘springtime’, pMǐn *tšh-
 秋 *tshjuw* < *tsʰiw (13–57a) ‘autumn; crop’, pMǐn *tsh-
 苦 *khux* < *kʰsʰaʔ (01–01u) ‘bitter’, pMǐn *kh-

§139c. Baxter and Sagart say very little about the development of *C.pʰ- in proto-Mǐn; the one change that they explicitly name is *C.qʰ- > *kh- (2014: 170). This proposal they exemplify with one word.

气 *khjiH* < *C.qʰəp-s ‘(inhaled thing:) breath, air, vapours’, pMǐn *kh-

The usefulness of proto-Mǐn *kh- as evidence of an erstwhile tight pre-initial is, however, undermined by the fact that *qʰ- itself corresponds to both *x- and *kh- in proto-Mǐn.

化 *xwaeH* < *qʰsʰraj-s (19–08a) ‘transform’, pMǐn *x-
 華 *xwae* < *qʰsʰra (01–27a) ‘flower (n.)’, pMǐn *x-
 吸 *xip* < *qʰ(r)əp ‘inhale’, pMǐn *kh-

The apparent unconditioned split of Old Chinese *qʰ- to *x- and *kh- in proto-Mǐn shows that Baxter and Sagart’s system is not predictive.

§139d. The development of Old Chinese *sr- to both *š and *s in proto-Mǐn is another instance of predictive failure in Baxter and Sagart’s system.

蝨 *srit* < *srik (29–35a) ‘louse’, pMǐn *š-
 沙 *srae* < *sʰraj (18–15a) ‘sand’, pMǐn *s-

§140. *Tight Pre-initial *m- and *C-* According to Baxter and Sagart (2014: 127, 132, 170), proto-Mǐn distinguishes *bh- (from OChi. *m.p-,

*m.b-, and *C.b-), *b- (from OChi. *b-), and *p- (from OChi. *p- and *C.p-; cf. §138). One may regard this state of affairs as the outcome of two changes: first, the voiced pre-initial *m- of *m.p- causes the following *p- to assimilate to *b-, and then a change *C.b- > *bh- takes place, in which *m- is included under ‘C’ (Baxter and Sagart 2014: 124). Due to the earlier of these two changes, after a presumed *m- proto-Min does not distinguish the manner of the following segment; Baxter and Sagart rely on presumed etymological connections to separately reconstruct voiceless (cf. §136a) and voiced onsets (cf. §136c). The following evidence illustrates the merger of *m.p-, *m.b-, and *C.b- in proto-Min as *bh-; the merger of *C.p- and *p- is treated at §139a.⁶³

- 抱 *bawX* < *[m-p]ʰu? (13–72j) ‘carry in the arms’, pMin *bh-
 平 *bjaeng* < *m.breŋ (09–26a) ‘make even’, pMin *bh-
 (Amoy /p^hi 2/ ‘to make level’)
 縫 *bjowngH* < *C.[b](r)oŋ-s (12–25x) ‘seam’, pMin *bh-
 樹 *dzyuH* < *m.toʔ-s (10–22j) ‘tree’, pMin *džh-
 市 *dzyiX* < *C.[d]əʔ ‘market (n.)’, pMin *džh-
 蠶 *dzom* < *C.[dz]ʰ[ə]m ‘silkworm’, pMin *dzh-
 柱 *drjuX* < *m.troʔ (10–19h) ‘pillar’, pMin *dh-
 頭 *duw* < *[m-t]ʰo (10–16e) ‘head’, pMin *dh-
 毒 **dawH* (cf. §136c n. 62) < *m.[d]ʰuk-s (14–05a) ‘to poison (v.)’,
 pMin *dh- (Amoy /t^hau 6/, Foochow /t^hau 5/ ‘to poison’)
 團 *dwan* < *C.[d]ʰon (25–25n) ‘round, plenty’, pMin *dh-
 忌 *giH* < *m.k(r)ək-s (04–05s) ‘warn; avoid’, pMin *gh- (Amoy /k^hi
 6/, Chaochow /k^hi 6/)
 騎 *gje* < *C.g(r)aj (18–01u) ‘straddle; ride’, pMin *gh-
 芹 *gjin* < *C.[g]ər (33–02f) ‘cress’, pMin *gh- (Amoy /k^hun 2/)

§140a. A minor complication to the general change *C.b- > *bh- is that Old Chinese *m.q-, *m.k^s-, *m.g^s-, *C.g-, and *C.g^s become proto-Min *ɣ- rather than *gh- (Baxter and Sagart 2014: 125). One would also expect *m.g- to undergo this special development, but Baxter and Sagart appear not to give such examples.

- 與 *yoX* < *m.q(r)aʔ (01–45b) ‘give; for; and’, pMin *ɣ-
 (Amoy /hɔ 6/ ‘give’)
 蟹 *heaX* < *m.k^sreʔ (07–07d) ‘crab’, pMin *ɣ-
 合 *hop* < *m.k^sop (37–01a) ‘come together; bring together’,
 pMin *ɣ-
 下 *haeH* < *m.g^sraʔ-s (01–14a) ‘descend’, pMin *ɣ- (Amoy /he 6/
 ‘to lower’)

⁶³ The change *m.p- > *b- allows one to distinguish *N- and *m- because Min did not change *N.p to *b (cf. Baxter and Sagart 2014: 123).

園 *hjwon* < *C.g^wa[n] (25–15b) ‘garden’, pMǐn *γ-
 畫 *hwēaH* < *C-g^wrek-s (08–09a) ‘drawing (n.)’, pMǐn *γ-
 橫 *hwaeng* < *C.g^wraŋ (03–23m) ‘crosswise; horizontal’,
 pMǐn *γ-
 巷 *haewngH* < *C.[g]ʳroŋ-s ‘lane, street’, pMǐn *γ-

§140b. In one word Baxter and Sagart reconstruct *m.l- as an origin of Middle Chinese 船 *zy-* corresponding to pMǐn *džh-; they propose a development *m.l > *md- > *džh- (2014: 133).

秫 *zywit* < *m.lut (31–17c) ‘glutinous millet’, pMǐn *džh-

Confusingly, a footnote to this explanation (2014: 133, 389 note 56) contradicts the proposal *m.l- > 船 *zy-*, instead proposing to reconstruct 秫 *zywit* < *mǝ.lut (31–17c) ‘glutinous millet’ with a ‘loose pre-initial’.

§141. *Pre-initial *N-* Baxter and Sagart (2014: 122) claim that proto-Mǐn has *z- as a reflex of *N.r- in contrast to zero initial, the usual proto-Mǐn reflex of *l-. However, they do not cite any proto-Mǐn evidence except to mention that proto-Mǐn has *z- in the cognate of Old Chinese 游 *yuw* < *lu < *[N.]ru (13–33f) ‘float, swim’.

§142. *Tight Pre-initial *s-* Baxter and Sagart employ a pre-initial *s- to resolve a number of otherwise vexing correspondences between Middle Chinese and proto-Mǐn. The correspondences which they reconstruct with pre-initial *s- do not display an overall pattern or commonality. The changes for which Mǐn offers evidence for a pre-initial *s- include *s.ts^hs- > 心 *s-* (cf. §143), *s.t-, *s.t^h- > 書 *sy-* (cf. §144), *s.d- > 邪 *z-* (cf. §145), and *s.k^ʰ- > 見 *k-* (cf. §146).

§143. *Tight Pre-initial *s- as an Origin of Middle Chinese 心 s-* Baxter and Sagart propose a change *s.ts^hs- > 心 *s-* on the basis of proto-Mǐn *tsh- corresponding to Middle Chinese 心 *s-* (2014: 139); they offer one example:

星 *seng* < *s-ts^hej (09–25x) ‘star’, pMǐn *tsh- (Amoy /ts^hi 1/)

§144. *Tight Pre-initial *s- as an Origin of Middle Chinese 書 sy-* Baxter and Sagart propose *s.t- and *s.t^h- in type B syllables as origins of Middle Chinese 書 *sy-*.

§144a. They propose *s.t- > 書 *sy-* on the basis of proto-Mǐn *tš- corresponding to Middle Chinese 書 *sy-* (2014: 93, 135).

- 水 *sywijX* < *s.turʔ (28–14a) ‘water’, pMǐn *tʃ- (Foochow /tsy 3/, Amoy /tsui 3/)
 升 *syiŋ* < *s.təŋ (06–16a) ‘litre’, pMǐn *tʃ- (Foochow /tsiŋ 1/, Amoy /tsin 1/)
 書 *syo* < *s.ta (01–38t) ‘writing’, pMǐn *tʃ- (Foochow /tsy 1/, Amoy /tsu 1/)
 室 *syit* < *s.ti[t] (29–15j) ‘chamber’, pMǐn *tʃ- (Foochow /seiʔ 7/,⁶⁴ Amoy /tsit 7/)

Baxter and Sagart remark that *s.t- evolved to 書 *sy-*:

presumably through an intermediate stage [stɛ] that simplified to the Middle Chinese palatal fricative *sy-* under the influence of preinitial *s: *s.t- > *stɛ- > *ɛ- = *sy-*. Old Chinese *s.t- thus merges in Middle Chinese with MC *sy-* from other sources, such as *ŋ- and *l-. But this merger does not occur in Proto-Mǐn: instead, OC *s.t- becomes Proto-Mǐn *tʃ-, merging with original OC *t-, while OC *ŋ- and *l- become Proto-Mǐn *tʃh-. (2014: 135)

Although Baxter and Sagart do not explicitly say so, one can presume the change *s.t- > *stɛ- happened before the separation of Mǐn from the other Chinese dialects; thereafter Mǐn further underwent a change of *stɛ- to *tɛ- with a simple loss of pre-initial *s-. One must, however, note that the proposed change *stɛ- > *ɛ-, even if it did occur in the history of Middle Chinese, is not an innovation shared by all non-Mǐn dialects. For example, both 深 *syimH* < *[[j][ə]m-s (38–26c) ‘deep’ and 書 *syo* < *s.ta (01–38t) ‘book’ have affricate initials in Méixiàn Hakka, where their pronunciations are respectively /ts^həm 1/ and /ts^hu 1b/.⁶⁵

§144b. In a closely parallel change, Baxter and Sagart propose *s.t^h- > 書 *sy-* on the basis of a proto-Mǐn *tʃh- corresponding to Middle Chinese 書 *sy-* (2014: 138). In support of this change in terms of *xiéshēng* evidence also see the discussion at §110b.

- 奢 *syae* < *s.t^h- (01–38e) ‘extravagant’, pMǐn *tʃh- (Amoy /tʃhia 1/ ‘lavish’)
 暑 *syoX* < *s.t^h- (01–38x) ‘heat’, pMǐn *tʃh- (Zhāngpíng /tʃhi 3/)

This change cannot be considered an innovation shared by all non-Mǐn dialects, because of such pronunciations as Lìzhīzhuāng Hakka /tʃ^hiu 5/ and Méixiàn Hakka /ts^hu 5/ for 獸 (13–41a) *syuwH* < *s.t^hu(?)s ‘animal, wild beast’.

⁶⁴ Baxter and Sagart put the Foochow form in brackets without explaining the meaning of this notation (2014: 93).

⁶⁵ I thank W. S. Coblin for drawing my attention to the Hakka forms in this and the next paragraph (*per litteras* 26 July 2017).

§144c. Baxter and Sagart give no examples of the Mǐn outcomes of *s.tʰ- or *s.thʰ- in type A syllables.

§145. *Tight Pre-initial *s- as an Origin of Middle Chinese* 邪 z-. Baxter and Sagart reconstruct *s.d- > 邪 z- when the proto-Mǐn cognate has *dzh- (2014: 141–2); the two examples they give are both type B syllables:

象 *zjangX* < *s.[d]- (03–41a) ‘elephant’, pMǐn *dzh- (Amoy /tsʰiü 6/
席 *zjek* < *s.d- (02–29a) ‘mat’,⁶⁶ pMǐn *dzh- (cf. Baxter and Sagart
2014: 389 note 63)

§146. *Tight Pre-initial *s- as an Origin of Middle Chinese* 見 k- Baxter and Sagart propose a change *s.kʰ- > 見 k- on the basis of Northern Mǐn and some Central Mǐn dialects showing /x-/ or /h-/ corresponding to Middle Chinese 見 k- (2014: 136).

嫁 *kaeH* < *s.kʰra-s (01–11e) ‘marry’, Kienow /xa 5/, Hoping /ha 5/
教 *kaew* < *s.[k]ʰraw (16–07i) ‘teach’, Kienyang, Lianduentsuen,
Kienow /xau1/
肝 *kan* < *s.kʰa[r] (24–011) ‘liver’, Kienyang, Lianduentsuen, Kie-
now /xueŋ 1/, Hoping /hon 1/, Yungan /hum 1/

Norman (1973: 229) draws attention to this evidence, but nonetheless reconstructs the relevant words with proto-Mǐn *k-, as if these dialects all had initial k-. Baxter and Sagart implicitly reject Norman’s tack with the remarks that the ‘development *s.k- to [x] or [h] is consistent with the general tendency of pre-initial *s to fricativize a following stop or affricate’ (2014: 136).

§147. *Tight Pre-initial *s- Clusters without Mǐn Cognates*. Baxter and Sagart give no examples of Mǐn reflexes deriving from Old Chinese pre-initial *s- before labials (*sb-, *sp-, *spʰ-) or uvulars (*sg-, *sq-, *sqʰ-).

3.3.4 Reconstructing Tight Pre-initials Using Loans into Vietic

§148. In support of their reconstructions of Old Chinese pre-initials, Baxter and Sagart cite evidence from various Vietic languages including Brô, Sách, Pong, Maleng Kha Pong, Rục, and, of course, Vietnamese. Vietic languages

⁶⁶ In fact, Baxter and Sagart further reconstruct the initial to *s-m-t- on the basis of etymological speculation (2014: 142).

other than Vietnamese they cite only sporadically and only in order to support the reconstruction of Old Chinese pre-initials. Thus, it is not clear from their presentation how these languages treat Old Chinese simplex initials.⁶⁷

Many features of loans into Vietic are not predictable on the basis of the Old Chinese source word in Baxter and Sagart's reconstruction; for example, Rục has at least *-ə-*, *-â-*, *-a-*, and *-u-* available as the vowel of the minor syllable (*kəcáy* 'paper', *kàraŋ* 'bright sunshine',⁶⁸ *kadɔ:k* 'nape of the neck', *kumúa* 'dance'), but these different vowels are not predictable on the basis of the Old Chinese forms (紙 *tsyeX* < *k.teʔ 'paper', 朗 *langX* < *k.rʔaŋʔ 'bright', 脰 *duwH* < *kə.dʰok-s 'neck', 舞 *mjuX* < *k.m(r)a ʔ 'dance').⁶⁹

§149. *Pre-initials in Brô*. Baxter and Sagart make reference to Brô only once; they appear to take pre-initial *k-* in Brô as evidence for a pre-initial **k-* in Old Chinese.

牀 *dzrjang* < *k.dzraŋ (03–49r) 'bed', Maleng Brô *kaciəŋ*

§150. *Pre-initials in Sáčh*. Baxter and Sagart make reference to Sáčh only twice; they appear to take a pre-initial *k-* in Sáčh as evidence for a pre-initial **k-* in Old Chinese.

鐙 *tong* < *k.tʰəŋ (06–09i) 'lamp', Sáčh *kəten*

牀 *dzrjang* < *k.dzraŋ (03–49r) 'bed', Sáčh *kəciŋ* 2

§151. *Pre-initials in Pong*. Baxter and Sagart make reference to Pong on two occasions. They take pre-initial *k-* in Pong as evidence for an Old Chinese pre-initial **k-* (2014: 160, 163).

椎 *drwij* < *k.druij (28–11r) 'hammer', Pong *ktu:j* 'mallet'

肉 *nyuwk* < *k.nuk (14–17a) 'meat, flesh', Pong *kjuk* 7

The proto-Mĭn initials **dh-* and **nh-* respectively for 'hammer' and 'meat, flesh' also suggest the reconstruction of a pre-initial in these words according to Baxter and Sagart's system.

⁶⁷ At least on the basis of the evidence they present, it is perfectly possible that Rục, for example, has pre-initials in all of its Chinese loanwords and that these pre-initials are better explained as morphological innovations than as retentions from the donor language.

⁶⁸ Baxter and Sagart (2014: 163) cite *pləj kàraŋ* 'sunny weather'; Nguyễn, Trần, and Ferlus (1988: 89) give *pləj kàraŋ* 'temps ensoleillé', in which *pləj* is 'ciel'.

⁶⁹ One may speculate that there is 'no vowel contrast in the presyllable' (Michaud 2012: 116) and that the variety of vowels reported in Rục minor syllables is not phonemically contrastive, but this speculation requires proof.

§152. *Pre-initials in Maleng Kha Pong* Baxter and Sagart make reference to Maleng Kha Pong on two occasions. They appear to take pre-initial *k-* in this language as evidence for an Old Chinese pre-initial **k-*, but not to take pre-initial *t-* as evidence of an Old Chinese **t-* per se, but rather as evidence of an unspecified **C-* pre-initial.

梛 *kaep* < **C.k*'rep (35–03f) 'chopsticks', Maleng Kha Pong *təkap* 7
'spits for grilling'
牀 *dzrjang* < **k.dzraŋ* (03–49r) 'bed', Maleng Kha Pong *kəci:ŋ* 2

§153. *Pre-initials in Rục*. Baxter and Sagart cite Rục more frequently than any other Vietic language except Vietnamese. They rely on Nguyễn, Trần, and Ferlus (1988) for their Rục data.

§153a. They take a pre-syllable *k-* in Rục to suggest this same pre-syllable in Chinese (2014: 47–8, 153 *et passim*):

紙 *tsyex* < **k.te?* (07–06-) 'paper', Rục *kəcáy*
種 *tsyowngX* < **k.təŋ?* (12–08d) 'seed', Rục *kco:ŋ* 3
力 *lik* < **k.rək* (05–21a) 'strength', Rục *k'rik* 7
朗 *langX* < **k.r'aŋ?* (03–43h) 'bright', Rục *kàraŋ* 'bright sunshine'
(cf. §148 n. 68)
賊 *dzok* < **k.dz'ək* (05–23a) 'bandit', Rục *kəcák*
牀 *dzrjang* < **k.dzraŋ* (03–49r) 'bed', Rục *kəci:ŋ*
舞 *mjuX* < **k.m(r)a?* (01–69g) 'dance', Rục *kumúa*

§153b. They take a pre-syllable *t-* in Rục to suggest a pre-syllable **s-* in Chinese (2014: 136 *et passim*). In defense of this tack they point out that Rục lacks pre-initial *s-* (2014: 137). This lack could as easily be explained by the absence of pre-initial **s-* in the Chinese donor; the possibility merits exploration that some examples of pre-initial **s-* in Baxter and Sagart's system should instead be reconstructed **t-*.

肝 *kan* < **s.k'a[r]* (24–011) 'liver', Rục *təka:n*
劍 *kjaemH* < **s.kr[a]m-s* (36–06i) 'sword', Rục *təkiəm*
近 *gjinH* < **s-gər?-s* < **s-N-kər?-s* (33–02g) 'be near to (v.t.)', Rục
tŋkeŋ (Baxter and Sagart 2014: 119, 142)

§153c. In one case Baxter and Sagart also refer to Rục evidence in favour of reconstructing **m-* in Old Chinese (2014: 133):

蠅 *ying* < **m-rəŋ* 'fly (n.)', Rục *məlaŋ* 'big fly'

§154. *Vietnamese Treatment of Old Chinese Simplex Initials*
In early Chinese loans Baxter and Sagart take Vietnamese spirantization as

evidence of an original Chinese pre-initial, either loose or tight (2014: 47). In order to evaluate the evidence of Vietnamese in such cases, the behaviour of Old Chinese simplex initials in loans into Vietnamese is a necessary point of comparison. In general, Old Chinese simplex initials were borrowed unchanged into proto-Vietic, but a number of Vietnamese internal developments obscure this picture.

§154a. Vietnamese does not segmentally distinguish inherited voicing, but the tonal reflexes still indicate inherited voicing. Vietnamese has eight tones (A1, B1, C1, D1, A2, B2, C2, D2). Tones marked with ‘1’ are tones that continue voicelessness whereas tones marked with ‘2’ continue voicing. In order to postpone the discussion of other complications, the maintenance of the inherited voicing contrast as a tonal distinction is here exemplified with velar-initial words, a context in which the development is clear.

- 金 *kim* < *k(r)[ə]m (38–03a) ‘metal, bronze’, VN *kim* [kim A1] < pViet *k- ‘metal, needle’
 貴 *kjijH* < *kuj-s (31–02b) ‘precious; expensive’, VN *cúi* [kui C1] < pViet *k- ‘high price’
 芥 *keajH* < *kʰr[e][t]-s (20–02j) ‘mustard plant’, VN *cải* [kai C1] < pViet *k- ‘cabbage’
 舅 *gjuwX* < *[g](r)uʔ (04–16b) ‘mother’s brother’, VN *cậu* [kɬu B2] < pViet *g-
 橋 *gjew* < *[g](r)aw (16–03g) ‘bridge’, VN *cầu* [kɬu A2] < pViet *g-

§154b. Old Chinese aspirates are retained as such in Middle Vietnamese.⁷⁰

- 騙 *phjienH* < *pʰen(?)s (23–27-) ‘to fool, to cheat’, VN *phỉnh* < pViet *pʰ- ‘coax’
 尺 *tsyhek* < *tʰAk ‘foot (02–20a) (measure)’, VN *thước* < pViet *tʰ- ‘meter’

§154c. The straightforward maintenance of simplex voiceless initials in proto-Vietic is complicated by the change of simplex voiceless *p- and *t- to implosives in Vietnamese, i.e. *p-, *t- > b- [β], ɗ- [ɗ] (Baxter and Sagart 2014: 100).

- 斧 *pjuX* < *p(r)aʔ (01–67h) ‘axe’, VN *búa* [βuɬ B1] < pViet *p-
 邊 *pen* < *pʰe[n] (23–26c) ‘side’, VN *bên* [βen A1] < pViet *p-
 ‘side, party, team, area, place’
 氏 *tejX* < *tʰijʔ (26–14a) ‘bottom’, VN *đáy* [ɗai B1] < pViet *t-

⁷⁰ Spoken Vietnamese has undergone the recent change *pʰ- > /f-/ (cf. Gregerson 1969: 148–50, Gage 1985: 509).

- 點 *temX* < *t'emʔ (36–12n) ‘black spot’, VN *đóm* [dôm B1] < pViet *t- ‘spot’
 縛 *bjak* < *bak (01–67m) ‘bind (v.)’, VN *buộc* [bua̯k D2] < pViet *b-
 平 *bjaeng* < *brenj (09–26a) ‘even (adj.)’, VN *bằng* [baj A2] < pViet *b-
 白 *baek* < *bʰrak (02–38a) ‘white’, VN *bạc* [bak D2] < pViet *b- ‘silver’
 住 *drjuH* < *droʔ-s (10–19g) ‘stop (v.)’, VN *đỡ* [dɔ̯ C2] < pViet *d-

§154d. In at least one example, Vietnamese has a palatal reflecting an Old Chinese simplex dental. Baxter and Sagart do not discuss this correspondence explicitly; on the basis of this one example it seems possible either that Vietnamese palatalized the dental or that it palatalized in the history of Chinese before the borrowing entered Vietnamese. An analogous change also occurred with Chinese dentals preceded by a pre-initial (cf. §155b).

- 隻 *tsyek* < *tek (08–11c) ‘single’, VN *chiếc* [ciak D1] ‘classifier for vehicles’

§154e. Another complicating Vietnamese change is *ts^(h)- > t^(h)-.

- 節 *tset* < *tsʰik (29–30e) ‘joint of bamboo’, VN *tết* [tet D1] < pViet *ts- ‘New Year festival’
 箭 *tsjenH* < *[ts]en-s (23–20h) ‘arrow’, VN *tên* [ten A1] < pViet *ts-
 草 *tshawX* < *tshʰʷuʔ (13–51b) ‘rough, coarse’, VN *thầu* [tʰau B1] < pViet *tsʰ- ‘scrawling’

Baxter and Sagart appear not to give an example of Old Chinese simplex *dz- borrowed into Vietnamese.

§154f. In Old Chinese loans into Vietnamese resonants are preserved as such. As expected, the tonal correspondences indicate an erstwhile voiced initial.

- 磨 *ma* < *mʰaj (18–18f) ‘rub, grind’, VN *mài* [mai A2] ‘to file, sharpen, whet’
 難 *nan* < *nʰar (24–35d) ‘difficult’, VN *nàn* [nan A2] ‘difficulty’
 逆 *ngjaek* < *ŋrak (02–14c) ‘go against’, VN *ngược* [ŋwa̯k D2]
 蛻 *ywet* < *lot ‘exuviae of insects or reptiles’, VN *lột* [lot D2] ‘to skin; to throw off’

§154g. In a summary table Baxter and Sagart report the Vietnamese reflexes of Old Chinese *l̥-, *l̥- and *l̥- as respectively l- [l] H, th- [tʰ] H, and th- [tʰ] H, where ‘H’ indicates any one of the four Vietnamese high tones (2014:

116, Table 4.31). Unfortunately, I am unable to locate examples of the second and third correspondence in their book. They provide one example of the first correspondence:

蛻 *thwajH* < *ʃot-s ‘exuviae of insects or reptiles’, VN *lót* [lot D1] ‘exuviae’

The same character also has an Old Chinese voiced resonant type B reading, which shows the expected Vietnamese correspondence.

蛻 *ywet* < *lot ‘exuviae of insects or reptiles’, VN *lôt* [lot D2] ‘to skin; to throw off’

That Old Chinese has two different very similar words *ʃot-s and *lot, with the same meaning ‘exuviae’, which are not related via any obvious morphological process is a problem in itself.

§154h. As in inherited Mon–Khmer vocabulary (Gage 1985: 505), *r- is one source of Vietnamese *r-* in Chinese loans.

離 *ljeh* < *raj-s (18–11f) ‘reject’, VN *rây* ‘repudiate (one’s wife)’

簾 *ljem* < *rem (36–07-) ‘bamboo curtain’, VN *rêm* ‘door curtain, bamboo curtain’

梁 *ljang* < *raŋ (03–46a) ‘beam; bridge’, VN *ruồng* ‘beam, girder’

§155. *Vietnamese Spirantization as a Reflection of Pre-initials*

With the treatment of Old Chinese simplex onsets in Vietnamese as background it is now possible to turn to Baxter and Sagart’s use of Vietnamese spirantization as evidence of Old Chinese pre-syllables. Vietnamese does not permit the particular pre-initial to be specified.⁷¹ I repeat Rục comparanda where available; these forms show that Vietnamese spirantization indeed corresponds with Rục pre-initials. It is also necessary to give Mǐn cognates which do not have softened initials in order to preclude the possibility that the pre-initial was loose (§§139a and 161).

§155a. In general, the Vietnamese fricative is homorganic with the Old Chinese segment from which it derives.

箴 *tsyim* < *t.[k]əm (38–04n) ‘needle’, VN *găm* [ɣ-], pMǐn *tš-

嫁 *kaeH* < *s.kʰra-s (01–11e) ‘marry’, VN *gả* [ɣ-] ‘to give (one’s daughter) in marriage’⁷²

肝 *kan* < *s.kʰa[r] (24–011) ‘liver’, Rục *təka:n*, VN *gan* [ɣ-]

⁷¹ Baxter and Sagart do not think that *N- induces spirantization in Vietnamese (2014: 123).

⁷² For the Mǐn cognates of this word and the next see §146.

- 劍 *kjaemH* < *s.kr[a]m-s (36–06i) ‘sword’, Rục *təkiam*, VN *gúóm* [ɣ-]⁷³
- 近 *gjinH* < *s.gərʔ-s < *s.N.kərʔ-s (33–02g) ‘be near to (v.t.)’, Rục *tykeɲ*, VN *gân* [ɣ-], pMín *g- (Baxter and Sagart 2014: 119, 142)
- 合 *hop* < *m.kʰop (37–01a) ‘come together; bring together’ (volitional), VN *góp* [ɣ-] ‘to contribute; to pay jointly with others’, pMín *ɣ-
- 競 *gjaengH* < *m.kraŋʔ-s ‘strive; compete’, VN *ganh* [ɣ-] ‘emulate’⁷⁴
- 筋 *kjin* < *C.[k]ə[n] (33–03a) ‘sinew’, VN *gân* [ɣ-] ‘nerve; tendon; sinew; vein’, pMín *k-
- 鏡 *kjaengH* < *C.qraŋʔ-s ‘mirror’, VN *guong* [ɣ-], pMín *k-
- 刀 *taw* < *C.tʰaw (16–15a) ‘knife’, VN *dao* [zau A1], pMín *t-
- 謫 *treak* < *C.tʰrek (07–12r) ‘blame (v.)’, VN *dúc* [zúk D1] ‘reprove’, pMín *t-
- 本 *pwonX* < *C.pʰə[n]ʔ (33–27a) ‘tree trunk’, VN *vón* [v-] ‘capital, principal; origin’, pMín *p-
- 壁 *pek* < *C.pʰek (08–19l) ‘house wall’, VN *vách* [v-] ‘partition, wall’, pMín *p-
- 板 *paenX* < *C.pʰranʔ (24–49j) ‘plank, board’, VN *ván* [v-] ‘plank’, pMín *p-

Baxter and Sagart also derive VN *da* [za B2] ‘stomach, abdomen’ from 肚 *duX* < *m.tʰaʔ ‘belly’, but in this case the Vietnamese tone points to a voiced initial in Old Chinese. Baxter and Sagart explain that the loan was made after pre-initial *m- voiced the following consonant, whereas the borrowing of 競 *gjaengH* < *m.kraŋʔ-s ‘strive; compete’ as Vietnamese *ganh* [ɣ-] ‘emulate’ occurred prior to this voicing in Chinese (2014: 126–7).

§155b. In Middle Vietnamese <gi> represents [dʒ-] (Gregerson 1969: 101) and it is clear from Mon–Khmer comparative evidence that in many cases it originates from a palatal (Gage 1985: 504). Old Chinese dentals with pre-initials in type B syllables become <gi> in Vietnamese.⁷⁵

- 紙 *tsyex* < *k.teʔ (07–06-) ‘paper’, Rục *kəcáy*, VN *giáy*
- 正 *tsyeng* < *C.teŋ (09–11j) ‘first (month)’, VN *gièng*

§155c. The aforementioned change of dental affricates to dental stops (cf. §154e) interacts with this palatalization. A series of changes *C.dz- > *C.d- > *C.j- > *j- > [z-] requires that the palatalization of type B dentals occurred in

⁷³ Baxter and Sagart do not offer a Mín cognate for this word. It is unclear why they take it as an instance of a tight pre-initial.

⁷⁴ As Baxter and Sagart do not cite a Mín cognate for this word it is unclear how they have determined that it has a tight rather than a loose pre-initial.

⁷⁵ An analogous change also occurred in Old Chinese simplex dentals (cf. §154d).

Vietnamese independently of Chinese. If so, the distinction of type A and type B syllables was maintained in Vietnamese after the loaning of these words.

賊 *dzok* < *k.dzʰək (05–23a) ‘bandit’, Rục *kəcák*, VN *giặc*
井 *tsjengX* < *C.tseŋʔ (09–22a) ‘well (n.)’, VN *giếng*

§155d. As in inherited Mon–Khmer vocabulary (Gage 1985: 505), Vietnamese *r-* has *C-s as one of its origins in Old Chinese loans.

譟 *sawH* < *C.sʰaw-s ‘shout’, VN *rao*
燥 *sawX* < *C.sʰawʔ ‘dry’, VN *ráo*
箱 *sjang* < *C.[s]aŋ ‘box (of a carriage)’, VN *ruong* ‘box, trunk’

§155e. Baxter and Sagart do not discuss the Vietnamese treatment of uvulars, but do give one relevant example (2014: 158):

車 *tsyhae* < *[t.qʰ](r)A (01–10a) ‘chariot’, VN *xa*

§155f. Regarding tight prefixes before resonants, Baxter and Sagart remark that the reader should ‘note high-register tone’ (2014: 164) in the following example:

舞 *mjuX* < *k.m(r)aʔ (01–69g) ‘dance’, Rục *kumúa*, VN *múa* ‘to dance [ritually, with fan or sword or veil]; to brandish, twirl, whirl’

It would thus seem that they think a Vietnamese high-register tone in a resonant initial word is evidence of an erstwhile Chinese pre-initial. However, they reconstruct 近 *gjinH* < *s.gərʔ-s < *s.N.kərʔ-s (33–02g) ‘be near to (v.t.)’ with a pre-initial although the Vietnamese reflex *gân* has a low-register tone. Thus, their perspective on the effect of Chinese pre-initials on Vietnamese tone is unclear.

§155g. Baxter and Sagart also propose that a voiced initial with a high-register tone in Vietnamese (indicating an erstwhile voiceless initial) is evidence for *N- (2014: 117). Unfortunately, they cite only one example (摩 *bjieX* < *N-peʔ [0874m] ‘low, short’, Vietnamese *bé* ‘small, little, tiny’) and do not offer an explanation for how the *N- in this word is morphologically meaningful. This Chinese word is mentioned nowhere else in their monograph.

3.3.5 Reconstructing Tight Pre-initials Using Loans into Hmong-Mien

§156. Baxter and Sagart refer to Chinese loans in proto-Hmong-Mien for evidence of Chinese *m- or *N- in Old Chinese; in their account these two pre-initials are indistinguishably reflected by pre-nasalization of the proto-Hmong-Mien initial (2014: 48).

§156a. When Hmong-Mien shows a voiceless initial this is projected back onto Old Chinese. The voicing seen in the Middle Chinese forms Baxter and Sagart credit to the influence of the tight nasal pre-initial (2014: 117 and 127).

樹 *dzyuH* < *m-toʔ-s (10–22j) ‘tree’, pHM *ntjʊəŋH ‘tree’
 柱 *drjuX* < *m-troʔ (10–19h) ‘pillar’, pHM *ɲjæu A ‘pillar’
 狹 *heap* < *N-kʰrep (35–03e) ‘narrow’, pHM *Nŋep
 直 *drik* < *N-trək (05–12a) ‘straight’, pHMong *ndzjæw C
 晴 *dzjeng* < *N-tshʰeŋ (09–25-) ‘to clear (of weather)’, pHM
 *ntshjəŋ ‘clear’

§156b. The same correspondences lead to the reconstruction of *m- before voiced initials, with the exception that in this case the etymological connections are found with words that have voiced simplex onsets (cf. §136c).

下 *haeH* < *m-gʰraʔ-s (01–14a) ‘descend’; pHMong *ŋa B ‘to descend’

§156c. Baxter and Sagart reconstruct *m.l- when proto-Hmong-Mien has initial *mbl- (2014: 133).

秫 *zywit* < *m.lut (31–17c) ‘glutinous millet’, pHM *mblut ‘glutinous/sticky’
 墜 *drwijH* < *m.lru[t]-s (29–09g) ‘fall down’, pHMong *mblɥei C
 ‘shed leaves/drop’

3.3.6 Reconstructing Tight Pre-initials Using Loans into Tai-Kadai

§157. Baxter and Sagart refer to both Lakkia (cf. §158) and proto-Kra (cf. §159) in support of the reconstruction of pre-initials.

§158. *Pre-initials in Lakkia.* Baxter and Sagart do not use Tai-Kadai in a consistent and explicit way. Nonetheless, they do refer to Lakkia for support in distinguishing the tight pre-initials *t- and *k-. It appears that they do not think Lakkia distinguishes tight and loose pre-initials (cf. §170b); they reconstruct tight pre-initials in the following three words because the proto-Min initials are not softened (cf. §161):

紙 *tsyex* < *k.teʔ (07–06-) ‘paper’, Lakkia /khjei 3/, pMīn *tʃ-
 賊 *dzok* < *k.dzʰək (05–23a) ‘bandit’, Lakkia /kjak 8/, pMīn *dzh-
 箴 *tsyim* < *t.[k]əm (38–04n) ‘needle’, Lakkia /them 1/, pMīn *tʃ-

§159. *Pre-initials in Proto-Kra* Baxter and Sagart once cite proto-Kra in support of pre-initial *m-.

柱 *drjuX* < *m-troʔ (10–19h) ‘pillar’, proto-Kra *m-tʃu A ‘pillar’

3.3.7 Reconstructing Loose Pre-initials

§160. Baxter and Sagart propose the ‘loose’ pre-initials *pə-, *kə-, *tə-, *mə-, *Nə-, and *sə-. In many circumstances they are able to posit a loose pre-initial,

but have no evidence that bears on its point of articulation; they reconstruct such cases as *Cə, in which ‘C’ represents one of the six consonants they permit in this position. Their primary motivation for reconstructing loose pre-initials is to explain the origin of softened initials in proto-Mĭn (cf. §161),⁷⁶ but in some cases they also find *xiéshēng* evidence helpful (cf. §§162–5). Chinese loans into Hmong-Mien (§167), Vietic (specifically Vietnamese; cf. §169, and Rục; cf. §168), and Tai-Kadai (§170) also provide additional evidence for loose pre-initials.

3.3.8 Reconstructing Loose Pre-initials Using Proto-Mĭn

§161. Baxter and Sagart take softened initials in proto-Mĭn as evidence of a loose pre-initial in Old Chinese (2014: 46–7). In general, Mĭn evidence alone cannot determine the place of articulation of the loose pre-initial.

- 搬 *pan* < *Cə.pʰan ‘move’, pMĭn *-p- (Kienyang /voinj 9/)
 反 *pjonX* < *Cə.panʔ (24–49a) ‘reverse (v.)’, pMĭn *-p- (Kienyang /vaiŋ 3/)
 發 *pjot* < *Cə.pat (21–30c) ‘fly forth, send forth’, pMĭn *-p- (Shībēi / buai 3/)
 飛 *pjiŋ* < *Cə.pə[r] (27–09a) ‘fly (v.)’, pMĭn *-p- (Kienyang /ye 9/)
 崩 *pong* < *Cə.pʰəŋ (06–20 m) ‘collapse (v., of a mountain)’, pMĭn *-p- (Kienyang /vaiŋ 9/)
 吠 *bjojH* < *Cə.bof[t]-s (21–36a) ‘bark (v.)’, pMĭn *-b (Shībēi /by 6/)
 戴 *tojH* < *Cə.tʰək-s (04–45eʔ) ‘carry on the head’, pMĭn *-t- (Kienyang /lue 9/)
 單 *tan* < *Cə.tʰar (24–21a) ‘single, simple’, pMĭn *-t- (Kienyang /lueŋ 9/)
 斲 *traewk* < *Cə.tʰrok (10–15b) ‘chop, cleave’, pMĭn *-t- (Kienyang / lo 3/)
 簪 *tsom* < *Cə.tsʰ[ə]m (38–28g) ‘hairpin’, pMĭn *-ts- (Kienyang /laŋ 9/)
 薦 *tsenH* < *Cə.tsʰə[r]-s (33–23a) ‘grass, fodder’, pMĭn *-ts- (Kienyang /luŋ 9/) ‘straw mattress’
 醉 *tswijH* < *Cə.tsu[t]-s (31–20h) ‘drunk (adj.)’, pMĭn *-ts- (Kienyang /ly 9/)
 膏 *kaw* < *Cə.kʰaw (16–01i) ‘lard (n.)’, pMĭn *-k- (Kienyang /au 9/)

⁷⁶ In some cases, however, Baxter and Sagart reconstruct loose pre-initials even in the absence of a Mĭn cognate (cf. §162, §167b), or indeed even if there is a Mĭn cognate that does not show a softened initial, because there are Mĭn consonants, such as voiceless aspirates and resonants, that do not soften (2014: 86 and 91).

- 狗 *kuwX* < *Cə.kʰroʔ (10–01d) ‘dog’, pMǐn *-k- (Kienow /e 3/)
 蕨 *kjwot* < *Cə.kot (22–02d) ‘bracken (a kind of edible fern)’, pMǐn
 *-k- (Kienyang /ue 9/)
 牯 *kuX* < *Cə.kʷaʔ ‘male (bovine)’, pMǐn *-k- (Kienyang /o 3/)
 飢 *kij* < *Cə.krə[j] (26–08f) ‘hungry’, pMǐn *-k- (Kienyang /ue 9/)
 假 *kaeX* < *Cə.kʰraʔ (01–12c) ‘borrow; false’, pMǐn *-k- (Kienyang
 /a 3/)
 腎 *dzyinX* < *Cə.[g]i[n]ʔ (32–01h) ‘kidney’, pMǐn *-g (Foochow
 /keiŋ 6/, Kienyang /iŋ 5/)
 厚 *huwX* < *Cə.[g]ʰ(r)oʔ (10–07a) ‘thick’, pMǐn *-g (Kienyang /eu
 5/)⁷⁷

§161a. In the same circumstances that Middle Chinese collapses distinct Old Chinese simplex initials, it also collapses these same initials preceded by a loose pre-initial. Thus, the correspondence of Middle Chinese 定 *d-* with proto-Mǐn *-d has two reconstructions in Old Chinese, i.e. *Cə.d(ʰ)- and *Cə.lʰ-. These two are distinguished on the basis of *xiěshēng* evidence (§165).

- 彈 *dan* < *Cə.dʰar (24–21n) ‘shoot pellets’, pMǐn *-d (Shíbēi /duain
 2/ ‘pluck a stringed instrument’)
 袋 *dojH* < *Cə.lʰək-s ‘bag’, pMǐn *-d (Kienyang /lui 6/)
 奪 *dwat* < *Cə.lʰot (22–09a) ‘seize’, pMǐn *-d (Kienyang /lue 8/)
 池 *drje* < *Cə.lraj (18–09t) ‘pool (n.)’, pMǐn *-d (Shíbēi /di 2/)

§161b. As just mentioned, Baxter and Sagart presume that in general a loose pre-initial is simply dropped and the following segment merged with its respective simplex initial. However, laterals in type B syllables avoided this merger. Baxter and Sagart take the correspondence of Middle Chinese 船 *zy-* to proto-Mǐn *-dʒ as unambiguous evidence for Old Chinese *Cə.l-, with a loosely attached pre-initial.

- 舌 *zyet* < *Cə.lat (20–10a) ‘tongue’, pMǐn *-dʒ⁷⁸
 食 *zyik* < *Cə.lək (05–19a) ‘eat’, pMǐn *-dʒ
 實 *zyit* < *Cə.li[t] (29–18a) ‘fruit; full’, pMǐn *-dʒ
 船 *zywen* < *Cə.lo[n] (25–29e) ‘boat’, pMǐn *-dʒ (Shíbēi /yiŋ 2/)
 射 *zyek* < *Cə.lAk (02–26a) ‘hit with bow and arrow’, pMǐn *-dʒ
 (Kienyang /ia 8/)
 蛇 *zyae* < *Cə.lAj (18–09l) ‘snake’, pMǐn *-dʒ (Kienyang /ye 2/)

⁷⁷ Baxter and Sagart reconstruct 蕨 *huw* < *mə-gʰ(r)o ‘monkey’ (2014: 178) but cite only proto-Mǐn *-g- as evidence. It seems to me they should reconstruct *Cə-gʰ(r)o.

⁷⁸ Baxter and Sagart actually reconstruct the first three words with pre-initial *mə- on the basis of pre-nasalization in Hmong-Mien for 舌 *zyet* and 食 *zyik* (§167c) and *m- in proto-Tai for 實 *zyit* (§170a).

§161c. To recapitulate the development of laterals, initial *lʰ- and *Cə.lʰ- merge as Middle Chinese 定 *d-*, *lʳ(ʰ)- and *Cə.lʳ(ʰ)- merge as Middle Chinese 澄 *dr-*, but the reflexes of *l- and *Cə.l- in type B syllables continue to be distinguished in Middle Chinese as 以 *y-* and 船 *zy-* respectively.

§161d. Baxter and Sagart suggest that in two words some Mǐn dialects directly preserve evidence of a loose pre-initial *kə-. The first word is not obviously attested in Middle Chinese.

pMǐn *-dzat D < *kə-dzʰ- ‘cockroach’ (Kienow /tsue 4/, Hoping /tʰai 4/, Kienyang /loi 8/, Lianduentsuen /lue 8/, etc. support *Cə-dzʰ-; Fuan /ka 1 sat 8/ and Foochow /ka 1 tsuaʔ 8/ support *kə-.)

落 *lak* < *kə.rʰak (02–01q) ‘fall (v.)’, pMǐn *l- (Kienyang /lɔ 8/ and Shaowu /lo 6/ support *l-; Amoy /ka-lauʔ 8/ ‘to fall, as things’ and Jin 晉, not a Mǐn dialect, /kʌʔ-lʌʔ/ ‘to fall in small quantities’ support *kə-.)

Baxter and Sagart support their reconstruction of *kə- in 落 *lak* with reference to *xiéshēng* evidence such as the inclusion of 格 *kaek* < *kʰrak (02–01z) ‘go to’ in the same series. However, the series also contains words such as 貉 *maek* (02–01j) and 貉 *ngaek* (02–01h) with other initials.

3.3.9 Reconstructing Loose Pre-initials Using *Xiéshēng* Evidence

§162. In most circumstances a Mǐn softened initial motivates an Old Chinese loose pre-initial and the function of *xiéshēng* is to specify which loose pre-initial is at play (cf. §163). Nonetheless, when Middle Chinese initial 邪 *z-* appears in a lateral *xiéshēng* series, Baxter and Sagart reconstruct a loose pre-initial even without the support of a softened initial in Mǐn (cf. §164). Apart from providing evidence for loose pre-initials, *xiéshēng* evidence is also important to distinguish dentals and laterals, as is the case for simplex initials, i.e. *Cə.dʰ- and *Cə.lʰ- (cf. §165).

§163. *Xiéshēng* Evidence Specifying a Loose Pre-initial Known from Mǐn. In some cases *xiéshēng* evidence suggests a (tight) pre-initial, but Mǐn allows the initial to be specified as loose. Conversely stated, Mǐn reveals the erstwhile presence of a loose pre-initial, but *xiéshēng* evidence specifies its place of articulation.

§163a. In a dental series, a reading with initial 邪 *z-* might suggest a reconstruction *s.d- (cf. §145), but if Mǐn has a softened initial in the relevant word then Baxter and Sagart reconstruct *sə.d- (2014: 181).

辰 *dzyin* < *d- (33–13a)

振 *tsyinH* < *t- (33–13n)

娠 *syin* < *s.t- (33–13q)

𪔑 *trhij* < *tʰr- (33–13t)

脣 *zywin* < *sə.d- (33–13u) ‘lip’, pMǐn *-dʒ- (?) (Foochow /suŋ 2/,
Kienow /oeyŋ 3/)⁷⁹

Mǐn without the *xiéshēng* evidence points to *Cə.l- (cf. §161b) as well as *sə.d- (cf. §164). The *xiéshēng* evidence without the Mǐn evidence also points to *s.d-. It is only the combination of both sources of evidence that pinpoints *sə.d- as the reconstruction.

§163b. In a uvular series, a reading with initial 邪 *z-* might suggest a reconstruction *s.g- (cf. §111a); however, if Mǐn has a softened initial Baxter and Sagart instead reconstruct *sə.g- (2014: 182).

公 (公) *kuwng* (12–13/1173a)

瓮 ‘*uwngH* < *qʰ- (12–13g)

松 *zjowng* < *sə.g- (12–13/1190a) ‘pine’, pMǐn *-dz-

容 (容) *yowng* < *gr- (12–11a)

§163c. If Middle Chinese 來 *l-* corresponds to proto-Mǐn *-d- in a *xiéshēng* series that also has words with initial 明 *m-* readings, Baxter and Sagart take such connections as sufficient ground for reconstructing *mə- as the source of the softening in Mǐn.

厲 *ljejH* < *r- (21–26/0340a)

蠪 *ljejH* < *mə.r- (21–26/0340f) ‘stinging insect’, pMǐn *-d-

糲 *lat* < *rʰ- (21–26/0340g)

勸 *maejH* < *mʰr- (21–26/0267c)

邁 *maejH* < *mʰr- (21–26/0267d)

§163d. In a series which offers contradictory evidence about the place of articulation of the loose pre-initial, if Middle Chinese 來 *l-* corresponds to proto-Mǐn *-d- Baxter and Sagart simply reconstruct *Cə.rʰ- (2014: 190), remaining agnostic about the place of articulation of the pre-initial. For example, the series based on 各 (02–01) provides evidence for reconstructing 路 *luH* (02–011) ‘road’ as *kə.rʰ-, *mə.rʰ-, or *ŋə.rʰ-; stymied by this choice Baxter and Sagart choose the agnostic *Cə.rʰ-.

各 *kak* < *kʰ- (02–01a)

貉 *maek* < *mrʰ- (02–01j)

洛 *lak* < *rʰ- (02–01k)

駱 *lak* < *rʰ- (02–01t)

略 *ljak* < *r- (02–01v)

⁷⁹ See Baxter and Sagart (2014: 181, 392 note 103).

- 切 *kaek* < *kr^ɕ- (02–01x)
 客 *khaek* < *k^hr^ɕ- (02–01d')
 路 *luH* < *Cə.r^ɕ- (02–01l') 'road', pMǐn *-d (Kienyang /lio 6/
 Shaowu /t^hio 6/)
 謫 *ngaek* < *ŋr^ɕ- (02–01h')
 賂 *luH* < *r^ɕ- (02–01k')

§164. Xiéshēng Evidence for Loose Pre-initials Not Known from Mǐn

The only circumstance in which Baxter and Sagart use *xiéshēng* as the only evidence for reconstructing a loose pre-initial is when a word with Middle Chinese initial 邪 *z-* appears in a series that otherwise suggests an Old Chinese lateral. In such cases they reconstruct 邪 *z-* back to *sə.l-. The series built on 余 (01–42) is a case in point.⁸⁰

- 余 *yo* < *l- (01–42a)
 餘 *yo* < *l- (01–42l)
 除 *drjo* < *lr- (01–42m)
 郟 *zjo* < *sə.l- (01–42q)
 賒 *syae* < *l- (01–42s)
 涂 *du* < *l^ɕ- (01–42u)
 琚 *thu* < *l^ɕ- (01–42a')
 徐 *zjo* < *sə.l- (01–42-)

§165. Xiéshēng Evidence Distinguishing Laterals and Dentals after Loose Pre-initials Known from Mǐn. Just as in the case of simplex initials, *xiéshēng* evidence is paramount in distinguishing initials that fall together in Middle Chinese. For simplex initials *xiéshēng* evidence distinguishes laterals and dentals (cf. §99), but also uvulars versus velars or laryngeals (cf. §124). For loose pre-initials only the distinction between dentals and laterals is relevant. In Baxter and Sagart's system velar words in uvular series only arise under the influence of a tight pre-initial, so the possibility of a loose pre-initial does not arise.

§165a. The correspondence of Middle Chinese 定 *d-* with proto-Mǐn *-d has two reconstructions in Old Chinese, i.e. *Cə.d(ɕ)- and *Cə.l^ɕ-. These two are distinguished on the basis of *xiéshēng* evidence. Thus, the series of which 彈 *dan* < *Cə.d^ɕar (24–21n) 'shoot pellets' is a member is a clear dental series.

⁸⁰ One of the series in which Baxter and Sagart see examples of *sə.l- > 邪 *z-* is rather odd. The series built on 隴 (19–09/19–16) does not contain any characters with the Middle Chinese initial 喻 *y-*. The dialectal development of *l- > 曉 *x-*, also witnessed in this series (e.g. in 璽 *xjwie* (19–09e)), compounds its strangeness. Such considerations lead Schuessler to see two series here (2009: 221–2).

單 *tan* < *t^s- (24–21a)

擘 *than* < *t^hs- (24–21m)

彈 *dan* < *Cə.d^s- (24–21n) ‘shoot pellets’, pMǐn *-d (Shíbēi /duain 2/ ‘pluck a stringed instrument’)

戰 *tsyenH* < *t- (24–21r)

擘 *tsyhenX* < *t^h- (24–21u)

嬋 *dzyen* < *d- (24–21y)

§165b. In contrast, the series of which 袋 *dojH* < *Cə.l^fək-s ‘bag’, pMǐn *-d (Kienyang /lui 6/) is a member is a clear lateral series.

弋 *yik* < *l- (05–16a)

杙 *yik* < *l- (05–16e)

式 *syik* < !- (05–16f)

忒 *thok* < *l^s- (05–16g)

代 *dojH* < *l^s- (05–16i)

佻 *trhik* < *l^r- (05–16m)

蠓 *dok* < *l^s- (05–16s)

袋 *dojH* < *Cə.l^f- (05–16-) ‘bag’, pMǐn *-d (Kienyang /lui 6/)

3.3.10 *Reconstructing Loose Pre-initials Using Loans into Non-Sinitic Languages*

§166. In general loans into other languages are primarily of supplementary benefit in the reconstruction of loose pre-initials. Nonetheless, Baxter and Sagart make reference, at least on occasion, to evidence from Hmong-Mien (cf. §167), Rục (cf. §168), Vietnamese (cf. §169), and Tai-Kadai (cf. §170) in support of loose pre-initials.

§167. *Hmong-Mien*. Baxter and Sagart reconstruct prenasalization in Hmong-Mien as *m-, *N-, *mə- and *Nə-. In such cases, Baxter and Sagart distinguish *Nə- and *mə- on the basis of morphological speculation (§171).

§167a. A Middle Chinese voiced initial corresponding to Hmong-Mien pre-nasalization is consistent with either loose or tight pre-initials (*m-, *N-, *mə-, and *Nə-). In such cases a Mǐn cognate with softened initial is necessary to specify a loose pre-initial.

滑 *hweat* < *Nə-g^rut ‘slippery’, pMǐn *-g, pHM *nɣuat ‘smooth/slippery’

婦 *bjuwX* < *mə.bəʔ ‘woman, wife’, pMǐn *-b-, pMien *mbuɛŋ B

步 *buH* < *mə-b^sa-s ‘step’, pMǐn *-b-, Yáo /bia 6/ < *mb- ‘step, stride’

紵 *drjoX* < *mə-draʔ ‘ramie; flax’, pMǐn *-d-, pHM *nduH
 字 *dziH* < *mə-dzə(?)s ‘breed, love (v.); character’, pMǐn *-dz-,
 pMien *ndzaj C ‘word, character’
 舌 *zyet* < *mə.lat ‘tongue’, pMǐn *-dž, pHM *mblet
 食 *zyik* < *mə-lək (05–19a) ‘eat’, pMǐn *-dž, pHmong *mbljæ C ‘to
 have food with rice’

§167b. When Middle Chinese has a voiceless initial corresponding to Hmong-Mien prenasalization, Baxter and Sagart reconstruct *mə- or Nə-, even without Mǐn evidence. They do not reconstruct a tight pre-initial *m- of N-, because this pre-initial would have voiced the Middle Chinese initial in their system (cf. §156).

開 *khoj* < *Nə-[k]^həj ‘to open (v.i)’, Mien /goi l/ < pHM *ŋkh- ‘to
 open, as a flower, the heart’
 缺 *khwet* < *Nə-[k]^{wh}et ‘break; defective’, pHM *NK^wet ‘have a gap’
 渴 *khat* < *Nə-[k]^hət ‘thirsty’, pHM *NKhat ‘thirsty’
 稱 *tsyhingH* < *mə-t^həŋ-s ‘steelyard’, pHM *nthjuəŋH ‘balance’
 縲 *tsawX* < *mə-ts^hawʔ ‘bleach; wash’, pHM *ntsæwX ‘wash’
 粉 *pjunX* < *mə.pənʔ ‘flour’, pHM *mpwə:n B
 坼 *trhaek* < *Nə-q^hrak ‘split (v.i.)’, Mien /dzεʔ 7/ < *ntsh- ‘cracked,
 as earth’
 蔭 *imH* < *mə-qr[u]m-s ‘shade’, pMien *ʔglom C < *ŋkl-
 散 *sanH* < *mə-s^ha[n]ʔ-s ‘scatter (v.t.)’; cf. pMien *dzhan C < pHM
 *ntsh- ‘to disperse’

§167c. In some words a softened initial in proto-Mǐn confirms the correctness of the reconstructed loose pre-initial.

沸 *pjiH* < *Nə.p[u][t]-s ‘boil (v.i.)’, pMǐn *-p, pHM *mpuæiH
 早 *tsawX* < *Nə.ts^huʔ ‘early’, pMǐn *-ts, pHM *ntsjuəX
 擔 *tam* < *mə-t^ham ‘carry on the shoulder’, pMǐn *-t-, pHM *ntam
 ‘carry on the shoulder’
 菇 *ku* < *mə.k^ha ‘mushroom’, pMǐn *-k-, pHM *ŋkjæu

§167d. In one word Baxter and Sagart use Hmong-Mien evidence to specifically reconstruct pre-initial *kə- (2014: 184). The *xiéshēng* contacts of 道 *dawX* (13–38/1048a) ‘way’ specify that the origin of Middle Chinese 定 *d-* in this word is from a lateral.

首 *syuwH* < *l̥- (13–38/1102a)
 導 *dawH* < *l- (13–38/1048d)

A potential Mǐn cognate shows a softened initial, suggesting a reconstruction *Cə.l̥-; the loan of this word into proto-Hmong-Mien shows a cluster *kl-.

Baxter and Sagart take this evidence together as showing an Old Chinese initial *kə.lʰ-

道 *dawX* < *[kə.l]ʰuʔ (13–38/1048a) ‘way’, pMǐn *-dau B ‘far’ (e.g. Shībēi /dǎo 5/), pHM *kləuX ‘road/way’

§167e. In one word Baxter and Sagart rely on the Middle Chinese *l-* corresponding to proto-Hmongic *ŋgr- to reconstruct the loose cluster *[Nə-r]ʰ-

漏 *luwH* < *[Nə-r]ʰok-s ‘leak (v.)’, pHmong *ŋgro C ‘leak’

Proto-Hmongic *ŋgro C ‘leak’ provides evidence for a nasal pre-initial while suggesting a velar articulation of *N in *Nə; the pHmongic *-g- can be considered an epenthetic segment arising between *ŋ and *r. That the evolution is not to Middle Chinese 以 *y-* implies that the pre-initial was loosely attached, since *N.rʰ- became 以 *y-*. The fact that the verb is intransitive and nonvolitional also argues for *Nə- against *mə-.

§168. *Ruc*. Baxter and Sagart only cite *Ruc* in three words, which they reconstruct with a loose pre-initial.

脰 *duwH* < *kə.dʰok-s ‘neck’, pMǐn *-d-, *Ruc kadək* ‘nape of the neck’, VN *dọc* [zək D2] ‘fleshy leaf-stalk of certain plants [etc.]’
 補 *puX* < *Cə-pʰaʔ ‘mend’, *Ruc təpa*: 3⁸¹
 脰 *duwH* < *kə.dʰok-s ‘neck’, *Ruc kadək* ‘nape of the neck’

§169. *Vietnamese*. Baxter and Sagart take Vietnamese spirantization as evidence of a lost pre-initial, whether loose or tight (cf. §155). As a consequence Vietnamese is generally of no use in specifying a loose pre-initial per se. In the words where the loose pre-initial is motivated on the basis of Mǐn a loan into Vietnamese it is gratuitous. Nonetheless, there are two cases in which Vietnamese alone points to a loose pre-initial.

§169a. Baxter and Sagart write that they ‘reconstruct *Cə.s- when Vietnamese shows high-register *r-* [z] for Middle Chinese 心 *s-*, and when modern Chinese dialects also give [s]’ (2014: 187), offering the following three examples, two without Mǐn cognates:

灑 *sreaH* < *srjeH < *Cə.srəʔ-s ‘sprinkle (v.)’, VN *rây* [zai C1] ‘sprinkle’
 釀 *srje* < *Cə.sre ‘to strain off wine’, VN *rây* [zai A1] ‘sieve; to sieve’
 散 *sanH* < *mə-sʰa[n]ʔ-s ‘scatter (v.t.)’, pMien *dzhan C < pHM *ntsh- ‘to disperse’, VN *ran* [zan A1] ‘to disperse, propagate’

⁸¹ One might have expected a reconstruction with *s- on the basis of *Ruc* (cf. §153b), but other data point in other directions (cf. Baxter and Sagart 2014: 187).

I fail to see how this correspondence differs from that which they reconstruct *C.s- (cf. §155d).

§169b. Baxter and Sagart tentatively suggest that *Cə.q(ʰ) is borrowed as g(h)- [ɣ] in Vietnamese, pointing to one example:

椅 *jeX* < *Cə.q(r)ajʔ ‘chair’, VN *ghé*

§170. *Tai-Kadai*. Baxter and Sagart make little use of loans into Tai-Kadai in their reconstruction of loose pre-initials.

§170a. For three words Baxter and Sagart point to Tai-Kadai initial labial nasal or prenasalization as evidence of an Old Chinese loose pre-initial *mə.

實 *zyit* < *mə.li[t] (29–18a) ‘fruit; full’, pMǐn *-dʒ, proto-Tai *m.léc D ‘grain’

稱 *tsyhingH* < *mə-tʰəŋ-s (06–15g) ‘steelyard’, pHM *nthjuəŋH ‘balance’, Mǎonán 毛難 /ndaŋ 5/ ‘to weigh’

鹿 *luwk* < *mə-rʰok (11–16a) ‘deer’, pMǐn *-d-, Bùyāng 布央 /ma 0 lok 8/

§170b. In one word Baxter and Sagart refer to Lakkia for evidence of loose pre-initial *kə-.

溺 *newH* < *kə.nʰewk-s (17–09d) ‘urine’, pMǐn *n-, Lakkia /kū B1/

They remark that the nasalization in Lakkia continues the Old Chinese initial *n- and that the ‘Old Chinese onset cannot have been *k.n-, since that should result in proto-Mǐn *nh-’ (2014: 184).

3.3.11 *Reconstructing Loose Pre-initials on the Basis of Morphological Speculation*

§171. Baxter and Sagart appear not to reconstruct any loose pre-initials entirely on the basis of morphological speculation. Morphology does, however, contribute to their system of loose pre-initials, namely if Middle Chinese has an aspirate initial but a loan into Hmong-Mien has pre-nasalization they reconstruct *Nə- in intransitive verbs and *mə- in transitive verbs.

§171a. Examples reconstructed with *Nə- in intransitive verbs:

開 *khøj* < *Nə-[k]ʰəj ‘open (v.i)’; Mien /goi 1/ < pHM *ŋkh- ‘open, as a flower, the heart’

缺 *khwet* < *Nə-[k]ʰwət ‘break; defective’, pHM *Nkwet ‘have a gap’

渴 *khat* < *Nə-[k]ʰət ‘thirsty’, pHM *NKhat ‘thirsty’

坼 *trhaek* < *Nə-qʰ<r>ak ‘split (v.i.)’, Mien /dzeʔ 7/ < *ntsh- ‘cracked, as earth’

It remains unclear why this prefix should appear as *Nə- before some words and *N- (e.g. 局 *gjowk* < *N-k^h(r)ok ‘bent, curved’) before others.

§171b. Examples reconstructed with *mə- in transitive verbs:

- 拍 *phaek* < *mə-p^hrak ‘strike’, pHM *mpjɛk ‘clap’
 唱 *tsyhangH* < *mə-t^haŋ-s ‘lead (in singing)’, pHM *ŋtʃwɔpə:ŋ A
 ‘sing’ (attested in Mienic only)
 稱 *tsyhingH* < *mə-t^həŋ-s ‘steelyard’, pHM *nthjəŋH ‘balance’

3.4 Old Chinese Medial *-r-

§172. A medial at times influences both the evolution of initials and the evolution of rimes. The reconstruction of the one medial in Old Chinese, namely *-r-, is motivated in both contexts. The coincidence of division-ii rimes with Middle Chinese 來 *l-* and retroflex initials gave rise to the hypothesis of initial *r and clusters of the type *tr-, as discussed above (cf. §96). The effects of medial *-r- on rimes are treated for type A syllables below (the ‘-r- hypothesis’, cf. §176).

§172a. In addition to division-ii rimes originating from medial *-r-, following a suggestion of Pulleyblank (1962: 111–14), Baxter also posits a medial *-r- in the origin of *chóngniǔ* rank-iii rimes (cf. §85), primarily on the basis of *xiéshēng* evidence (the ‘-rj-hypothesis’, cf. Baxter 1992: 280–7). For example, the series built on 繼 predominately includes characters with initial Middle Chinese 來 *l-* < *r- readings, but the series also includes the *chóngniǔ* rank-iii word 變 *pjenH* (25–31o).

- 25–31a 繼 *lwan* < *r-
 25–31d 樂 *lwan* < *r-
 25–31o 變 *pjenH* < *pr-

3.5 Old Chinese Vowels

§173. In the practice of all investigators the reconstruction of Old Chinese rimes takes as a point of departure the internal reconstruction of Middle Chinese rimes. To facilitate a linear discussion here, it is convenient to focus on type A rimes with velar codas (§§174–6). The hypotheses generated by considering the type A rimes with velar codas can then be tested and refined with reference to the type A rimes with dental codas (§§177–81). Together the consideration of distributional relationships in type A syllables with velar and dental codas generates a five-vowel theory of Old Chinese which can next be tested against the distribution of type B syllables; the type B rimes require the postulation of a sixth vowel (§182).

		P-	T-	Ts-	K-
-ang	唐一開	<i>Pang</i>	<i>Tang</i>	<i>Tsang</i>	<i>Kang</i>
-wang	唐一合	---	---	---	<i>Kwang</i>
-aeng	庚二開	<i>Paeng</i>	<i>Taeng</i>	---	<i>Kaeng</i>
-waeng	庚二合	---	---	---	<i>Kwaeng</i>
-uwng	東一	<i>Puwng</i>	<i>Tuwng</i>	<i>Tsuwng</i>	<i>Kuwng</i>
-eng	青四開	<i>Peng</i>	<i>Teng</i>	<i>Tseng</i>	<i>Keng</i>
-weng	青四合	---	---	---	<i>Kweng</i>
-eang	耕二開	<i>Peang</i>	---	<i>Tseang</i>	<i>Keang</i>
-weang	耕二合	---	---	---	---
-ong	登一開	<i>Pong</i>	<i>Tong</i>	<i>Tsong</i>	<i>Kong</i>
-wong	登一合	---	---	---	<i>Kwong</i>
-owng	冬一	<i>Powng</i>	<i>Towng</i>	<i>Tsowng</i>	<i>Kowng</i>

Figure 3.18 Middle Chinese division-i/iv syllable types in final *-ng* (Baxter and Sagart 2014: 198)

		P-	T-	Ts-	K-	K ^w -
-ang	唐一	<i>Pang</i>	<i>Tang</i>	<i>Tsang</i>	<i>Kang</i>	<i>K^wang</i>
-aeng	庚二	<i>Paeng</i>	<i>Taeng</i>	---	<i>Kaeng</i>	<i>K^waeng</i>
-uwng	東一	<i>Puwng</i>	<i>Tuwng</i>	<i>Tsuwng</i>	<i>Kuwng</i>	---
-eng	青四	<i>Peng</i>	<i>Teng</i>	<i>Tseng</i>	<i>Keng</i>	<i>K^weng</i>
-eang	耕二	<i>Peang</i>	---	<i>Tseang</i>	<i>Keang</i>	---
-ong	登一	<i>Pong</i>	<i>Tong</i>	<i>Tsong</i>	<i>Kong</i>	<i>K^wong</i>
-owng	冬一	<i>Powng</i>	<i>Towng</i>	<i>Tsowng</i>	<i>Kowng</i>	---

Figure 3.19 Middle Chinese division-i/iv syllable types in final *-ng* with the supposition of labio-velar initials

3.5.1 Asymmetries in Type A Rimes with Velar Codas

§174. Figure 3.18 presents the type A Middle Chinese rimes with final *-ng*; their distribution includes a number of unattractive asymmetries. In particular

the distribution of *-w-* (cf. §175) is quite irregular, as are the distributions of the vowels *-ae-* and *-ea-* (cf. §176).

3.5.2 *Origin of Some -w- (合口 Hékdǒu) Rimes in Labio-velar Initials*

§175. The rimes *-wang*, *-waeng*, *-weng*, and *-wong* occur only with velar initials (牙 *K-*). As proposed in §97 above, this distribution suggests the analysis of the *-w-* element as part of the initial rather than the rime, and thereby implies a series of labio-velar initials. Analysing the rhymes *-wang*, *-waeng*, *-weng*, and *-wong* as *-ang*, *-aeng*, *-eng*, and *-ong* after labio-velars allows Figure 3.18 to be reformulated as Figure 3.19. Some of the remaining gaps in this table are phonetically well motivated. In particular, the lack of syllables like **K^wuwng* and **K^wowng* would have involved too much labialness in one syllable. The lack of **K^weaeng* is best treated as an accidental gap, since *hweang* (嶺) and *kweak* (颺, 職, etc.) do occur.

3.5.3 *The 'R-Hypothesis': Origin of the Vowels -ae- and -ea-*

§176. Bearing in mind that the reconstruction of Middle Chinese retroflex (*shéshàng* 舌上 *Tr-*) and retroflex affricate (*zhuāngzǔ* 莊組 *Tsr-*) initials as deriving respectively from Old Chinese dentals and affricates before medial **-r-* is based on the complementary distribution of type A division-ii vowels *-ae-* and *-ea-* with dental initials (*shétóu* 舌頭 *T-*) (Baxter 1992: 203–6; cf. §96), the conjecture arises that medial **-r-* is also responsible for the emergence of these two vowels.

§176a. Consideration of type B syllables supports the conjecture that *-aeng* originates from **-arj*. There are type B rimes with *-aeng-* after grave initials (*kj-*, *pj-*, etc.), e.g. 京 *kjaeng*, 兵 *pjaeng*, but there are no type B rimes with *-aeng* after acute initials (*trj-*, *tsy-* < **t-* etc.); i.e. syllables such as **trjaeng* and **tsyaeng* do not exist (Baxter 1992: 272). If one suggests that type B syllables in *-aeng* derive from **-rarj*, moving the distinction between *kjang* and *kjaeng* from the vowel to the medial makes *kjaeng* < **kraŋ* and *kjang* < **kaŋ* parallel to *trjang* < **traŋ* and *tsyang* < **taŋ*. If *-aeng* derives from **-rarj* in type B syllables, it is reasonable to suggest that *-aeng* in type A syllables also derives from **-rarj*. This internal reconstruction predicts that words in Middle Chinese *-ang* and *-aeng* should rhyme with each other in Old Chinese poetry. The rhymes of the *Shījīng* bear out this prediction. Already the first few poems offer the rhyme sequences 莫濩給 *mak hwak khjaek* (Ode 2.2) and 岡黃觥傷 *kang hwang kwaeng syang* (Ode 3.3).⁸²

⁸² An exploration of rhyme behaviour also reveals that Old Chinese **-rarj* is not the only origin of Middle Chinese *-aeng*. In particular, in type B syllables *-aeng* also descends from **-renj*; e.g. 璜 *hjaeng* < **[g]renj* 'luster' (09–09k) rhymes with 星 *seng* < **s-ts^hej* 'star' (09–25x) in Ode 55.2.

OChi.	MChi.		P-	T-	Ts-	K-	K ^w -
*-aŋ	-ang	唐一	Pang	Tang	Tsang	Kang	K ^w ang
*-oŋ	-uŋg	東一	Puŋg	Tuŋg	Tsuŋg	Kuŋg	---
*-eŋ	-eng	青四	Peng	Teng	Tseng	Keng	K ^w eng
*-əŋ	-ong	登一	Pong	Tong	Tsong	Kong	K ^w ong
*-uŋ	-owng	冬一	Powng	Towng	Tsowng	Kowng	---

Figure 3.20 Revised type A syllables with final *-ŋ

§176b. Turning from the origin of *-aeng* to the origin of *-eang*, the restriction of the latter to type A syllables already points to its secondary origin. Since there is no sign of (former) rounding in *-eang*, it seems more reasonable to credit its origin to *-eŋ or *-əŋ rather than to *-oŋ or *-uŋ. In the *Shījīng*, syllables ending in *-eang* rhyme both with *-eng*, e.g. 丁城 *treang dzyeng* (Ode 7.1), and with *-ong* [ʌŋ], e.g. 麥北 *meak pok* (Ode 48.2).⁸³ It thus appears that both *-reŋ and *-rəŋ are origins of *-eang* and that these two originally distinct rimes merged on their way to Middle Chinese.

If we rid Figure 3.19 of the rimes *-aeng* and *-eang*, the result is a system of five vowels before velar codas. As a working hypothesis, we may presume that the original nuclear vowels were *a, *e, *ə, *u, and *o, as shown in Figure 3.20. In this analysis, *-ang* < *-aŋ and *-eng* < *-eŋ are retentions from the original system. Recalling that Middle Chinese orthographic <o> symbolizes a vowel similar to [ʌ], *-ong* < *-əŋ is also tantamount to a retention.

3.5.4 Asymmetries in Type A Rimes with Dental Codas

§177. The search for asymmetries in type A syllables with velar codas provides a five-vowel theory of Old Chinese. To explore the ramifications of this hypothesis further, discussion now turns to the type A rimes with dental codas.

§177a. The discussion of *-ae-* and *-ea-* in the case of the velar final (cf. §176) rimes applies *mutatis mutandis* to the appearance of these two vowels with dental finals. With the hypotheses *-ae-* < *-ra and *-ea-* < *-re-, *-rə- one may for the present regard *-aen*, *-waen*, *-ean*, and *-wean* as deriving from *-an*, *-wan*, *-en*, *-on*, *-wen*, and *-won* and omit *-aen*, *-waen*, *-ean*, and *-wean* from further discussion here. Figure 3.21 presents the type A rimes with dental codas, omitting the vowels *-ae-* and *-ea-*.

§177b. The rime *-wen* occurs only with velar initials (yá 牙 K-). As was the case with the velar finals (cf. §§97 and 175), the fact that K- is compatible

⁸³ In fact I find only rhymes of *-eak* and *-ok* but none of *-eang* and *-ong*.

		P-	T-	Ts-	K-
-an	寒一開	<i>Pan</i>	<i>Tan</i>	<i>Tsan</i>	<i>Kan</i>
-wan	桓一合	---	<i>Twan</i>	<i>Tswan</i>	<i>Kwan</i>
-en	先四開	<i>Pen</i>	<i>Ten</i>	<i>Tsen</i>	<i>Ken</i>
-wen	先四合	---	---	---	<i>Kwen</i>
-on	痕一開	---	---	---	<i>Kon</i>
-won	魂一合	<i>Pwon</i>	<i>Twon</i>	<i>Tswon</i>	<i>Kwon</i>

Figure 3.21 Middle Chinese division-i/iv syllable types in final *-n* (Baxter and Sagart 2014: 200)

	P-	T-	Ts-	K-	K ^w -
-an	<i>Pan</i>	<i>Tan</i>	<i>Tsan</i>	<i>Kan</i>	*K ^w an > <i>Kwan</i>
-wan	---	<i>Twan</i>	<i>Tswan</i>	<i>Kwan</i>	*K ^w wan > <i>Kwan</i>
-en	<i>Pen</i>	<i>Ten</i>	<i>Tsen</i>	<i>Ken</i>	*K ^w en > <i>Kwen</i>
-on	---	---	---	<i>Kon</i>	*K ^w on > <i>Kwon</i>
-won	<i>Pwon</i>	<i>Twon</i>	<i>Tswon</i>	<i>Kwon</i>	*K ^w won > <i>Kwon</i>

Figure 3.22 Labio-velar initials (division-i/iv in final *-n*)

with a greater number of rimes suggests that the labial feature can be credited to the initial rather than the rime. The dental final rimes do not present strong motivation for labio-velar initials, but as labio-velar initials are already posited on firm ground, there is no reason not to take advantage of them here also. Reformulating Figure 3.21 with cognizance of labio-velars results in Figure 3.22; although the elegance of the distribution is improved, many gaps remain.

3.5.5 The 'Rounded-Vowel' Hypothesis: Origin of the Remaining *-w-* (合 □ Hékōu) Rimes

§178. In the case of type A velar finals, positing labio-velar initials explained away rimes with medial *-w-* altogether. However, in the case of dental finals the labio-velar initials offer no explanation of syllables such as *Twan* and *Tswan*. Since medial *-w-* is not required for velar final syllables, a source for these syllables that makes no recourse to medial *-w-* is desirable.

Since the Old Chinese rimes **-aŋ*, **-oŋ*, **-eŋ*, **-əŋ*, and **-uŋ* are set up for the velar finals the null hypothesis is that only **-an*, **-on*, **-en*, **-ən*, and **-un* are to be set up for the dental finals. We may presume that Middle Chinese *-an*, *-en*, and *-on* [ʌn] are retentions of Old Chinese **an*, **en*, and **ən* respectively.

	P-	T-	Ts-	K-	Kʷ-
-an	<i>Pan</i>	<i>Tan</i>	<i>Tsan</i>	<i>Kan</i>	*Kʷan > <i>Kwan</i>
-wan < *on	---	*Ton > <i>Twan</i>	*Tson > <i>Tswan</i>	*Kon > <i>Kwan</i>	*Kʷon > *Kʷwan > <i>Kwan</i>
-en	<i>Pen</i>	<i>Ten</i>	<i>Tsen</i>	<i>Ken</i>	*Kʷen > <i>Kwen</i>
-on < *ən	---	---	---	*Kən > <i>Kon</i>	*Kʷən > *Kʷon > <i>Kwon</i>
-won < *un	*Pun > <i>Pwon</i>	*Tun > <i>Twon</i>	*Tsun > <i>Tswon</i>	*Kun > <i>Kwon</i>	*Kʷun > *Kʷwon > <i>Kwon</i>

Figure 3.23 Breaking of rounded vowels (division-i/iv in final -n)

This leaves Middle Chinese *-wan* and *-won* [wʌn] to be explained as somehow descended from Old Chinese **-on* and **-un*. Jaxontov proposed that *-wan* results from the breaking of **-on*, and *-won* [wʌn] similarly derives from **-un* (1960b: esp. 104, 1970: esp. 54; also see Baxter 1992: 236–40 and Baxter and Sagart 2014: 203–7). This internal reconstruction makes the following predictions. (1) Syllables like *twan* < **ton* will not rhyme with syllables like *tan* in the *Shījīng*. (2) Syllables like *kwan* will divide into two rhyme classes, those deriving from **kon* and those deriving from **kʷan*, and members of these two classes will not rhyme with each other. Since these patterns reflect what does not rhyme rather than what does, they cannot easily be illustrated anecdotally. Nonetheless, Baxter provides detailed evidence that these predictions are largely borne out in the rhyming practices of the *Shījīng* (1992: 375–89). Accepting the rounded-vowel hypothesis allowed Figure 3.22 to be rewritten as Figure 3.23.

3.5.6 W-Neutralization

§179. Y. R. Chao noticed that Middle Chinese does not distinguish syllables like *pan* and syllables like *pwan* (1941: 208, Baxter 1992: 252–6, 567); we can presume that after the change **-on* > *-wan*, syllables like *pwan* merged with *pan*, because of the labialness of the initial. This hypothesis allows us to plug two more holes in the distribution of vowels before the dental nasal and makes the prediction that early rhyming practices will distinguish *pan* < **pan* from *pan* < **pwan* < **pon* and *pwon* < **pun* from *pwon* < **pən*. The rhyming practice of the *Shījīng* bears out this prediction. For example, 奔 *pwon* (33–28a) and 門 *mwon* (33–35a), although they have the same Middle Chinese rime category, do not rhyme in the *Shījīng*; neither does any other word rhyme with both of them (cf. Figure 3.24).⁸⁴ Accepting the w-neutralization hypothesis allowed Figure 3.23 to be rewritten as Figure 3.25.

⁸⁴ A distinction of **p-* versus **pw-*, subsequently lost, is also reconstructed for proto-Tai (Pittayaporn 2009: 155) and proto-Tupi (Jensen 1999: 140–1).

Words rhyming with 奔 <i>pwon</i> (33-28a)				Words rhyming with 門 <i>mwon</i> (33-35a)			
鶉	<i>dzywin</i>	34-18j	(Ode 49.2)	殷	<i>jin</i>	33-09a	(Ode 40.1)
君	<i>kjun</i>	34-12a	(Ode 49.2)	貧	<i>bin</i>	33-30v	(Ode 40.1)
璊	<i>mwon</i>	24-57f	(Ode 73.2)	艱	<i>kean</i>	33-05c	(Ode 40.1, 199.1)
惇	<i>thwon</i>	34-18t	(Ode 73.2)	雲	<i>hjun</i>	34-14b	(Ode 93.1, 261.4)
				存	<i>dzwon</i>	33-22a	(Ode 93.1)
				巾	<i>kin</i>	33-06a	(Ode 93.1)
				員	<i>hjun</i>	23-10a	(Ode 93.1)
				云	<i>hjun</i>	34-14a	(Ode 199.1)

Figure 3.24 The non-rhyming of 奔 *pwon* (33–28a) and 門 *mwon* (33–35a)

	P-	T-	Ts-	K-	Kʷ-
-an	<i>Pan</i>	<i>Tan</i>	<i>Tsan</i>	<i>Kan</i>	*Kʷan > <i>Kwan</i>
-wan < *on	*Pon > *Pwan > <i>Pan</i> ↑	*Ton > <i>Twan</i>	*Tson > <i>Tswan</i>	*Kon > <i>Kwan</i>	*Kʷon > *Kʷwan > <i>Kwan</i>
-en	<i>Pen</i>	<i>Ten</i>	<i>Tsen</i>	<i>Ken</i>	*Kʷen > <i>Kwen</i>
-on < *ən	*Pən > *Pwən > <i>Pwon</i> ↓	---	---	*Kən > <i>Kon</i>	*Kʷən > *Kʷon > <i>Kwon</i>
-won < *un	*Pun > <i>Pwon</i>	*Tun > <i>Twon</i>	*Tsun > <i>Tswon</i>	*Kun > <i>Kwon</i>	*Kʷun > *Kʷwon > <i>Kwon</i>

Figure 3.25 W-neutralization (division-i/iv in final -n)

	P-	Tr-	K-	Tsy-
-jon	<i>pjon</i>	—	<i>kjon</i>	—
-jwon	<i>pjwon</i>	—	<i>kjwon</i>	—
-jin	—	—	<i>kjin</i>	—
-jun	<i>pjun</i>	—	<i>kjun</i>	—
-in	<i>pin</i>	<i>trin</i>	<i>kjin</i>	<i>tsyin</i>
-jwin	—	<i>trwin</i>	<i>kwin</i>	<i>twywin</i>
-jen	<i>pj(i)en</i>	<i>trjen</i>	<i>kj(i)en</i>	<i>tsyen</i>
-jwen	—	<i>trjwen</i>	<i>kjwen</i>	<i>tsjwen</i>

Figure 3.26 The distribution of Middle Chinese type B rimes before -n

3.5.7 ‘A-Raising’, ‘Acute Fronting’, and ‘I-Raising’

§180. Before further addressing the asymmetries in the distribution of type A syllables let us turn our attention to the asymmetries in the distribution of type B syllables. Figure 3.26 presents the distribution of initials with rimes in type B

	P-	T-	Ts-	K-	K ^w -
-an	<i>Pan</i>	<i>Tan</i>	<i>Tsan</i>	<i>Kan</i>	*K ^w an > <i>Kwan</i>
-wan < *on	*Pon > *Pwan > <i>Pan</i> ↑	*Ton > <i>Twan</i>	*Tson > <i>Tswan</i>	*Kon > <i>Kwan</i>	*K ^w on > *K ^w wan > <i>Kwan</i>
-en	<i>Pen</i>	<i>Ten</i>	<i>Tsen</i>	<i>Ken</i>	*K ^w en > <i>Kwen</i>
-on < *ən	*Pən > *Pwən > <i>Pwon</i> ↓	*Ton > <i>Ten</i> ↑	*Tson > <i>Tsen</i> ↑	*Kən > <i>Kon</i>	*K ^w ən > *K ^w on > <i>Kwon</i>
-won < *un	*Pun > <i>Pwon</i>	*Tun > <i>Twon</i>	*Tsun > <i>Tswon</i>	*Kun > <i>Kwon</i>	*K ^w un > *K ^w won > <i>Kwon</i>

Figure 3.27 Hi > mid (division-i/iv in final -n)

syllables. The absence of syllables of the shape *pjwin, *pjün, and *pjwen is no surprise; as a consequence of w-neutralization (cf. §179) these syllables are not distinguishable from *pin*, *pjun*, and *pjen*. The more surprising gap is the absence of the rimes *-jon*, *-jwon*, *-jün*, and *-jun* after acute initials. This gap suggests that the back and mid vowels have fronted between an acute initial and a final dental.

§180a. Before considering Baxter's formulation of this process of raising, it is convenient to point out that final *-an does not occur in type B syllables. Baxter proposes that a fairly recent change, 'a-raising' (1992: 579), changed *-an to *-on* [ʌn] in type B syllables. With this, effectively orthographic, change in mind, the noteworthy asymmetry of type B syllables becomes the absence of *-an, *-wan, *-ən, and *-un after acute initials.

§180b. Baxter proposes two separate but related sound changes to account for this odd distribution: *-an > *-en* ('acute fronting', Baxter 1992: 574–5), which only took place in type B syllables, and *-ən > *-in* ('i-fronting', Baxter 1992: 577), which took place in both type A and type B syllables, although our motivation for it so far only applies to type B syllables.

3.5.8 Hi > Mid

§181. Returning to the distribution of type A syllables, there are only two holes remaining in Figure 3.25, namely Middle Chinese *Ton and *Tson. This absence raises the question of how Old Chinese *Tən and *Tsen developed, such that they did not become Middle Chinese *Ton and *Tson respectively. To suggest that Old Chinese *Tən developed into *Twon* or *Twan* is unmotivated; the syllable *Tən offers no potential origin for Middle Chinese medial *-w-*. It is much more likely that *Tən developed to *Ten* or *Tan*. If we recall the proposal 'i-fronting' of the previous paragraph (cf. §180), there is an explanation available for *-in* arising from *-ən. Unfortunately, we do not want *-in* but *-en*. Baxter's solution is to propose a change of *-in to *-en* in type A syllables only; he dubs this change 'hi > mid' (1992: 578). The change 'hi > mid' occurred after 'i-fronting', i.e. *-ən >

	P-	Tr-	K-	K ^w -	Tsy-
*-en	<i>pj(i)en</i>	<i>trjen</i>	<i>kj(i)en</i>	<i>kjwen</i>	<i>tsyen</i>
*-an	*pan > <i>pjon</i>	*tran > <i>trjen</i> ↑	*kan > <i>kjon</i>	*k ^w an > <i>kjwon</i>	*tan > <i>tsyen</i> ↑
*-on	*pon > *pwān > *pan > <i>pjon</i> ↑	*tron > *trwān > <i>trjwen</i>	*kon > *kwān > <i>kjwon</i> →	*k ^w on > *k ^w wān > <i>kwan</i> > <i>kjwon</i> ↑	<i>tsywen</i>
*-un	*pun > *pwān > <i>pjun</i> ↓	*trun > *trwān > <i>trwin</i>	*kun > *kwān > <i>kjun</i> →	*k ^w un > *k ^w wān > <i>kwān</i> > <i>kjun</i> ↓	*tun > *twān > <i>twywin</i>
*-ən	*pən > *pwān > <i>pjun</i>	*trən > <i>trin</i> ↓	*kən > <i>kjin</i>	*k ^w ən > *kwān > <i>kjun</i>	*tən > <i>tsyin</i> ↓
*-in	<i>pin</i>	<i>trin</i>	<i>kjin</i>	<i>kwin</i>	<i>tsyin</i>

Figure 3.28 Six vowels in type B rimes before -n

	P-	T-	Ts-	K-	K ^w -
*-an	<i>Pan</i>	<i>Tan</i>	<i>Tsan</i>	<i>Kan</i>	*K ^w an > <i>Kwan</i>
*-on	*Pon > *Pwān > <i>Pan</i> ↑	*Ton > <i>Twan</i>	*Tson > <i>Tswan</i>	*Kon > <i>Kwan</i>	*K ^w on > *K ^w wān > <i>Kwan</i>
*-in	*Pin > <i>Pen</i> ↓	*Tin > <i>Ten</i> ↓	*Tsin > <i>Tsen</i> ↓	*Kin > <i>Ken</i> ↓	*K ^w in > <i>Kwen</i> ↓
*-en	<i>Pen</i>	<i>Ten</i>	<i>Tsen</i>	<i>Ken</i>	*K ^w en > <i>Kwen</i>
*-ən	*Pən > *Pwān > <i>Pwon</i> ↓	*Tən > <i>Ten</i> ↑	*Tson > <i>Tsen</i> ↑	*Kən > <i>Kon</i>	*K ^w ən > *K ^w wān > <i>Kwon</i>
*-un	*Pun > <i>Pwon</i>	*Tun > <i>Twon</i>	*Tsun > <i>Tswon</i>	*Kun > <i>Kwon</i>	*K ^w un > *K ^w wān > <i>Kwon</i>

Figure 3.29 Six vowels in type A rimes before -n

*-in > -en in type A syllables. With this proposal in place it is possible to explain all of the Middle Chinese type A syllables with final dentals as originating from a version of Old Chinese with five vowels (cf. Figure 3.27).

3.5.9 Asymmetries in Type B Rimes with Dental Codas

§182. The distribution of Middle Chinese type A syllables before velars (cf. §§174–6) and dentals (cf. §§177–81) gives rise to a five-vowel theory of Old Chinese phonology, viz. *e, *a, *o, *u, and *ə. Can this theory, with its attendant hypotheses (labio-velars (cf. §175), rounded vowels (cf. §178), w-neutralization (cf. §179), a-raising (cf. §180a), acute fronting (cf. §180b), i-fronting (cf. §180b), hi > mid (cf. §181)), also explain the distribution of Middle Chinese type B syllables, e.g. before final -n? The answer is no. To explain syllables of

the shape *pin* and *trin* one must presume a sixth vowel *-i- (cf. Figure 3.28). In the type A syllables it is the change ‘hi > mid’ (cf. §181) which obscured *-i- as a separate vowel (cf. Figure 3.29). A reader seeking assurance that type A *-in and type A *-en rhyme separately may rest secure in the knowledge that already the Qīng philologists recognized this distinction; in traditional terminology it is the difference between the 元 *yuán* and the 真 *zhēn* rhyme groups (Baxter and Sagart 2014: 203). In summary, it is judicious to reconstruct Old Chinese with six nuclear vowels *a, *e, *i, *o, *u, and *ə.

3.6 Origins of the Tones and Final Clusters

§183. Old Chinese lacked tones; the Middle Chinese tones (cf. §80) originated from Old Chinese segments. The distribution of Middle Chinese tones in *xiéshēng* series and the *Shījīng* singles out the departing tone (去聲 *qùshēng*, -H) as potentially secondary (§184). Relying on his own previous work on the origin of tones in Vietnamese, Haudricourt explains that the departing tone originated from segmental *-s or the final clusters *-ps, *-ts, and *-ks (§185). Consensus holds that the Middle Chinese rising tone (*shǎngshēng* 上聲, -X) originates from *-ʔ, but the evidence for this proposal is weaker than for the origin of the departing tone (§186).

3.6.1 Distribution of Middle Chinese Tones in Xiéshēng Series and the Shījīng

§184. The phonetic components of Chinese characters generally fall into two natural classes: (1) those appearing with characters in the level (*píngshēng* 平聲, -Ø) or rising tones (*shǎngshēng* 上聲, -X) in Middle Chinese, and (2) those appearing in characters in entering (*rùshēng* 入聲, -p, -k, or -t) tone in Middle Chinese. Phonetics of both types often serve for characters in the departing (*qùshēng* 去聲, -H) tone.

§184a. The series built on 反 (24–49) is an example of a series that combines level, rising, and departing tones.

- 24–49a 反 *baenX, pjonX*
 24–49i 飯 *bjonH, bjonX*
 24–49j 板 *paenX*
 24–49m 扳 *paen*

§184b. The series built on 各 (02–01) is an example of a series that combines entering and departing tones.

- 02–01a 各 *kak*
 02–01f 闕 *kak*
 02–01z 格 *kaek*
 02–01k’ 賂 *luH*
 02–01l’ 路 *luH*

Mon-Khmer Modern	Old Vietnamese	Vietnamese tone
-s, -h	-h	hôi-ngã
-ʔ	-ʔ	sắc-nặng
0	0	ngang-huyền

Figure 3.30 The Mon–Khmer origins of Vietnamese tones

§184c. 段玉裁 Duàn Yùcái (1735–1815), investigating the *Shījīng* rhymes, observed that rhyme sequences in the level, rising, and departing tones could be isolated, but the rhyming of departing-tone words appeared to be random. He concluded that 古無去聲 ‘there was no departing tone in Old Chinese’ (Sagart 1999a: 96). Thus, for example, in the following poem from the *Shījīng* (Ode 209) the last character in each line has a middle Chinese entering-tone reading, but three departing tones interrupt this pattern in an arbitrary way.

執爨蹠蹠 *tshjek*
 為俎孔碩 *dzyek*
 或燔或炙 *tsyaeH*
 君婦莫莫 *meak*
 為豆孔庶 *syoH*
 為賓為客 *khaek*
 獻酬交錯 *tshak*
 禮儀卒度 *duH*
 笑語卒獲 *hweak*
 神保是格 *kaek*
 報以介福 *pjuwk*
 萬壽攸酢 *dzak*

3.6.2 Origin of the Departing Tone

§185. Building on his explanation for the origin of Vietnamese *hôi-ngã* and *sắc-nặng* tones from laryngeal endings -h and -ʔ (Haudricourt 1954b; cf. Figure 3.30), Haudricourt pointed out that in the oldest layer of Chinese loanwords into Vietnamese, words in the Chinese departing tone correspond to Vietnamese words in the *hôi-ngã* tone (Haudricourt 1954a). This suggests that the origin of the Chinese departing tone is the same as that of the Vietnamese *hôi-ngã* tone. Haudricourt proposed that the departing tone arose from a suffix -s.

§185a. The explanation for departing-tone readings appearing in phonetic series with or rhyming with entering-tone readings is the simplification of final clusters. In the case of velar finals the change in question is *-ks > *-s > -H. The phonetic series built on 各 (02–01) exhibits this change.

02–01a 各 *kak* < *k^sak

02–01f 闕 *kak* < *k^sak

- 02-01z 格 *kaek* < *k^srak
 02-01k' 賂 *luH* < *r^sak-s
 02-01l' 路 *luH* < *Cə.r^sak-s

A poem from the *Shījīng* (Ode 209) also demonstrates the power of this hypothesis to improve the interpretation of rhyming in early poetry.

- 執爨蹠蹠 *tshjek* < *ts^hak
 為俎孔碩 *dzyek* < *dak
 或燔或炙 *tsyaeH* < *tak-s
 君婦莫莫 *meak* < *mr^sak
 為豆孔庶 *syoH* < *stak-s
 為賓為客 *khaek* < *k^hr^sak
 獻酬交錯 *tshak* < *ts^hsak
 禮儀卒度 *duH* < *l^sak-s
 笑語卒獲 *hweak* < *mq^wsak
 神保是格 *kaek* < *kr^sak

Character	Middle Chinese	Hàn Chinese	Foreign language transcribed
波羅奈	pa la najH	pai lai nas	Skt. <i>vārāṇasī</i>
三昧	sam mwojH	sam mæs	Skt. <i>samādhi</i> (Skt. dh- > Prakrit z-)
提謂	tej hjwijH	de wus	Skt. <i>trapaṣa</i> , Khot. <i>ttrāvāyasa</i>
忉利	taw lijH	tau lis	Skt. <i>trāyastriṃśa</i> , Khot. <i>ttāvatriśa</i>
阿魏	'a ngjwijH	?a ŋuih	Khot. <i>aṃguṣḍā</i> , Tokh. B: <i>ankwaṣ</i> , Uighur <i>'nk'pwš</i> 'asafoetida'
舍衛	syaeX hjwejH	śa? was	Skt. <i>śrāvastī</i>
迦維羅衛	kae ywij la hjwejH	kai wi lai was	Skt. <i>kapilavastu</i>
阿會亘	'a hwajH hwan	?a yuas huar	Skt. <i>abhāsvara</i>
阿迦貳吒	'a kae nyijH traeH	?a ka rīs ṭah	Skt. <i>akanīṣṭha</i>
首陀衛	syuwX da hjwejH	śu? dai was	Skt. <i>śuddhāvāsa</i>
對馬	twojH maeX	tuəs ma?	Jp. Tusima (modern Tsushima)
都賴	tu lajH	ta las	Talas
罽賓	kjejh pjien	kias pin	Kashmir
蒲類	bu lwojH	ba luis	Mong. <i>bars</i> 'tiger'
劫貝	kjaep pajH	kiap pas	Skt. <i>kārpāsa</i> 'cotton'

Figure 3.31 The 去聲 *qùshēng* tone transcribing foreign -s

報以介福 *pjuwk* < *pək
 萬壽攸酢 *dzak* < *dzək

§185b. In the case of dental finals, the final does not disappear entirely, but leaves a trace into Middle Chinese as final *-j*. The change in question is *-ts > *-js > *-jH*, as shown in the phonetic series built on 𠵹 (22–01).

22–01h 括 *khwat* < *k^wət
 22–01m 活 *hwat* < *g^wət
 22–01o 話 *hwaejH* < *g^{wr}ət-s

§185c. In the case of labial finals the early change *-ps > *-ts led to a merger of original *-ps and *-ts. After this merger, *-ts developed as immediately described (i.e. *-ts > *-js > *-jH*). The early date of the change *-ps and *-ts means that readings with final *-ts were available within a phonetic series when characters were still being coined. As a result, phonetic series with final *-p sometimes include readings with final *-t, as is the case with the series built on 入 (37–16a).

37–16a 入 *nyip* < *nup
 37–16e 內 *nwojH* < *n^ʰuts < *n^ʰups
 37–16j 訥 *nwot* < *n^ʰut

§185d. Early Chinese transcriptions of foreign words sometimes show the departing tone corresponding to foreign *-s* (Figure 3.31).⁸⁵ In addition, some

Character	Middle Chinese	Korean	
味	mijjH	맛	mas 'taste'
器	khijH	그릇	kulus 'implement, utensil'
篋	pjijH	빗	pis 'comb'
芥	kaejH	갓	kas 'mustard plant'
蓋	kajH	갓	kas 'cover, bamboo hat'
製	tsyejH	짓	cis- 'to make, construct'

Figure 3.32 The 去聲 *qùshēng* tone as Korean *-s*

⁸⁵ The examples are from Pulleyblank (1962: 217–19); I provide the Han Chinese reconstructions for reference, based on Schuessler (2009). These first seven examples Pulleyblank collected from an article by Bailey (1946). The following three examples are from Lokakṣema's (支婁迦讖 c.147–89 CE) translation of the *Prajñāpāramitā Sūtra* (*Dào Xíng Bānrùo Jīng* 道行般若經, T. 224, cited after Pulleyblank). The remaining examples come from early historical sources. The example of 劫貝 for Sanskrit *kārpāsa* 'cotton' is from Schuessler (2009: 22). In the case of the Sanskrit examples one must keep in mind that the final *-a* in Sanskrit is likely to have already become mute before these words were brought to China.

early Chinese loanwords into Korean have *-s* for Middle Chinese departing tone (Zhèngzhāng 2000: 63; cf. Figure 3.32).⁸⁶

3.6.3 Origin of the Rising Tone

§186. Mei (1970) proposes that the Chinese rising tone developed out of an earlier glottal stop ending, like the Vietnamese *sắc-nặng* tone in Haudricourt's theory. His proposal helps account for the correspondence between the Chinese rising tone and the Vietnamese *sắc-nặng* in the early layer of Chinese loanwords into Vietnamese. In further support of his proposal, Mei points to Chinese dialects which pronounce a glottal stop in some words written with characters that have rising-tone readings in Middle Chinese (1970: 89). He also notes a comment of 義淨 Yijing (635–713 CE) in his 南海寄歸內法 *Nánhǎi jìguī nèifǎ*, which explicitly says that characters used to transliterate short vowels in Sanskrit 皆須上聲讀之 'should all be read in the rising tone' (Mei 1970: 90), regardless of a character's normal reading.

This evidence that the rising tone was originally a glottal stop is not nearly as convincing as the evidence that the departing tone derives from final **-s*. Nevertheless, I represent the rising tone as *-ʔ* to accord with Baxter and Sagart (2014: 195).

3.7 Finals of Old Chinese

§187. The foregoing analysis of tonogenesis makes the tacit assumption that, when there is no reason to do otherwise, the finals *-k*, *-p*, *-t*, *-j*, *-w*, *-ng* (ŋ), *-m*, *-n* are projected directly backwards from Middle Chinese to Old Chinese. If Middle Chinese and Old Chinese displayed the same set of finals, according to the *xiéshēng* hypothesis all characters in the same *xiéshēng* series should show Middle Chinese pronunciations with the same final. In general, this situation prevails, but two interacting exceptions require comment. In one case final **-j* is present in Old Chinese, even when lacking in Middle Chinese (cf. §188). In the other case Old Chinese has **-r* where Middle Chinese has *-n* or *-j* (or *-Ø* < **-j*) (cf. §189).

⁸⁶ Schuessler objects to the blanket treatment of 去聲 *qùshēng* as *-s* on the basis of foreign transcriptions, pointing out that all of the examples in Figure 3.31 are cases of *-jH* < **-ts* (2009: 23). One may note that the Sino-Korean evidence is also of the same type. He finds that use of characters with non-dental final 去聲 *qùshēng* readings, in the rare cases they are used in foreign transcriptions, corresponds to *-h*, *-x*, or an omission of a final syllable in the foreign original (2009: 23). Schuessler consequently reconstructs **(t)s* and **h* as two distinct sources of 去聲 *qùshēng*, albeit in complementary distribution. For velar-final words, Schuessler's **-kh* is implausible, since it posits the unlikely series of changes *-ks* > *-kʰ* > *-h* rather than the more straightforward *-ks* > *-s* > *-h*. Figure 3.32 incorporates corrections suggested by Sven Osterkamp (*per litteras* 12 February 2017).

3.7.1 *-*aj Monophthongization*

§188. Baxter and Sagart (2014: 269), following Baxter (1992: 292, 413, 570–1) posit **-aj* as the Old Chinese origin of Middle Chinese *-a*.⁸⁷ The motivation for ‘*-aj* monophthongization’ is the presence of final glides in early Chinese loans into other languages and in the relevant cognates of Min dialects of Chinese. The following examples give relevant Min evidence from the Foochow dialect.

舵 *daX* (18–09-), Foochow /tuai 6/
 磨 *ma* (18–18f), Foochow /muai 2/
 我 *ngaX* (18–05a), Foochow /ŋuai 3/
 破 *phaH* (18–16o), Foochow /p^huai 5/
 跛 *paX* (18–16m), Foochow /pai 3/
 簸 *paH* (18–16n), Foochow /puai 5/

This suggestion means that a final **-j* must be added in the appropriate words in Old Chinese.

3.7.2 *Final *-r*

§189. Starostin motivated final **-r* in Old Chinese, primarily on the basis of phonetic series that mix reading that have both final *-an* and (**aj >*) *-a* in Middle Chinese (S. Starostin 1989: 399–401). The series built on 采 (24–54) is a case in point.

24–54b 番 *pa* < **p^saj* < **p^sar*
 24–54d 幡 *phjon*
 24–54g 幡 *pjon*
 24–54n 潘 *phan*
 24–54o 蟠 *ban*
 24–54r 幡 *ba* < **b^saj* < **b^sar*

Baxter and Sagart provide extensive evidence to argue that **-r > *-n* is the mainstream development whereas **-r > *-j* is typical of an eastern dialect (2014: 252–68). Although the overall thrust of Baxter and Sagart’s discussion strongly suggests **-r* as part of the Old Chinese syllable canon, because they approach the evidence unsystematically it is difficult to be confident of **-r* in any one of their reconstructions (cf. Hill 2017a). Nonetheless, in the absence of a dedicated study of Old Chinese **-r*, I have no choice but to defer to their judgements. The reader should exercise due caution wherever my argument relies on Old Chinese **-r* (i.e. §§37, 63–5, and 201).

⁸⁷ OChi. **-a* becomes MChi. *-u* in type A syllables and *-o* [Λ] in type B syllables; cf. Baxter 1992: 572, 575.

3.8 How to Reconstruct a Word in Old Chinese

§190. Baxter and Sagart do not present their system in a way that facilitates others reconstructing Old Chinese words in this system. However, because their assumptions and methods are largely explicit, it is possible to distill from their discussion a sort of ‘recipe’ for reconstructing an Old Chinese word step by step. It is most practical to approach the reconstruction of the rime (cf. §190a) and the onset (cf. §190b) separately.

§190a. The rime of an Old Chinese word can be determined with the following three steps:

1. Begin with the Middle Chinese reading.
2. Determine whether the rime has multiple origins.
3. Use *Shījīng* rhymes or *xiéshēng* evidence to identify a unique origin of the rime.

In the first step one identifies the Middle Chinese reading of the word of interest. In some cases, the Middle Chinese rime unambiguously descends from only one Old Chinese origin, e.g. the Middle Chinese rime category 模 *-u* has only Old Chinese vowel **-a* as its origin, and thus the Old Chinese ancestor of 堵 *tuX* must have had the rime **-a?*. However, in most cases the origin of a Middle Chinese rime category is ambiguous. For example, the Middle Chinese rime 麻 *-ae* merges Old Chinese **-ra* and **-raj*. Therefore, 馬 *mæX* can a priori descend from either **mr^ha?* or **mr^haj?*. Thus, in the second step one must identify whether the Middle Chinese rime has an unambiguous single origin in Old Chinese, or whether it has multiple Old Chinese origins. A list of all Middle Chinese rime categories and their respective potential origins in Old Chinese appears at §260 below. In the third step one must decide among the potential ancestral rimes using the rhymes of the *Shījīng* or *xiéshēng* evidence. The word 馬 *mæX* ‘horse’ rhymes twenty-one times in the *Shījīng*; in many cases the word it rhymes with unambiguously has the rime **-a*, e.g. 組 *tsuX* < **ts^ha?* (Ode 78.1). Therefore, we must reconstruct 馬 **mr^ha?*. In contrast, 麻 *mae* ‘hemp’, which also has a Middle Chinese reading that permits the Old Chinese rimes **-ra* and **-raj*, rhymes three times in the *Shījīng*. Two of its rhyme words are unambiguous, viz. 娑 *sa* < **s^haj* (137.2) and 歌 *ka* < **k^haj* (Ode 139.1). Baxter provides a finding list of all rhyme words in the *Shījīng* according to their *pīnyīn* transliteration (1992: 745–812); he also gives the rhyme words, with their Middle Chinese transcriptions and Old Chinese reconstructions, in the order that they appear in the *Shījīng* (1992: 583–743).⁸⁸

⁸⁸ In using Baxter (1992) one must bear in mind that he does not reconstruct Old Chinese **-r*.

Only a tiny minority of words appear as rhymes in the *Shījīng*. For words not appearing in the *Shījīng* only *xiéshēng* evidence permits the disambiguation of competing Old Chinese reconstructions. Schuessler (2009) offers the most convenient presentation of *xiéshēng* evidence. One must, however, bear in mind that his decisions of how to assemble *xiéshēng* series are his own and do not necessarily concur with those of Baxter and Sagart. Purely by way of illustration, we consider the disambiguation of the Old Chinese rimes of 馬 *mæX* ‘horse’ and 麻 *mae* ‘hemp’ using *xiéshēng* evidence. Schuessler places 麻 *mae* in series 18–18, in which one also finds 摩 *ma* descending unambiguously from *-aj (2009: 217–18). Schuessler places 馬 *mæX* in series 01–73, in which all readings have Middle Chinese -*ae*- of ambiguous origin (2009: 63). Nonetheless, Schuessler reconstructs *-a rather than *-aj, presumably on the tacit basis of the rhyme evidence presented immediately above.

§190b. The initial of an Old Chinese word can be determined, in so far as it is possible, with the following four steps:

1. Begin with the Middle Chinese initial.
2. Mechanically rewrite Middle Chinese notation in the corresponding Old Chinese notation.
3. Consult *xiéshēng* evidence to distinguish laterals, voiceless resonants, and uvulars.
4. Consult cognate Mǐn dialect forms and borrowings into other languages.

In the first step one identifies the Middle Chinese reading of the word of interest.⁸⁹

In the second step, a number of changes can be made that amount to rewriting the Middle Chinese form in the notation of Old Chinese: Middle Chinese 匣 *h-* is rewritten as Old Chinese *g- (cf. §94); 來 *l-* is rewritten as *r- (cf. §96); palatal initials and retroflex initials are mechanically replaced with dentals (i.e. 章 *tsy-* < *t-, etc. cf. §95, and 知 *tr-* [t] < *tr- etc. cf. §96); pharyngealization (ʕ) is added to syllables that lack -*j*- other than those with the main vowel -*i*-; -*j*- is removed from a syllable that has it; the velar and laryngeal initials of words with the relevant Middle Chinese rimes (viz. 唐阳 -*wang* / -*jwang*, 登 -*wong*, 庚二 -*waeng*, 耕 -*weang*, and 先 -*wen*) may be rewritten as labio-velar and labio-laryngeals (cf. §97); initial 云 *hj-* is rewritten as *g^w- (cf. §101c).

In the third step *xiéshēng* evidence permits certain mergers to be undone:

幫 *p-* originates from *p.k- if there are connections to velar stops and otherwise it continues inherited *p- (cf. §119a)

⁸⁹ In Baxter and Sagart’s system there are no cases in which the Middle Chinese initial unambiguously descends from only one Old Chinese origin, since it is always possible that there was a loose pre-initial which simply dropped. Nonetheless, some Middle Chinese initials have more origins in Old Chinese than others do. For example, leaving aside loose pre-initials, 端 *t-* has only the two origins, *t- and *C.t, but 定 *d-* derives from *d-, *f-, *N.t- *m-t, etc.

- 滂 *ph-* originates from *p.q^hs- if there are connections to 曉 *x-* (cf. §119b), from *p.r- if there are connections to 徹 *trh-* (cf. §119c), and otherwise it continues inherited *p^h-
- 透 *th-* comes from *ŋ^s- if it has connections to 泥 *n-* (cf. §100c), *ŋ^f- if it has connections to 來 *l-* (cf. §100e), or *l^f- if it has connections to 以 *y-* or 書 *sy-* (cf. §100d)
- 定 *d-* can be reconstructed as *l^f- if it has *xiéshēng* connections to initial 以 *y-* or 書 *sy-* (cf. §99 and §100d); otherwise it continues inherited *d-
- 知 *tr-* derives from *t.kr- if there are connections to velars (cf. §121a); otherwise it continues *tr-
- 徹 *trh-* may descend from *t.k^hr- if there are connections to velars (cf. §121c), or from *r- if it has connections to 來 *l-* (cf. §100e), and otherwise it continues inherited *t^hr-
- 清 *tsh-* originates from *s.ŋ^s- in series where it has connections to 泥 *n-* and *s.l- if it has connections to 定 *d-*, 透 *th-*, and 以 *y-* (cf. §115)
- 從 *dz-* comes from *s.b- if there are *xiéshēng* connections to labials (cf. §117); otherwise it continues inherited *dz-
- 心 *s-* derives from *s.m^(s)-, *s.n^(s)-, *s.ŋ^(s)-, *s.l^s-, or *s.q^w(^s)- if it has *xiéshēng* connections respectively with 明 *m-* (cf. §108a), 泥 *n-* (cf. §108b), 疑 *ng-* (cf. §108c), 定 *d-*, 透 *th-*, and 以 *y-* (cf. §108d), or 云 *hj-* and 曉 *x-* (cf. §108e)
- 邪 *z-* originates from *s.g- in series that contain characters with initial 以 *y-* (cf. §§111, 163b), or from *sə.l- if it has connections to 定 *d-*, 透 *th-*, and 以 *y-* (cf. §164), and otherwise *s.d- (or *s.m-t-) (cf. §129 and §145)
- 莊 *tsr-* originates from *s.q^r- in uvular series (§114); otherwise it continues inherited *tsr-
- 初 *tsrh-* originates from *s.r- in type B syllables if there is a connection to 生 *sr-* and *s.t^h(^s)r- if there is a connection to palatals, themselves descending from dentals in type B syllables (cf. §116)
- 生 *sr-* can descend from *s.r- if it has *xiéshēng* connections to 來 *l-* or *s.ŋr- if it has connections to 疑 *ng-* (cf. §109)
- 侯 *zr-* originates from *s.gr- in uvular series, i.e. those mixing 見 *k-*, 群 *g-*, 匣 *h-*, 曉 *x-*, and 以 *y-* (cf. §112); however, Baxter and Sagart's example is only of contact with 匣 *h-* in a series (04–30, based on 目 *yiX*) that in general appears to be a lateral series; Baxter and Sagart (2014) do not appear to propose other origins for 侯 *zr-*

- 昌 *tsyh-* may derive from *t.k^h- in type B syllables if there are connections to velar initials (cf. §121b); otherwise it derives from *t-
 書 *sy-* can be reconstructed as *ŋ- if it has connections to 泥 *n-* (cf. §100c); *l- if it has connections to 定 *d-*, 透 *th-*, or 以 *y-* (cf. §100d); or *s.t-, *s.t^h-, *s.k-, and *s.k^h- (the latter two only before front vowels) in type B syllables if there are connections to dentals or velars respectively (cf. §110)
- 船 *zy-* originates from *s.g- before front vowels in type B syllables if there are connections to velars (cf. §113)
- 以 *y-* can be reconstructed as *l- if it has connections to 定 *d-*, 透 *th-*, or 書 *sy-* (cf. §99 and §100d); otherwise it descends from *g- (cf. §101b)
- 見 *k-* originates from *k.l^ʰ- in type A syllables if the word has *xiéshēng* connections to 定 *d-*, 透 *th-*, and 以 *y-* (§120a); from *k.ʔ- if the connections are with 影 ʔ- (cf. §120c); from *C.q^ʰ- if the connections are with 曉 *x-*, 影 ʔ-, or 以 *y-* (cf. §124); and otherwise it continues inherited *k-
- 溪 *kh-* originates from *k.r^ʰ- in type A syllables if there are connections to 來 *l-* (§120b); from *C.q^h(^ʰ)- if it has connections to initials 曉 *x-*, 影 ʔ- [?], or 以 *y-* (cf. §124); and otherwise continues inherited *k^h
- 疑 *ng-* can be reconstructed as *m.q^h-, *m.g-, *N.q^h-, or *N.g- if the word has *xiéshēng* connections to initials 見 *k-*, 影 ʔ-, 以 *y-* (cf. §123a)
- Middle Chinese initial glottal stop (影 ʔ-) can be reconstructed as *q- if it has connections to 見 *k-*, 群 *g-*, 匣 *h-*, 曉 *x-*, or 以 *y-* (cf. §101); otherwise it continues inherited *ʔ-
- 曉 *x(j)-* can be reconstructed as *ŋ^(ʰ)- if it has connections to 疑 *ng-* (cf. §100a) or *m^ʰ- if it has connections to 明 *m-* (cf. §100b); otherwise it descends from *q^h- (cf. §102 and §101a)
- 匣 *h-* (i.e. *g- in type A syllables following the mechanical rewriting of step 2) can be reconstructed as *g^ʰ- if it has connections to 影 ʔ- [?] or 以 *y-* (cf. §101a); otherwise it descends from *g- (cf. §94)

In principle the fourth step is to consider the evidence of Mǐn, Hmong-Mien, Vietic languages, etc. Unfortunately, this step is currently impractical. Schuessler (2009) does not include such information and Baxter and Sagart (2014) do not present such information in a comprehensive, lexicographically convenient format. Until the requisite information is collected in a convenient format, if one wants to incorporate these sources of evidence the only option is to credulously use the reconstructions that Baxter and Sagart (2014) offer.

Middle Chinese	Old Chinese	<i>xiéshēng</i> connections	Reference
幫 <i>p-</i>	< *p.k- < *p-	velar stops otherwise	(cf §119a)
滂 <i>ph-</i>	< *p.q ^{hc} - < *p.ʃ- < *p ^h -	曉 <i>x-</i> 徹 <i>trh-</i> otherwise	(cf. §119b) (cf §119c)
透 <i>th-</i>	< *t ^ʃ - < *t ^ʃ - < *t ^ʃ -	泥 <i>n-</i> 來 <i>l</i> , 以 <i>y-</i> or 書 <i>sy-</i>	(cf. §100c) (cf. §100e) (cf. §100d)
定 <i>d-</i>	< *t ^ʃ - < *d ^ʃ -	以 <i>y-</i> or 書 <i>sy-</i> otherwise	(cf. §99)
知 <i>tr-</i>	< *t.kr- < *tr-	velars otherwise	(cf. §121a)
徹 <i>trh-</i>	< *t.k ^h r- < *t ^ʃ - < *t ^h r-	velars 來 <i>l</i> otherwise	(cf. §121c) (cf. §100e)
清 <i>tsh-</i>	< *s.t ^ʃ - < *s.ʃ- < *ts ^h -	泥 <i>n-</i> 定 <i>d-</i> , 透 <i>th-</i> , and 以 <i>y-</i> otherwise	(cf. §115)
從 <i>dz-</i>	< *s.b- < *dz-	labials otherwise	(cf. §117)
心 <i>s-</i>	< *s.m ^(ʃ) - < *s.n ^(ʃ) - < *s.ŋ ^(ʃ) - < *s.ʃ- < *s.q ^(w) (ʃ)-	明 <i>m-</i> 泥 <i>n-</i> 疑 <i>ng-</i> 定 <i>d-</i> , 透 <i>th-</i> , and 以 <i>y-</i> 云 <i>hj-</i> and 曉 <i>x-</i>	(cf. §108a) (cf. §108b) (cf. §108c) (cf. §108d) (cf. §108e)

Figure 3.33 Old Chinese origins of Middle Chinese initials

Middle Chinese	Old Chinese	<i>xiéshēng</i> connections	Reference
邪 <i>z-</i>	< *s.g- < *sə.l- < *s.d- (or *s-m-t-)	以 <i>y-</i> 定 <i>d-</i> , 透 <i>th-</i> , and 以 <i>y-</i> otherwise	(cf. §§111, 163b) (cf. §164) (cf. §129 and §145)
莊 <i>tsr-</i>	< *s.qʳ-	uvular series	(cf. §114)
初 <i>tsrh-</i>	< *s.ɿ- < *s.tʰ(ʳ)-	生 <i>sr-</i> palatals < *dentals	(cf. §116) (cf. §116)
生 <i>sr-</i>	< *s.r- < *s.ŋr-	來 <i>l-</i> 疑 <i>ng-</i>	(cf. §109) (cf. §109)
俟 <i>zr-</i>	< *s.gr- unclear	匣 <i>h-</i> otherwise	(cf. §112)
昌 <i>tsyh-</i>	< *t.kʰ- < *t-	velar initials otherwise	(cf. §121b)
書 <i>sy-</i>	< *ŋ- < *ɿ- < *s.t- < *s.tʰ- < *s.k- (before front vowels) < *s.kʰ- (before front vowels)	泥 <i>n-</i> 定 <i>d-</i> , 透 <i>th-</i> , or 以 <i>y-</i> dentals dentals velars velars	(cf. §100c) (cf. §100d) (cf. §110) (cf. §110) (cf. §110) (cf. §110)
船 <i>zy-</i>	< *s.g- (before front vowels)	velars	(cf. §113)
以 <i>y-</i>	< *l- < *G-	定 <i>d-</i> , 透 <i>th-</i> or 書 <i>sy-</i> otherwise	(cf. §99) (cf. §101b)
見 <i>k-</i>	< *k.lʰ- in type A syllables < *k.ʔ- < *C.qʰ- < *k-	定 <i>d-</i> , 透 <i>th-</i> , and 以 <i>y-</i> 影 'l' 曉 <i>x-</i> , 影 'l', or 以 <i>y-</i> otherwise	(cf. §120a) (cf. §120c) (cf. §124)
溪 <i>kh-</i>	< *k.rʰ- in type A syllables < *C.qʰ(ʳ)- < *kʰ-	來 <i>l-</i> 曉 <i>x-</i> , 影 'l' [ʔ], or 以 <i>y-</i> otherwise	(cf. 120b) (cf. §124)

Figure 3.33 (Cont.)

Middle Chinese	Old Chinese	<i>xiéshēng</i> connections	Reference
疑 <i>ng-</i>	< *m-q ^h , *m-g-, *N-q ^h , or *N-g- < *ŋ ^c -	見 <i>k-</i> , 影 ^l , 以 <i>y-</i> otherwise	(cf. §123a)
影 ^l	< *q- < *ʔ-	見 <i>k-</i> , 群 <i>g-</i> , 匣 <i>h-</i> , 曉 <i>x-</i> , 或以 <i>y-</i> otherwise	(cf. §101)
曉 <i>x(j)-</i>	< *ŋ(ʰ)- < *ŋ ^r - < *q ^h -	疑 <i>ng-</i> 明 <i>m-</i> otherwise	(cf. §100a) (cf. §100b) (cf. §102 and §101a)
匣 <i>h-</i>	< *g ^s - < *g-	影 ^l [ʔ] 或以 <i>y-</i> otherwise	(cf. §101a) (cf. §94)

Figure 3.33 (Cont.)

3.9 From Old Chinese to Trans-Himalayan

§191. Now that the lengthy presentation of Old Chinese and its reconstruction is in place, attention turns to innovations that Old Chinese reflects vis-à-vis the Trans-Himalayan proto-language. Because of the ambiguous and indirect nature of information about the pronunciation of Old Chinese it is not easy to draw a sharp line between Old Chinese and forms of speech ancestral to it. The most clear-cut methodological approach is to conceptualize as Old Chinese only as much as can be known without recourse to comparative data. The application of this methodological principle means that some of the mergers which Baxter and Sagart treat as taking place within the history of Chinese are presented here (cf. §§192–5).

All of the changes from Trans-Himalayan to Chinese are mergers and these changes do not interact with one another. As a consequence it is not possible to resolve the relative chronology of these changes. The approach here is first to present those mergers that Baxter and Sagart treat as Chinese-internal and then to turn to changes proposed entirely on the basis of comparison to Tibetan and Burmese.

3.9.1 Merger of Velars and Dentals after -i-

§192. In Old Chinese it is difficult to distinguish dentals and velars after the vowel -i- (Baxter 1992: 435–7). Because Burmese merges dentals and velars after -i-, it is of no help in resolving the Chinese ambiguity (cf. §61).

§192a. Examples to be reconstructed *iŋ:

Chi. 年 *nen* < *C.n^hi[ŋ] (32–28a) ‘harvest, year’, Tib. ན་ཉིན་ *na-niñ* ‘last year’

Chi. 薪 *sin* < *si[n] (32–33n) ‘firewood’, Tib. ལྷོ་ *śin* ‘wood’

Chi. 莘 *srin* < *sri[n] (32–33h) ‘long, drawn-out’, Tib. རྩོད་ *rin* ‘long’

Chi. 仁 *nyin* < *ni[ŋ] (32–28f) ‘kindness’, Tib. སྙིང་ *sñiñ* ‘heart’

§192b. Examples to be reconstructed *-in:

- Chi. 憐 *len* < *r^hiŋ (32–261) ‘love, pity’, Tib. ཇིན་ *drin* ‘kindness’
 Chi. 辛 *sin* < *sin (32–33a) ‘pungent, painful’, Tib. མཚོན་ *mčhin*
 ‘liver’

§192c. Examples to be reconstructed *ik:

- Chi. 縊 *ejH* < *q^hiks (08–05g) ‘strangle’, Tib. འཇམ་གཏུག་ *hkhvig*
 Chi. 節 *tset* < *ts^hik (29–30e) ‘joint of bamboo’, Tib. ཚེན་མཚམས་ *tshigs* ‘joint’
 Chi. 蝨 *srit* < *sri[k] (29–35a) ‘louse’, Tib. ཤིག་ *sig*

3.9.2 Labial Neutralization

§193. Because of an early neutralization of labial and non-labial vowels before labial consonants in Old Chinese, it is difficult to distinguish among *-up, *-op, *-əp, or among *-um, *-om, and *-əm (Baxter 1992: 541–53, Baxter and Sagart 2014: 306). In principle, comparative evidence is available to support the reconstruction of one vowel or another.

- Chi. 入 *nyip* < *nup (37–16a) ‘enter’, Tib. ལྷུབ་ *nub* ‘sink, set’
 Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’, Tib. འཇམ་གཏུག་ *hkhrah* < *hkrəp
 ‘strike, stamp, tread heavily’, OBur. ལྷོ་ *ryap* ‘stand, stop, halt’
 Chi. 三 *sam* < *srum (38–30a) ‘three’, Tib. གསུམ་ *gsum*, Bur. འདྲེ་
sumh
 Chi. 含 *hom* < *Cə-m-k^həm (38–031) ‘hold in the mouth’, Tib. འགམ་
hgam < *hgam ‘put in the mouth’
 Chi. 尋 *zim* < *sə-l[ə]m (38–17) ‘warm up (food)’, Bur. འདྲེ་ *lum* ‘warm’

3.9.3 Inability to Distinguish *-u- and -ə- before Acutes

§194. In many cases Chinese has the vowel *-ə- where one expects *-u-. Because in Old Chinese it is difficult to distinguish *-ən, *-ər, and *-əj from *-un, *-ur, and *-uj (Baxter 1992: 427–8, 550; Hill 2012b: 18–21), it is likely that this complication is due to an incorrect reconstruction of the vowels in Old Chinese.

- Chi. 運 *hjunH* < *[ɕ]^wər-s (23–13d) ‘move’, Tib. འགྲུལ་ *hgul* < *hcul
 (Peiros and Starostin’s law; cf. §34) ‘move’
 Chi. 眉 *mij* < *mrər (27–14a) ‘eyebrow’, WBur. མཚམས་ *mweh* < *muyh
 ‘body hair’
 Chi. 根 *kon* < *[k]^sə[n] (33–01b) ‘root, trunk’, Tib. ལུས་མ་ *khul-ma*
 ‘bottom or side of sth’

- Chi. 銀 *ngin* < *ŋrə[n] (33–01k) ‘silver’, Tib. དྲུག་ *dñul* ‘silver’,
 OBur. ḥny ‘silver’
- Chi. 齧 *ngjin* < *ŋə[n] (cf. §201) (33–01-) ‘gums’, Tib. རྩི་ *rñil* <
 *rñ’il ‘gums’
- Chi. 分 *pjun* < *pə[n] < *pərl (cf. §201) (33–30a) ‘divide’, Tib. རྩལ་
hbul < *hburł, རྩལ་ *hphul* ‘give’
- Chi. 塵 *drin* < *[d]rə[n] (33–17a) ‘dust’, Tib. རྩལ་ *rdul* < *rdurł
 (cf. §37) ‘dust’
- Chi. 貧 *bin* < *(Cə)[b]rə[n] < *(Cə)[b]rərl (cf. §201) (33–30v)
 ‘poor’, Tib. རྩལ་ *dbul*
- Chi. 軍 *kjun* < *[k]wər (34–13a) ‘army’, Tib. རྩལ་ *g.yul* ‘army,
 battle’

3.9.4 Inability to Recognize -r- in Certain Circumstances

§195. A wide variety of sound changes in the history of the Chinese language led to a merger of syllables with and without medial *-r-. Thus, in many circumstance it is difficult to know whether Old Chinese has a medial *-r-. Using ‘K’ for velars, uvulars, labio-velars, and labio-uvulars; ‘P’ for labials; and ‘C’ for any consonants, the specific environments in which medial *-r- is lost without trace are *K(r)ə, *K(r)u, *K(r)ək, *K(r)uk, *K(r)oŋ, *P(r)u, *P(r)uk, *P(r)a, *Praj, *P(r)aw, and *C(r)ok in type B syllables, as well as *C^s(r)o in type A syllables (Baxter and Sagart 2014: 214, 218, 243, 245).

§195a. Some comparisons suggest a lack of medial *-r- in Old Chinese:

- Chi. 極 *gik* < *[g](r)ək (05–04e) ‘ridge of roof, highest point, centre’, Tib. མཁམ་ *mkhah* ‘sky’
- Chi. 後 *huwX* < *[g^s](r)o? (10–08a) ‘behind’, Tib. རྩོག་ *hog* ‘under’
- Chi. 舅 *gjuwX* < *[g](r)u? (04–16b) ‘maternal uncle’, Tib. རྩལ་ *khu*
 ‘paternal uncle’
- Chi. 蜂蠶 *phjowng* < *p^h(r)oŋ (12–25st) ‘bee’, Tib. རྩལ་ *bun-ba*

§195b. Other comparisons appear to confirm the presence of a medial *-r- in Old Chinese:

- Chi. 蚰 *xuwX* < *q^hs(r)o? (10–01n) ‘ant’, Tib. རྩོག་མོ་ *grog-mo*
- Chi. 羽 *hjuX* < *g^w(r)a? (01–24a) ‘feather’, Tib. རྩོག་ *sgro* < *sg^wra
- Chi. 誑 *pje* < *p(r)aj (18–16h) ‘one-sided, insincere words’, Tib. རྩོག་
phra-mo ‘slander’
- Chi. 披 *phje* < *p^h(r)aj (18–16j) ‘divide’, Tib. རྩལ་ *hbral* ‘be separate, to part’, Bur. ꠠꠦꠣꠦꠣꠦ *prāh* ‘be divided into parts’

3.9.5 Coblin's Conjecture: *Tr- < *rT-

§196. Coblin proposes that the correspondence of Chinese *Tr with Tibetan Tr- be reconstructed *rT in the proto-language (1986: 21–2). Gong reiterates this suggestion, further conjecturing that *rT continued into the Old Chinese period (2000 [2002]: 171). Handel concurs with Gong that *Tr should take the form *rT in Old Chinese (2009: 211–17); he offers the Chinese internal evidence that ‘dimidiated clusters’ suggest *Kr- (e.g. 康良 *khang ljang* ‘empty’ < *k^hr-) and *Pr- (e.g. 朦朧 *muwng luwng* ‘indistinct’ < *mr^s-) but not *tr- (2009: 215). Because this proposal improves correspondences to Tibetan, I assume it as a working hypothesis. The orthographic representation of Coblin’s conjecture as a change from the proto-language to Old Chinese via a metathesis, i.e. *rT- > *Tr-, does not necessarily have its face value. Instead, *-r- in Baxter and Sagart’s system indexes all origins of Middle Chinese retroflex initials (cf. §96), division-ii rimes (cf. §176), and *chóngniú* rank-iii rimes (cf. §172), including both medial *-r- and, if one accepts Coblin’s conjecture, initial *-r-, at least before dentals. In other words, if Coblin’s conjecture is correct then the sequence *rT- existed as such in Old Chinese.

Chi. 撞 *draewng* < *[N-t]ʳoŋ < *[N-]r[t]ʳoŋ (12–08f) ‘strike’, Tib.

རྩོ རདུམ

Chi. 塵 *drin* < *[d]rə[n] < *r[d]ə[n] (33–17a) ‘dust (n.)’, Tib. རྩོལ

རདུལ

Chi. 冢 *trjowngX* < *[t]roŋʔ < *r[t]oŋʔ (11–13h), ‘tomb mound’,

Tib. རྩོ རདུམ ‘small mound, hillock’, WBur. တောငါး တံ *toŋ* < *tuŋ
‘hill, mountain’

Chi. 晝 *trjuwH* < *truks < *rtuks (14–09a) ‘time of daylight’, Tib.

གཟུགས་ གདུགས་ ‘midday, noon’

Chi. 綴 *trjwet* < *trot < *rtot (22–10b) ‘bind’, Tib. རྩོ རདུམ (pres. རྩོ)

‘tether, fasten, secure’

Chi. 楸 *traewk* < *tr^sok < *rt^sok (11–13c) ‘beat, strike’, Tib. རྩོ རདུག

‘conquer’

§196a. Coblin’s conjecture still leaves many examples of medial *-r- in Chinese without a corresponding rhotic in Tibetan or Burmese.

Chi. 殼 *khaewk* < *[k^h]ʳok (11–03a) ‘hollow shell, hollow’, Tib. རྩོ རདུམ

skog ‘shell, peel’, WBur. ခေါက် *khok* < *ʳkuk ‘bark (n.)’, Atsi ʳku⁵⁵

Chi. 銀 *ngin* < *ŋrə[n] (33–01k) ‘silver’, Tib. རྩོ རདུམ, OBur. ငှက်

nuy

Chi. 眉 *mij* < *mrəŋ (27–14a) ‘eyebrow’, WBur. မွေး *mweh* < *muyh

‘body hair’

Chi. 貧 *bin* < *(Cə.)[b]rə[n] (33–30v) ‘poor’, Tib. རྩོ རདུམ

dbul

- Chi. 虎 *xuX* < *q^hra? ‘tiger’ (01–18b), Tib. མཉལ་ *stag*
 Chi. 膚 *pju* < *pra (01–51g) ‘skin’,⁹⁰ Tib. ལྗགས་ *lpags*
 Chi. 蝨 *srit* < *sri[k] (29–35a) ‘louse’, Tib. ཤིག་ *śig*
 Chi. 殺 *sreat* < *srat (21–29d) ‘kill’, Tib. འཇགས་ (pres. གསོད་ *gsod*), Bur. འཇགས་ *sat* < *ʔsat, Lashi ʔsa:tH
 Chi. 三 *sam* < *srum (38–30a) ‘three’, Tib. གསུམ་ *gsum*, Bur. འདྲེ་ *sumh* < *sumh, Lashi sɔmH
 Chi. 沙 *srae* < *sʳaj (18–15a) ‘sand’, Tib. ས་ *sa* ‘earth’, Bur. འདྲེ་ *sai* ‘sand’

§196b. Handel offers an explanation for the correspondence of *sr- in Chinese to Tibetan *s-* (or *ś-*) seen in the immediately preceding four examples, namely that Chinese maintains inherited *sr-, which Tibetan (and all languages of the family except Chinese) simplify to *s-* before vowels other than inherited *-e- and *-i- (2009: 201–9). He discusses the following examples:⁹¹

- Chi. 殺 *sreat* < *srat (21–29d) ‘kill’, Tib. འཇགས་ (pres. གསོད་ *gsod*), Bur. འཇགས་ *sat* < *ʔsat, Lashi ʔsa:tH
 Chi. 沙 *srae* < *sʳaj (18–15a) ‘sand’, Tib. ས་ *sa* ‘earth’, Bur. འདྲེ་ *sai* ‘sand’
 Chi. 蝨 *srit* < *sri[k] (29–35a) ‘louse’, Tib. ཤིག་ *śig*
 Chi. 甥 *sraeng* < *s.reŋ (09–25g) ‘son-in-law’, Tib. སྲིང་མོ་ *sriñ-mo* ‘sister of a man’
 Chi. 產 *sreanX* < *s-ŋrar? (34–46a) ‘produce’, Tib. སྲེལ་ *srel* ‘rear, bring up’

⁹⁰ Perhaps cognate to the ལྗགས་ *prāh* (< *brāh) of WBur. འཇགས་ལྗགས་ *a-re-prāh* ‘skin’, in which case the Tibetan form is potentially not cognate.

⁹¹ Handel additionally compares Chi. 鼬 *sjengH* < *sreŋ (09–25u) ‘weasel’ to Tibetan སྲིང་མོ་ *sre-moñ* ‘mongoose’ (2009: 201), a comparison he derives from Benedict (1972: 79). These forms are not a good phonetic match. In addition, mongooses are not native to Tibet, so if the words are connected it is not as cognates. Handel additionally mentions two comparisons noted by Coblin (1986: 115, 128), viz. Chi. 雙 *sraewng* < *sʳoŋ ‘a pair’ (12–24a), Tib. རྩོད་ *zuñ* < *dzuŋ, Bur. འདྲེ་ *-cum* and Chi. 率 *srwijH* < *s-rut-s (31–23a) ‘lead (v.); commander’, Chi. 帥 *srwijH* < *s-rut-s (31–24a) ‘leader (of an army)’, Tib. སྲིད་ *srid* ‘government’. The correspondence seen in ‘pair’ conforms to Handel’s proposal in so far as the Tibetan word lacks a medial *-r-*, but it contradicts his proposal in that the Tibetan initial is *z-* < *dz- rather than *s-*. Jacques rejects this pair as cognates because of the irregular initial correspondence (2015: 218, 221 note 18). Because the second comparison shows an irregular vowel correspondence, it is difficult to evaluate whether it supports or contradicts Handel’s proposal. One may note that no Tibetan words begin *sru-, and consequently suggest that Tib. སྲིད་ *srid* ‘government’ derives regularly from *sru-. Jacques (2015: 216, 221 note 2) rejects this comparison, both on the basis of the irregular vowel correspondences and because he sees the Chinese word as deriving from 律 *lwit* < *rut (31–18c). Note that Tib. སྲིད་ *srid* does not mean ‘government’ in isolation but only in the compounds ཆས་ སྲིད་ *chab-srid* or ཆུ་སྲིད་ *chu-srid* composed of ‘water’ plus ‘possible, exist’ (cf. Ishikawa 1998).

Chi. 漱 *sraewk* < *s^hrok (11–21o) ‘suck, inhale’, WBur. འདོད་ལྟོ་ *sok*
 < *śuk ‘drink’, Lashi *śu.kH*

To these one can further offer the following comparisons:

Chi. 三 *sam* < *srum (38–30a) ‘three’, Tib. གསལ་མཁའ་ *gsum*, Bur. འདྲེ་
sumh < *sumh, Lashi *səmH*

Chi. 獭 *that* < *r^hat (21–24i) ‘otter’, Tib. སྐལ་ *sram*, Bur. འཕྱུག་ *phyam*,
 Lashi ?*sam*

The five examples ‘kill’, ‘sand’, ‘three’, ‘son-in-law’, and ‘produce’ conform to the pattern Handel describes. He acknowledges that ‘louse’ contradicts his hypothesis, finding it best to ‘attribute the variation in Tibetan to an unknown cause’ (2009: 209) and criticizing Benedict (1972: 108 n. 304) for setting up *śr- and *sr- on the sole basis of the two outcomes *śr- > ś- and *sr- > sr- in Tibetan. The same criticism applies to Jacques’s reconstructions of Tibetan ś- < *sr- versus sr- < *sə.r- to explain the same two examples (2015: 217). The different reconstructed initials *sr- versus *s.r- in Baxter and Sagart’s system imply an explanation similar to Jacques’s. For ‘otter’ Handel resolves the obstacle of sr- in Tibetan appearing before -a- by reconstructing *s-ram ‘otter’ rather than *sram; for him there is ‘no apparent cognate in Chinese’ (2009: 202 note 20). This *sr- versus *s.r- notational slight of hand, exactly akin to the tack of Benedict that Handel rejects, has no descriptive or explanatory power.⁹²

§196c. Guillaume Jacques rejects Handel’s explanation of the development of *sr-. First, he objects to the comparison of Chinese 產 *sreanX* < *s-ŋrən? (34–46a) ‘produce’ to Tibetan སྐྱེལ་ *srel* ‘rear, bring up’ (2015: 216, 221 note 2), but in so doing puts undue weight on Baxter and Sagart’s reconstruction. Handel reconstructs *s^hren? (2009: 200, 204) and Schuessler *s^hran? / *s^hren? (2009: 291). Second, Jacques points out that Japhug Rgyalrong maintains medial -r- in two cognates where Chinese has the vowel *ə.

Chi. 色 *srik* < *srək (05–31a) ‘colour, sex, shame’, Japhug Rgy. *tr-zrak* ‘shame’

Chi. 參 *syim* < *srəm (38–29a) ‘rhizome’, Japhug Rgy. *tr-zrəm*
 ‘root’⁹³

These two examples ensure that Handel’s proposal that all languages except Chinese change *sr- to s- before all vowels except *-e- and *-i- cannot be

⁹² From these scant data in support of a Tibetan innovation (i.e. *sr- > s- except before -e- and -i-), Handel concludes that ‘the loss of medial *-r- after initial *s- in PTB [Proto-Tibeto-Burman] is a common innovation that provides evidence supporting the early split of Chinese from the common PST stock, before the subsequent ramification of Tibeto-Burman’ (Handel 2009: 204). This reasoning would be correct if Benedict’s reconstructions reflected systematic correspondences among all the so-called ‘Tibeto-Burman’ languages, but they do not.

⁹³ Jacques (2017a) further proposes Tib. གསལ་མཁའ་ *gsam* ‘base, underpart’ as a cognate.

correct. Jacques (2015: 219–20) offers three explanations for the attested correspondences: (1) Languages other than Chinese share a change *sr- to s-, conditioned by a following inherited *-a- and possibly also *-o-. (2) Chinese innovates medial *-r- through infixation (cf. Baxter and Sagart 2014: 57–8). (3) Current reconstructions of Old Chinese include too many instances of medial *-r-. Jacques remains agnostic among these three possibilities.

3.9.6 Pulleyblank's Conjecture: *Cr- < *RC-

§197. Returning to the Tibetan correspondences of those Chinese words that have an unexpected medial *-r- permits further contemplation of Jacques's third option. In most cases Tibetan exhibits a complex onset with a མྱོན་འཇུག་ *sñon-hjug* or མཛོག་ཅན་ *ngo-can* consonant, i.e. s-, d-, l-, or g-. The overall pattern of unexpected Chinese *-r- corresponding to Tibetan complex onsets entitles one to speculate that Chinese had some 'pre-initial' in these words that conditioned the same effects in Middle Chinese as Old Chinese *-r-. This speculation extends Coblin's conjecture to environments beyond the dental stops. Because it is unlikely that specifically *-r- was the 'pre-initial' in all of these words, it is more suitable to reconstruct *R- as a convention to mean 'an indeterminate initial of a complex onset which bears the same effects as *-r-'. Particularly based on the comparison of Tibetan གསོད་ *gsod* 'kill' with Chinese 殺 *sreat* < *srat (21–29d), Pulleyblank posits *ks- as an origin of Middle Chinese 生 *sr-* (1965: 206–7). Gong similarly proposes *rsat as the origin of Chinese 殺 *sreat* < *srat (21–29d) (2002: 171).

Chi. 殼 *khaewk* < *[k^h]rok < *R[k^h]ok (11–03a) 'hollow shell, hollow', Tib. སྐོག་ *skog* 'shell, peel'

Chi. 銀 *ngin* < *ŋrə[n] < *Rŋə[n] (33–01k) 'silver', Tib. དྲུལ་ *dhul*

Chi. 貧 *bin* < *(Cə)[b]rə[n] < *(Cə)R[b]ə[n] (33–30v) 'poor', Tib. དཔུལ་ *dbul*

Chi. 虎 *xuX* < *q^hra? 'tiger' < *Rq^ha? (01–18b), Tib. སྟག་ *stag*

Chi. 膚 *pju* < *pra < *Rpa (01–51g) 'skin', Tib. ལྗགས་ *lpags* (§196a n. 169)

Chi. 殺 *sreat* < *srat < *Rsat (21–29d) 'kill', Tib. འཇུག་ (pres. གསོད་ *gsod*)

Chi. 三 *sam* < *srum < *Rsum (38–30a) 'three', Tib. གསུམ་ *gsum*

§197a. There are two comparisons, in which the Tibetan cognates have a simplex onset; these are apparent counterexamples to Pulleyblank's conjecture.

Chi. 蝨 *srit* < *sri[k] (29–35a) 'louse', Tib. ཤིག་ *sig*

Chi. 沙 *srae* < *s^hraj (18–15a) 'sand', Tib. ས་ *sa* 'earth'

In the first of these apparent exceptions, the Japhug Rgyalrong cognate *zruy* ‘louse’ confirms that the Chinese onset *sr- is original. One may suggest that Tibetan underwent a change *sr- > ś- conditioned by the vowel -i-. Because the change *sr- > ś- preceded Dempsey’s law *-eŋ > -iŋ (cf. §14), Tibetan ལྷོ་མོ་ *sriñ-mo* < *sreñ-mo ‘sister of a man’ avoided the former change (cf. Chi. 甥 *sraeng* < *s.reŋ [09–25g] ‘son-in-law’). I have no explanation for the correspondence seen in ‘sand’.

§197b. Fitting Burmese evidence into the overall picture of the sibilants is not straightforward (cf. §220).

3.9.7 Old Chinese *-k < *-k, *-kə

§198. Karlgren (1931: 43–4) noticed that Old Chinese *-k often corresponds to an open syllable in Tibetan. Karlgren consequently suggests that Chinese *-k is a ‘suffix’, although endowed with no morphological significance. Although Burmese always has an open syllable in the relevant cases (cf. §74), in many cases Tibetan has a final -h [-x] (cf. Hill 2011b: 453; and cf. §38). The correspondence of Chinese *-k to velar-stop finals in Tibetan and Burmese must be reconstructed *-k in the common ancestor (cf. §198a). The correspondence to open syllables (and Tibetan -h) is more difficult to reconstruct. It is possible to project the Tibetan [-x] back onto the proto-language, but this proposal suggests an unlikely fortition in the history of Chinese *-x > *-k. Thai underwent a similar fortition in syllable onsets (Brown 1965: 62, 146; Li 1977: 207–14), but I am unaware of a case of unconditioned fricative hardening in syllable-final position. A phonetically more plausible reconstruction is *-kə, developing to *-k in Chinese via apocope, and undergoing a series of changes such as *-kə > *-gə- > *-γə > *-γ > *-x in Tibetan and Burmese, with subsequent unconditioned loss of *-x in Burmese and the same loss in Tibetan during historical times, conditioned by all vowels except for -a.

§198a. Examples to be reconstructed *-k:

Chi. 夜 *yaeh* < *N.raks (02–27j) ‘night’, Tib. རྩམ་ *zag* < *rʰak (Benedict’s law; cf. §15) ‘day, 24hrs’, Bur. ရက် *ryak*

Chi. 隻 *tsyek* < *tek (08–11c) ‘single’, Tib. གཅིག་ *gčig* < *gtʰig ‘one’, Bur. တစ် *tac* < *dik (Wolfenden’s law; cf. §54)

Chi. 燭 *tsyowk* < *tok (11–12e) ‘torch’, Tib. དུག་ *dugs* ‘kindle, light (v.)’, WBur. တောက် *tok* < *duk (Maung Wun’s law; cf. §55) ‘blaze, flame, shine’

Chi. 毒 *dowk* < *dʰuk (14–05a) ‘poison’, Tib. དུག་ *dug*, WBur. တောက် *tok* < *duk (Maung Wun’s law) ‘be toxic’

Chi. 六 *ljuwk* < *k.ruk (14–16a) ‘six’, Tib. ལྷལ་ *drug*, WBur. རྒྱུ་ཁོ་ *khrok* < *kruk (Maung Wun’s law), Lashi *khjukH*

For a complete list of examples of this correspondence see §263.

§198b. Examples to be reconstructed *-kə:

Chi. 渡 *duH* < *d^hak-s < *d^hakə-s⁹⁴ (02–16b) ‘ford’, Tib. རྩམ་ *hdaḥ* ‘pass (v.)’

Chi. 射 *zyek* < *Cə.lak < *Cə.lakə (02–26a) ‘hit with bow and arrow’, Tib. མཚན་ *mdaḥ* < *mlaḥ (Bodman’s law; cf. §18) ‘arrow’, OBur. ལྷ་: *mlāḥ*

Chi. 澤 *draek* < *l^hrak < *l^hrakə (02–25o) ‘marsh, moisture’, Tib. རྩམ་ *bzáḥ* < *bl^haḥ (Benedict’s law; cf. §15) ‘wet’

Chi. 百 *paek* < *p^hrak < *p^hrakə (02–37a) ‘hundred’, Tib. ལྷལ་ < OTib. རྩམ་ *brgyaḥ* (PT 1111, l. 5 *et passim*) < *bryaḥ (Li’s law; cf. §25), OBur. རྩམ་ *ryā*

Chi. 魄 *phaek* < *p^hrak < *p^hrakə (02–38o) ‘soul’, Tib. ལྷལ་ *bla* < OTib. རྩམ་ *brlaḥ* (PT 1287, l. 57), WBur. ལྷལ་ལྷལ་ *lipprā* ‘butterfly, soul’

Chi. 極 *gik* < *[g](r)ək < *[g](r)əkə (05–04e) ‘ridge of roof, highest point, centre’, Tib. མཚན་ *mkhaḥ* ‘sky’

Chi. 易 *yek* < *lek < *lekə ‘change; exchange’ (08–12a), Tib. རྩམ་ *rje* < *rl^hye ‘exchange’, Bur. ལོ་ *lai* ‘exchange’ (cf. §36a n. 48)

Chi. 角 *kaewk* < *C.k^hrok < *C.k^hrokə (11–02a) ‘horn, corner’, Tib. ལྷལ་ *ru* ‘horn’, ལྷལ་ *gru* ‘corner’, WBur. ལྷལ་ *khyui* ‘horn’

Chi. 蝮 *phjuwk* < *p^huk < *p^hukə (14–26j) ‘a kind of snake’, Tib. རྩམ་ *hbu* ‘worm, insect’, OBur. ལྷལ་: *puiwh* ‘insect’

Chi. 日 *nyit* < *C.ni[k] < *C.nikə (29–26a) ‘sun’, Tib. ལྷལ་ *ñi-ma* ‘sun’ < *n^hi, OBur. ལྷལ་: *ny* ‘sun’

Chi. 漆 *tshit* < *ts^hi[k] < *ts^hikə (29–32a) ‘varnish’, Tib. ལྷལ་ *tshi* ‘sticky matter’, WBur. ལོ་: *ceḥ* < OBur. *ciyḥ ‘be sticky, adhesive’

3.9.8 Old Chinese *-ʔ < *ʔ, *-q

§199. Chinese final glottal stop sometimes corresponds to a -k in Tibetan or Burmese (Bodman 1980: 134 *et passim*, Zhèngzhāng 2000: 66; cf. §§39, 73). Tibetan and Burmese words ending in velar stops most frequently correspond to Chinese *-k (cf. §263), and Chinese *-ʔ also corresponds to Tibetan and Burmese open syllables. To account for this triple correspondence (Chi. *-k:: Tib. -g:: Bur. -k; Chi. *-ʔ:: Tib. -g:: Bur. -k; Chi. *-ʔ:: Tib. Ø:: Bur. -Ø) it is

⁹⁴ One may assume that the suffix -s was only applied after the loss of *-ə, but the current notation is most explicit and therefore most helpful.

necessary to reconstruct a Trans-Himalayan segment *-q that becomes *-ʔ in Chinese but -k in Tibetan and Burmese. Sagart (2017) points out that in favour of this reconstruction are such Austronesian cognates as *punuq ‘brain’.

§199a. Examples to be reconstructed *-k:

- Chi. 夜 *yaeH* < *N.raks (02–27j) ‘night’, Tib. ལག་ *zag* < *rʷak ‘day, 24hrs’, Bur. ရၢ် *ryak*
 Chi. 隻 *tsyek* < *tek (08–11c) ‘single’, Tib. གཅིག་ *gčig* < *gtʷig, Bur. འདྲི *tac* < *dik ‘one’
 Chi. 燭 *tsyowk* < *tok (11–12e) ‘torch’, Tib. སྲོལ་ *kindle, light (v.)*, WBur. ཇོ་ཇོ་ཇོ་ *tok* < *duk ‘blaze, flame, shine’
 Chi. 毒 *dowk* < *dʷuk (14–05a) ‘poison’, Tib. འདུག་ *dug*, WBur. ཇོ་ཇོ་ཇོ་ *tok* < *duk ‘be toxic’
 Chi. 六 *ljuwk* < *k.ruk (14–16a) ‘six’, Tib. སྲུག་ *drug*, WBur. ཆེ་བྱོ་ཇོ་ *khrok* < *kruk ‘six’, Lashi *khjukH*

For a complete list of examples of this correspondence see §263.

§199b. Examples to be reconstructed *-q:

- Chi. 語 *ngjoX* < *ŋaʔ < *ŋaq (01–29t) ‘speak’, Tib. རྣམ་ *ñag* ‘speech’
 Chi. 女 *nrjoX* < *nraʔ < *nraq (01–56a) ‘woman’, Tib. ཉན་མོ་ *ñag-mo* (cf. §39b n. 49)
 Chi. 武 *mjuX* < *maʔ < *maq (01–71a) ‘military’, Tib. དམག་ *dmag* ‘army’
 Chi. 友 *hjuwX* < *ɣʷəʔ < *ɣʷəq (04–17e) ‘friend’, Tib. རྩེགས་ *grogs* < *gʷraks
 Chi. 婦 *bjuwX* < *mə.bəʔ < *mə.bəq (04–63a) ‘woman, wife’, Tib. བག་མ་ *bag-ma* ‘bride’
 Chi. 後 *huwX* < *[ɣ]ʳ(o)ʔ < *[ɣ]ʳ(o)q (10–08a) ‘behind’, Tib. འོག་ *hog* ‘under’
 Chi. 嘔 *uwX* < *qʳ(o)ʔ < *qʳ(o)q (10–10i) ‘vomit’, Tib. སྲུག་ *skyug*
 Chi. 蚰 *xuwX* < *qʰʳ(o)ʔ < *qʰʳ(o)q (10–01n) ‘ant’, Tib. རྩོག་མོ་ *grog-mo*
 Chi. 帚 *tsyuwX* < *[t.p]əʔ < *[t.p]əq (13–20Aa) ‘broom’, Tib. ཕྱགས་མ་ *phyags-ma*
 Chi. 腦 *nawX* < *nʷuʔ < *nʷuq (16–28f) ‘brain’, WBur. ཇོ་ཇོ་ཇོ་ *nhok* < *ʔnuk

§199c. Examples to be reconstructed *-ʔ:

- Chi. 苦 *khuX* < *kʰaʔ (01–01u) ‘bitter’, Tib. ཁ་ *kha*, Bur. ခါး *khāh* < *kāh, Lashi *kho:H*
 Chi. 羽 *hjuX* < *ɣʷ(r)aʔ (01–24a) ‘feather’, Tib. སྒོ་ *sgro* < *sgʷra
 Chi. 五 *nguX* < *C.ŋʰaʔ (01–29a) ‘five’, Tib. ལྔ་ *lña*, Bur. ငါး *nāh*
 Chi. 睹 *tuX* < *tʰaʔ (01–38c) ‘see’, Tib. ལྟ་ *lta* ‘look at’

- Chi. 旅 *ljoX* < *raʔ (01–55a) ‘military unit’, Tib. དགའ་ *dgra* ‘enemy’
 Chi. 咀 *dzjoX* < *dzaʔ (01–57u) ‘eat’, Tib. ཇ་ *za* < *dza, Bur. ཅའ་ *cāh*
 < *dzāh, Lashi *tsɔ*:
 Chi. 父 *bjuX* < *N-paʔ (01–67a) ‘father’, Tib. ཕ་ *pha*

§199d. A few potential examples show problems of one kind or another:

- Chi. 虎 *xuX* < *qʰraʔ ‘tiger’ (01–18b), Tib. སྟག་ *stag*
 Chi. 膚 *pju* < *pra (01–51g) ‘skin’, Tib. ལྗང་ *lpags* (§196a n. 90)
 Chi. 汝 *nyoX* < *naʔ (01–56j) ‘you’, Bur. ཆོན་ *nan*

Beckwith and Kiyose reconstruct the Old Chinese word for ‘tiger’ as *stay, corresponding to *s.taʔ with Baxter and Sagart’s conventions. In support of this reconstruction, Beckwith and Kiyose point to the Japanese word *tora* ‘tiger’, written 刀良 in the 正倉院戸籍帳 *Shōsōin Kosekichō* (702 CE). They reasonably point out that Tibetan སྟག་ *stag* and Japanese *tora* look quite easy to relate and if there is a relationship between them it must be by way of Chinese. In addition, Beckwith points to a *xiéshēng* connection with 處 *tsyhoX* < *t.qʰaʔ (01–18a) ‘be at’, noting that S. Starostin reconstructs this word *tʰaʔ (2008: 9 note 50). I have no explanation for the irregular correspondences of the second-person pronoun and the word ‘skin’, except that the Tibetan word is potentially not cognate (see §196a n. 90).

3.9.9 *j < *j, *-l

§200. Chinese merges what must have been distinct *j (cf. §200a) and *-l (cf. §200b) in the Trans-Himalayan proto-language (see Hill 2014a).

§200a. The correspondence of Chinese *j with Burmese -y points to a shared inheritance of *j (cf. Schuessler 1974: 85–6), which Tibetan lost (cf. §36).

- Chi. 敲 *kje* < *kraj (18–01d) ‘slanting’, Chi. 揜 *kjeX* < *krajʔ
 (18–01y) ‘pull aside’, Bur. ကယံ *kay* ‘be distended’
 Chi. 嘉 *kae* < *kʰraj (18–04g) ‘excellent’, Bur. ကဲ *kai* ‘overdo,
 exceed’
 Chi. 俄 *nga* < *ŋʰaj (18–05h) ‘slanting’, Bur. ငဲ *naiʔ* ‘be inclined on
 one side’
 Chi. 彊 *tsyheX* < *k-lajʔ (18–08t) ‘wide, extend’, OBur. ལྷལ་ *klay*
 ‘wide, broad’
 Chi. 羅 *la* < *rʰaj (18–10a) ‘a kind of net’, Tib. ལྷ་ *dra* ‘net’, Tib. ལྷ་
rgya < *rya (Li’s law; cf. §25) ‘net, trap’
 Chi. 籬 *lje* < *raj (18–11g) ‘hedge’, Tib. ར་ *ra* ‘courtyard’
 Chi. 沙 *srae* < *sʰraj (18–15a) ‘sand’, Tib. ས་ *sa* ‘earth’, Bur. ཅའ་ *sai*
 ‘sand’
 Chi. 波 *pa* < *pʰaj (18–16l) ‘wave’, Tib. བཟུང་ *dbaḡ* ‘wave’ (cf. §36 n. 47)

- Chi. 諛 *pje* < *p(r)aj (18–16h) ‘one-sided, insincere words’, Tib. ཤོམོ་ *phra-mo* ‘slander’
 Chi. 跛 *paX* < *pʰaj? (18–16m) ‘walk lame’, Bur. འཕགས་ *phai* ‘avoid, shun’, Bur. འཕགས་ *phay* ‘push aside’

A complete list of examples of this correspondence is given at §254.

§200b. The correspondence of Chinese *-j with Tibetan -l points to a change *l > *-j in the history of Chinese; Burmese generally loses *l (cf. §63), but keeps it as -y after the vowel -u- (cf. §64).

- Chi. 可 *khaX* < *[k]ʰa[j]? (18–01a) ‘be able’, Chi. 可 *gaX* < *gʰaj? (18–01a) ‘carry’, Tib. √kal (pres. འགོལ་ *hgel*) ‘load’, འཕུལ་ *hkhel* ‘be loaded’
 Chi. 河 *ha* < *C.[g]ʰaj (18–01g) ‘river’, Tib. རྒྱལ་ *rgal* ‘cross, ford’ (cf. §33a n. 44)
 Chi. 荷 *ha* < *[g]ʰaj (18–01o) ‘carry’, Chi. 駕 *kaeH* < *kraj-s (18–04e) ‘yoke (v.)’, Tib. ཁལ་ *khal* ‘burden, load (n.)’, Bur. ལ་ *ka* ‘saddle’
 Chi. 歌 *ka* < *kʰaj (18–01q) ‘sing, song’, Bur. ལ་ *ka* ‘dance (v.)’
 Chi. 加 *kae* < *kʰraj (18–04a) ‘add’, Tib. བཀའ་ *bkral* ‘appoint’, Tib. ཁམ་ *khral* ‘tax’, Bur. ལྷན་ *krāh* ‘interval’
 Chi. 枷 *kaeH* < *kraj-s (18–04c) ‘stand, support’, Bur. ལྷན་ *krā* ‘last, take time’
 Chi. 義 *ngjeH* < *ŋaj-s (18–05r) ‘duty, justice’, Chi. 儀 *ngje* < *ŋaj (18–05u) ‘proper demeanour, model’, Bur. ཇ་ *nha* ‘distribute equally’
 Chi. 施 *sye* < *laj (18–09l) ‘give, bestow, extend’, Bur. ལྷན་ *lyāh* ‘extended, be prolonged’
 Chi. 離 *lje* < *[r]aj (18–11f) ‘leave, distribute’, Tib. རལ་ *ral* ‘rent, rift’
 Chi. 披 *phje* < *pʰ(r)aj (18–16j) ‘divide’, Tib. འབྲེལ་ *hbral* ‘be separate, to part’, Bur. ལྷན་ *prāh* ‘be divided into parts’
 Chi. 罷疲 *bje* < *[b]raj (18–17a, 18–16d) ‘fatigue’, Tib. བརྒྱལ་ *brgyal* < *bryal (Li’s law; cf. §25) ‘sink down, faint’
 Chi. 蝸 *kwaē* < *kʰroj (19–04c) ‘snail’, WBur. ལྷན་ *krwe* < *kruy ‘shell’
 Chi. 橢 *thwaX* < *lʰoj? (19–16c) ‘oval’, WBur. ལྷན་ *lhwāh* < *hlōh ‘oblong (shield)’
 Chi. 墮 *xjwie* < *lʰoj (19–16e) ‘destroy’, WBur. ལྷན་ *lhwāh* < *hlōh ‘hurdle over, unfurl’
 Chi. 唾 *thwaH* < *tʰoj-s (19–17m) ‘spit’, Tib. ཐོལ་ *tho-le* ‘spit’, WBur. ལྷན་ *thweh* < *thuyh ‘spittle’
 Chi. 氏 *tejX* < *tʰij? (26–14a) ‘bottom’, Tib. བཅོལ་ *mthil* ‘bottom, base’
 Chi. 虺 *xjwijX* < *mruj? (27–19a) ‘snake’ (see §30 n. 38), Tib. སྐྱལ་ *sbrul* < *smrul (Simon’s law; cf. §30), OBur. ལྷན་ *mruy*

Chi. 違 *hwij* < *[ɣ]ʷə[j] (28–05d) ‘go against’, Tib. འགོ་ *hgo* < *hɣʷal ‘part, deviate’

Chi. 壞 *hweajH* < *N-[k]ʳuj-s (28–06d) ‘destroy, ruin’, Tib. འབྲུ་ *hdrul* ‘rot (v.)’, Tib. བྲུ་ *brul* ‘crumbles’

3.9.10 *-r < *-r, *-rl

§201. The correspondence of Chinese *-r to Tibetan -l is difficult to reconstruct with confidence (see Hill 2014a). A mechanical solution is to reconstruct *-rl which changes to *-r in Chinese and -l in Tibetan (cf. §37). Although auslaut /r/ is rare in Asia, in many languages, like rhotic varieties of English, it is plentiful (e.g. ‘curl’, ‘furl’, ‘pearl’). Burmese loses both *-r and *-l, so it naturally loses *-rl also (cf. §63), but keeps it as -y after the vowel -u- (cf. §64). In evaluating the coming comparisons, one must bear in mind that in Baxter and Sagart’s reconstruction *- [n] explicitly encompasses *-r as an interpretation.

§201a. Examples to be reconstructed *-r:

Chi. 裹 *kwaX* < *s.[k]ʰo[r]ʔ (19–02d) ‘wrap (v.)’, Tib. སྐོར་ *skor* ‘go around’

Chi. 鮮 *sjen* < *[s][e]r (23–21a) ‘fresh’, Tib. གསར་ *gsar* ‘new’, Bur. ၵ sa ‘titivate’

Chi. 竿 *kan* < *kʰar (24–01k) ‘pole, rod’, Tib. མཁམ་ *mkhar* / འམར་ *hkhār* ‘staff, stick’

Chi. 獻 *xjonH* < *ŋars (24–17e) ‘offer, present, wise man’, Chi. 義 *ngjeH* < *ŋ(r)ajs (18–05r) ‘duty, justice’, Tib. སྤྲུ་ *sñar* ‘intelligent, quick of apprehension’

Chi. 瘳 *tanX* < *tʰarʔ (24–21l) ‘disease, suffering, distress’, Tib. ལྡན་ *ldar* ‘be weary, tired, faint’

Chi. 纏 *drjen* < *[d]ra[n] (24–28c) ‘bind, wind’, Tib. སྲུ་ *star* ‘tie fast, fasten to’

Chi. 難 *nan* < *nʰar (24–35d) ‘difficult’, Tib. མཁམ་ *mnar* ‘suffer, be tormented’ (cf. §33a n. 43), Bur. ၵာ ṅā ‘hurt’

Chi. 霰 *senH* < *[s]ʰe[n]-s (24–44d) ‘sleet’, Tib. སེར་ *ser* ‘hail’

Chi. 緩 *hwanX* < *[ɣ]ʷa[n]ʔ (25–14l) ‘slack; slow’, Tib. འགོ་ *hgor* < *hɣʷar ‘tarry, linger’

Chi. 飛 *pjij* < *Cə.pə[r] (27–09a) ‘fly (v.)’, Chi. 翕翕 *pjun* < *(Cə).pə[r] (33–30ef) ‘fly (v.), soar’, Chi. 奮 *pjunH* < *p[ə][n]-s (33–33a) ‘spread wings and fly’, Tib. འཕུར་ *hphur* ‘fly (v.)’

Chi. 銑 *senX* < *sərʔ (33–25h) ‘glossy’, Tib. གསེར་ *gser* ‘gold’

§201b. Examples to be reconstructed *-rl:

- Chi. 遣 *khjenX* < *[k]ʰe[n]ʔ (23–04b) ‘send away’, Tib. $\sqrt{\text{skyal}}$ (pres. སྐྱེལ *skyel*) ‘send’
- Chi. 運 *hjunH* < *[g]ʷər-s (23–13d) ‘move’, Tib. འགྲུལ *hgul* ‘move’
- Chi. 徧 *penH* < *pʰe[n]-s (23–27b) ‘(go) all around’, Tib. $\sqrt{\text{pel}}$ (pres. འཕེལ) ‘increase, augment’
- Chi. 扞捍 *hanH* < *m-kʰa[r]-s (24–01q, 24–01i) ‘shield (n.), ward off’, Chi. 干 *kan* < *kʰa[r] (24–01a) ‘protect, guard’, Tib. འགྲུལ *hgul* ‘oppose, contradict’, Bur. ကာ *kā* ‘shield (n.)’
- Chi. 肝 *kan* < *s.kʰa[r] (24–011) ‘liver’, Tib. མཚམས *mkhal* ‘kidney, reins’, Bur. ခါး *khāh* ‘loins, waist’
- Chi. 扞 *hanH* < *m-kʰa[r]-s (24–01q) ‘fend off’, Tib. འགྲུལ *hgul* ‘oppose’
- Chi. 鼾 *xan* < *[q]ʰʰa[r]ʔ (24–01-) ‘snore’, Tib. ཧལ *hal* ‘pant, snort’
- Chi. 鞬 *kjon* < *ka[r] (24–08c) ‘quiver’, Tib. རྒྱལ་པ *rkyal-pa* ‘sack, bag’
- Chi. 炭 *thanH* < *[t]ʰʰa[n]s (24–24a) ‘charcoal, coal’, Tib. ཐལ *thal* ‘dust, ashes’
- Chi. 餐 *tshan* < *tʰʰar (24–40c) ‘eat, food, meal’, Tib. ཐལ་མ *tshal-ma* ‘breakfast’
- Chi. 蹠 *bjon* < *bar (24–54l) ‘paw’, Tib. ཕྱག་སྐུལ *phyag-sbal* ‘soft part of an animal’s paw’
- Chi. 蕃 *bjon* < *[b]ar (24–54m) ‘ample, flourish’, Tib. དཔལ *dpal* ‘glory’, Tib. སྐུལ་མེག *sbal-mig* ‘bud, sprout’
- Chi. 援 *hjwon* < *[g]ʷa[n] (25–14e) ‘pull up’, Tib. འགྲོལ *hgrol* < *hgʷral ‘become free’
- Chi. 西 *sej* < *s-nʰər (26–31a) ‘west’ (cf. Sagart 2004: 71–4), Tib. མཆུ་མཚམས *mnal* ‘sleep’, Bur. နာ *nāh* ‘rest, stop a while’
- Chi. 眉 *mij* < *mrər (27–14a) ‘eyebrow’, WBur. မဝေ *mweh* < *muyh ‘body hair’
- Chi. 根 *kon* < *[k]ʰʰa[n] (33–01b) ‘root, trunk’, Tib. མཚམས *khul-ma* ‘bottom or side of sth’
- Chi. 銀 *ngin* < *ŋrə[n] (33–01k) ‘silver’, Tib. དྲུག *dñul*, OBur. ငဝ် *nyu*
- Chi. 齧 *ngjin* < *ŋə[n] (33–01-) ‘gums’, Tib. རྩི *rñil* < *rñiʷil⁹⁵
- Chi. 分 *pjun* < *pə[n] (33–30a) ‘divide’, Tib. འབྲུལ *hbul*, འཕྲུལ *hphul* ‘give’
- Chi. 塵 *drin* < *[d]rə[n] (33–17a) ‘dust’, Tib. རྩལ *rdul*
- Chi. 貧 *bin* < *(Cə.)[b]rə[n] (33–30v) ‘poor’, Tib. དཔུང *dbul*
- Chi. 郡 *gjunH* < *gur-s (34–12g) ‘district’, Tib. མཚམས *khul* ‘district, province’

⁹⁵ The vowel correspondences in this word is irregular; it is perhaps for this reason that Jacques rejects this comparison (2013: 295 note 7).

Chi. 軍 *kjun* < *[k]^wər (34–13a) ‘army’, Tib. གཡུལ་ *g.yul* ‘army, battle’

Chi. 輝輝 *xjwɨj* < *q^{wh}ər (34–13k, 34–13l) ‘brilliant’, Tib. མྲོ་མྲོ་ *khrol-khrol* < *kh^wral ‘bright, shining, sparkling, glistening’

§201c. It is not always possible to confidently assign a cognate set to Trans-Himalayan *-r or *rl, as the following examples show:

Chi. 頤 *konX* < *[k]‘ə[n]ʔ (33–01-) ‘neck’, Tib. མགུལ་ *mgul* ‘neck’, Tib. མགུར་ *mgur* ‘neck’

Chi. 粲 *tshanH* < *[ts^h]‘ars (24–40b) ‘bright and white’, Tib. མཚོར་ *mtshar* ‘fair, beautiful, bright’, Tib. བཟལ་ (pres. གསལ་ *gsal*; cf. Hill 2012b: 25) ‘clear, bright’

3.9.11 The Correspondence of Chinese *-o- to Tibetan -u-

§202. Because there are examples in which both Tibetan and Chinese have *-u-* and examples in which both languages have *-o-*, those examples of Tibetan *-u-* corresponding to Chinese *-o- cannot be reconstructed as either *u or *o. Consequently it is necessary to reconstruct a vowel unattested in both languages, which changes into *-u-* in Tibetan and *-o- in Chinese. I propose to reconstruct this correspondence as *-əw-, largely because this fills a gap in Old Chinese (Hill 2012a: 75–7, 2012b: 32–5; cf. §35). This is a tentative suggestion, which faces two potential objections. First, it is worrisome that examples of *-əw- outnumber those of *-o-, because a priori *-əw- should be less common than *-o- in the proto-language. Second, if *-aw and *-ew merge to *-o* in Tibetan (cf. §22), one might expect *-əw- also to yield *-o* in Tibetan. However, the fact that this reconstruction is called for only in open syllables or syllables with velar codas (with 洽 *heap* < *ǵrop as the one exception), by paralleling the distribution of *-w in Old Chinese, argues in favour of this reconstruction. The Burmese cognates, omitted here, are treated in §70.

§202a. Examples to be reconstructed *-u-:

Chi. 胞 *paew* < *p^ru (13–72b) ‘womb’, Tib. ཕུམ་ *phru-ma* ‘afterbirth’

Chi. 舅 *gjuwX* < *[g](r)uʔ (04–16b) ‘maternal uncle’, Tib. ཁུ་ *khu* ‘paternal uncle’

Chi. 九 *kjuwX* < *[k]uʔ (04–12a) ‘nine’, Tib. དུ་ *dgu*

Chi. 鳩 *kjuw* < *[k](r)u (04–12n) (a kind of bird), Tib. ཁྲ་གུ་ *hañ-gu* ‘pigeon’

Chi. 嗥 *haw* < *g^u (13–01d) ‘roar, wail’, Tib. རྩ་ *ñu* ‘weep’

Chi. 肘 *trjuwX* < *t.kruʔ (13–23a) ‘elbow’, Tib. རྩལ་ *gru-mo*

Chi. 流 *ljuw* < *[r]u (13–46a) ‘flow’, Tib. རྩུ་ *rgyu* < *ryu (Li’s law; cf. §25)

- Chi. 篤 *towk* < *tʰuk (14–08g) ‘firm, solid’, Tib. འཇུག *hthug*, མཐུག *methug* ‘thick, dense’
 Chi. 晝 *trjuwH* < *truks (14–09a) ‘time of daylight’, Tib. གཤམས་ *gdugs* ‘midday, noon’
 Chi. 覺 *kaewk* < *kʰruk (14–03f) ‘awake’, Tib. དཀའ་ *dkrug* ‘stir, agitate, disturb’

A complete list of examples of this correspondence is given at §255.

§202b. Examples to be reconstructed *-o-:

- Chi. 絕 *dzjwet* < *[dz]ot (22–16a) ‘cut off, break off’, Tib. ཚོད་ *chod* ‘be sharp’, WBur. ཟློང་ *chwat* < *chot ‘pluck’
 Chi. 脫 *thwat* < *mā-lʰot (22–13m) ‘peel off’, Tib. རྫོང་ *glod* ‘loose, relaxed’, OBur. ལོ་ཏོ་ *lo,t* ‘be free’
 Chi. 信 *kwaenH* < *krʰons (25–011) ‘servant, groom’, Tib. མོལ་ *khol* ‘servant’, OBur. རྒྱུ་མོ་ *kyo,n* ‘slave’
 Chi. 垂 *dzywe* < *[d]oj (19–17a) ‘hang down’, Tib. འཇོལ་ *hjol* ‘hang down’, WBur. ཟློ་ *chwai* < *choi
 Chi. 巷 *haewngH* < *C.[g]ʳon-ʳs ‘lane, street’, Tib. གྲོན་ *gron* ‘village’
 Chi. 卵 *hwanX* < *k.rʰorʔ (25–32a) ‘egg’, Tib. སྲོ་མ་ *sro-ma* ‘louse egg’
 Chi. 殼 *khaewk* < *[kʰ]ʳok (11–03a) ‘hollow shell, hollow’, Tib. སྒོག་ *skog* ‘shell, peel’
 Chi. 蔥 *tshuwng* < *[ts]ʰoŋ (12–19g) ‘onion’, Tib. བཅོམ་ *btson*
 Chi. 綴 *trjwet* < *trot (22–10b) ‘bind’, Chi. 繫 *tsywejH* < *tots (22–11a) ‘unite, together’, Tib. ལྷུང་ (pres. ལྷོད་) ‘tether, fasten, secure’
 Chi. 悅 *ywet* < *lot (22–13o) ‘pleased’, Tib. རྩོད་ *brod* ‘joy, joyful’
 Chi. 掘 *gjwot* < *[g]ot (31–16s) ‘dig out (earth)’, Tib. རྫོག་ *rko* ‘dig’
 Chi. 涓 *kwanH* < *kʰons (25–01f) ‘bubble’, Tib. འཇོལ་ *hkhhol* ‘boil’
 Chi. 唾 *thwaH* < *tʰojs (19–17m) ‘spit’, Tib. ཐོ་ལེ་ *tho-le* ‘spit’
 Chi. 鑽 *tswan* < *[ts]ʰor (24–39h) ‘perforate, penetrate’, Chi. 鑄 *tsjwen* < *tson (25–39c) ‘chisel, sharp point’, Tib. མཚོན་ *mtshon* ‘weapon’
 Chi. 裹 *kwaX* < *s.[k]ʰo[r]ʔ (19–02d) ‘wrap (v.)’ Tib. སྒོར་ *skor* ‘go around’

§202c. Examples to be reconstructed *-əw-:

- Chi. 寇 *khuwH* < *[k]ʰs(r)os (10–04a) ‘steal’, Tib. རྒྱུ་ *rku*
 Chi. 曲 *khjowk* < *kʰ(r)ok (11–04a) ‘bent, crooked’, Tib. འཇུགས་ *hgugs* ‘bend’
 Chi. 觸 *tsyhowk* < *tʰok (11–12g) ‘knock against’, Tib. གཤུག་ *gtug* ‘meet, touch’
 Chi. 乳 *nyuX* < *noʔ (10–32a) ‘milk, nipple’, Tib. ལུ་ *nu* ‘suck’
 Chi. 孺 *nyuH* < *nos (10–31d) ‘child, mild’, Tib. ལུ་བོ་ *nu-bo* ‘younger brother’

Chi. 霧 *mjuH* < *kə.m(r)[o]ks (13–76t) ‘fog, mist’, Tib. ལྷག་ལྷག་ *rmugs* ‘dense fog’

Chi. 撞 *draewng* < *[N-t]ʳoŋ (12–08f) ‘strike’, Tib. ལྷག་ *rduñ* ‘strike, beat’

Chi. 蜂蠱 *phjowng* < *pʰ(r)oŋ (12–25st) ‘bee’, Tib. ལྷག་ *buñ-ba*

Chi. 空 *khuwng* < *kʰoŋ (12–01h) ‘hollow, empty, hole’, Chi. 孔 *khuwng* < *kʰoŋʔ (12–02a) ‘empty’, Tib. ལྷག་ *khuñ* ‘hole, pit, hollow, cavity’

Chi. 洽 *heap* < *[ç]ʳ[o]p (37–01m) ‘accord with’, Tib. ལྷག་ *hgrub* ‘accomplish, achieve’

A complete list of examples of this correspondence is given at §256.

3.10 Reprise: Trans-Himalayan to Old Chinese

§203. Since the changes from Trans-Himalayan to Old Chinese do not interact with one another it is not possible to present them in chronological order. Nonetheless, for the sake of consistency the reprise presents them in the opposite order to their more detailed presentation above.

*əw > *-o- (cf. §202)

*-r, *-rl > *-r (cf. §201)

*-j, *-l > *-j (cf. §200)

*-ʔ, *-q > *-ʔ (cf. §199)

*-k, *-kə > *-k (cf. §198)

Pulleyblank’s conjecture: *RC- > *Cr- (cf. §197)

Coblin’s conjecture: *rT- > *Tr- (cf. §196)

Inability to recognize *-r- in certain circumstances (cf. §195)

Inability to distinguish *-u- and -ə- before acutes (cf. §194)

Labial neutralization (cf. §193)

*-iŋ, *-in > *-in, and *-ik, *-it > -it (cf. §192)

3.11 Diachronic Mysteries

§204. The most valuable contribution of a survey of Chinese sound laws is to draw new focus to the exceptions to these sound laws. Having surveyed what is currently known of Chinese historical phonology, those areas in need of better study merit focus. Exceptions to the respective sound laws presented have been provided above, but it is convenient to assemble them together here. The word 汝 *nyoX* < *naʔ (01–56j) ‘you’ does not regularly correspond to Burmese ཤྲྀྣ *nan* ‘you’, but it seems likely the two are cognate (cf. §199c). The word 膚 *pju* < *pra (01–51g) ‘skin’ is irregularly missing a final glottal stop (cf. §§199c and 196a n. 90). The word 沙 *srae* < *sʳaj (18–15a) ‘sand’ is an exception to Pulleyblank’s conjecture (cf. §197a); the medial *-r- in this word is unexpected from a comparative context.

4 Trans-Himalayan

4.1 Overview of Trans-Himalayan Phonology

§205. The preceding chapters trace the attested forms of Tibetan, Burmese, and Chinese backwards in time to the greatest extent that currently appears possible. This final chapter compares the results of these three exercises. If all developments in the three languages followed exceptionless phonological patterns with no interference from analogy and lost morphology a few scant remarks would suffice to point out that the backward projection of each of the three languages leads to the self-same result. The true situation is far less elegant. The Trans-Himalayan family is an ancient and ramified one; the three languages studied here offer only fragmentary glimpses of the proto-language.

In keeping with its ancient attestation, Old Chinese maintains a number of distinctions that are independently lost in Tibetan and Burmese. In particular, Old Chinese maintains a distinct series of uvulars, labio-velars, and labio-uvulars, as well as a sixth vowel, *-ə. Old Chinese and Tibetan have complex onset clusters, lacking in Burmese, but the clusters of Chinese and Tibetan do not obviously correspond. To achieve a rough, overall perspective on the phonology of the proto-language one may set aside the complex onsets and the manner correspondences; with these caveats Figure 4.1 offers a schematic overview of the proto-language's phonemes.¹

The discussion in this chapter treats in turn initials (§§206–20), vowels (§§222–8), and finals (§§230–43).²

¹ Figure 4.1 omits *ʃ*-; although its presence in Tibetan and proto-Burmish is not in doubt, cognates of the relevant words are difficult to find in Old Chinese.

² Whereas previous chapters present reconstructions primarily for the clarity of the argument, omitting details where unnecessary, in order to make clear the earliest reconstructible phase of each language, this chapter gives reconstructions in as much detail as possible.

Initials (ignoring manner distinctions)
*p-, *k-, *k ^w -, *q-, *q ^w -, *t-, *m-, *n-, *r-, *l-, *s-
Vowels
*-a-, *-e-, *-i-, *-o-, *-u-, *-ə-
Finals
*-ʔ, -q, *-k, *-ŋ, *-p, *-m, *-t, *-n, *-r, *-l, *r

Figure 4.1 Trans-Himalayan segmental inventory

4.2 Initials of Trans-Himalayan

§206. The initial correspondences among Tibetan, Burmese, and Chinese are exceedingly complicated, so complicated as to succour the sceptic who holds these three languages to be unrelated. The working hypothesis here is that the phonetic influence of defunct morphology will one day explain these complicated correspondences, but this possibility will manifest only when more languages, particularly archaic languages such as those of the Rgyalrong and Kiranti branches, are brought within purview. In the meantime, the most useful course is to catalogue the witnessed correspondences. Separate treatment of the resonants (§§207–10) and obstruents (§§211–20) facilitates the discussion.

4.2.1 Simplex Resonants

§207. All three languages have voiced and voiceless resonants (cf. Tib. §6, Bur. §46 and Chi. §100). Nonetheless, Tibetan words with voiceless resonant initials are rare and generally do not have comparative etymologies.³ Burmese voiceless initial resonants descend from proto-Burmish pre-glottalized resonants (cf. §57f). Those cases in which all three languages maintain voiced resonants are easily treated (cf. §208). The origins of the pre-glottalized resonants in proto-Burmish (cf. §209) and the voiceless resonants in Chinese (cf. §210) require more attention.

§208. *Plain Resonants.* For cases in which the resonant manner matches in all three languages, or matches in two languages with the third

³ One of the few possible cases is Tib. √lag (pres. ལྷོག *klog*) ‘recite, read’ compared to Chi. 讀 *duwk* < *C.lʰok (14–14m) ‘say, read aloud’.

language lacking a reflex of the relevant etymon, it is easy to reconstruct *ŋ-, *ŋʷ-, *n-, *m-, *r-, and *l-.

§208a. Examples to be reconstructed *ŋ-:

- Tib. ་ na ‘I, me’, Bur. འ nā, Chi. 吾 *ngu* < *ŋʷa (01–29f)
 Tib. ་ nan̄ ‘goose’, Bur. རྩ: nanh̄, Chi. 鵝 *nga* < *ŋʷa[r] (18–05p)
 Tib. ་ rnod ‘roast, parch’, Bur. རྩྭ ññhi /ñjiʔ/ < *ŋniʔ ‘burn’, Atsi
 ?ŋje⁵⁵
 Tib. ་ lna ‘five’, Bur. འ: nāh̄, Chi. 五 *nguX* < *C.ŋʷaʔ (01–29a)
 Tib. ་ ña < *ŋʷa (Houghton’s law; cf. §27) ‘fish’, Bur. འ: nāh̄, Chi.
 魚 *ngjo* < *ŋa (01–31a)
 Tib. ་ gñan-po < *gñyan (Houghton’s law) ‘pestilence’, Bur. རྩྭ:
 nanh̄ ‘poisonous snake’
 Tib. ་ sno ‘green’, WBur. རྩྭ: ññui < *ŋyuiw, Lashi *nja:uV* ‘green,
 blue, brown’
 Tib. ་ snar ‘intelligent, quick of apprehension’, Chi. 獻 *xjonH* <
 *ŋjars (24–17e) ‘offer, present, wise man’

§208b. Only one example requires the reconstruction *ŋʷ-:

- Tib. ་ rnod ‘deceive’, Chi. 偽 *ngjweH* < *ŋʷajs (19–06k) ‘false, cheat’

§208c. Examples to be reconstructed *n-:

- Tib. ་ ña-mo < *nʷa ‘wife, housewife’ (cf. §39b n. 49), Chi. 女
nrjoX < *nraʔ (01–56a) ‘woman’
 Tib. ་ ñi-ma < *nʷikə (cf. §38d) ‘sun’, OBur. རྩྭ: niy < niykə (cf.
 §74), Chi. 日 *nyit* < *C.ni[k] < *C.nikə (29–26a) (cf. §198)
 Tib. ་ ñe ‘near’ < *nʷey (cf. §36), Bur. རྩྭ: nīh̄ < *nʷyḥ (cf. §68)
 ‘near’, Chi. 邇 *nyeX* < *nəjʔ (07–20c) ‘near, draw near to’
 Tib. ་ sñam < *snʷəm ‘think’, Chi. 𣎵 *nyimX* < *nəmʔ (38–25q)
 Tib. ་ na ‘if, when’, Chi. 如 *nyo* < *na (01–56g) ‘as, like, if’
 Tib. ་ nag ‘black’, Bur. རྩྭ: nak
 Tib. ་ nad ‘illness’, Bur. རྩྭ: nat ‘god, spirit’
 Tib. ་ nu ‘suck’, OBur. རྩྭ: nuiwʔ ‘breast’, Chi. 乳 *nyuX* < *noʔ
 (10–32a) ‘milk, nipple’
 Tib. ་ nu-bo ‘younger brother’, Chi. 孺 *nyuH* < *nos (10–31d)
 ‘child, mild’
 Tib. ་ nub ‘sink, set’, Chi. 入 *nyip* < *nup (37–16a) ‘enter’
 Tib. ་ nor ‘wealth’, Bur. རྩྭ: nwāh̄ < *nōh̄ ‘cow, cattle’
 Tib. ་ mmar ‘suffer, be tormented’ (cf. §33a n. 43), Bur. རྩྭ: nā
 ‘hurt’, Chi. 難 *nan* < *nʷar (24–35d) ‘difficult’

Tib. གནའ་བོ་ *gnah-bo* ‘ancient, in old time’, Chi. 曩 *nan*X < *nʰaŋʔ (03–42k) ‘in past times’

Tib. རྗེ་ *rna* < *rnə (cf. §32) ‘ear’, Bur. ཟང་ *nāh* < *nāh (cf. §67), Chi. 耳 *nyi*X < *nəʔ (04–40a)

Bur. ཟང་ *nan* ‘you’, Chi. 汝 *nyo*X < *naʔ (01–56j)

§208d. Examples to be reconstructed *m-:

Tib. རྩམ་ *hbras* ‘rice’ < *hmras (Simon’s law; cf. §30), Chi. 糲 *lat* < *(mə-)rʰat (21–26g) ‘rice’

Tib. སྐྱ་ *sbrañ* < *smrañ (Simon’s law) < *smrəñ (cf. §32) ‘fly, bee’, Chi. 蠅 *ying* < *m.rəŋ (06–24a) ‘fly’

Tib. མ་ *ma* ‘not’, Bur. ཨ་ *ma*, Chi. 無 *mju* < *ma (01–69a) ‘not have’

Tib. མ་ *ma* < *mə (cf. §32) ‘mother’, Bur. ཨ་ *ma* < *mə (cf. §67), Chi. 母 *muw*X < *məʔ (04–64a)

Tib. མགཤ་ *mag-pa* ‘bridegroom’, Bur. ཨའ་ *mak* ‘son-in-law’

OTib. དམིག་ *dmyig* ‘eye’, Bur. ཡལ་ *myak*, Chi. 目 *mjuw*k < *C.muk (14–24a)

Tib. མིན་ *myin* ‘name’, Bur. ཡའ་ *maññ* < *miñ (Wolfenden’s law; cf. §54), Chi. 名 *mjieng* < *C.meŋ (09–31a)

Tib. མཇམ་ *rmañ-lam* < *rməñ (cf. §32) ‘dream’, Bur. ཨའ་ *mak* < *mæk (cf. §67), Chi. 夢 *mjuwng*H < *C.məŋ-s (06–23a)

Tib. མུག་ *rmugs* ‘dense fog’, Chi. 霧 *mju*H < *kə.m(r)[o]ks (13–76t) ‘fog, mist’

Tib. མཚའ་ *smad* ‘the lower part’, Chi. 末 *mat* < *mʰat (21–37a) ‘end of a branch’

Bur. མཚའ་ *mrīh* < *mrəyh (cf. §68) ‘tail’, Chi. 尾 *mji*X < *[m]əjʔ (27–17a) ‘tail’

§208e. There are copious correspondence sets clearly pointing to *r-, but it is often the case that one or the other language offers phonetic material before the *r-, which lacks a parallel in at least one of the other languages.

Tib. མཚན་ *mkhrañ* ‘hard, solid’, Bur. རྩམ་ *rañ*ʔ ‘mature’, Chi. 梗 *kaeng*X < *kʰraŋʔ (03–11e) ‘suffering’

Tib. མཚལ་ *hkhrab* < *hkrəp (cf. §32) ‘strike, stamp, tread heavily’, OBur. རྩམ་ *ryap* ‘stand, stop, halt’, Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’

Tib. མཚལ་ *gra-ma* ‘lattice’, Chi. 呂 *ljo*X < *raʔ (01–54a) ‘spine; pitch-pipe’

Tib. མཚལ་ *gran* ‘cold’, Chi. 涼 *ljang* < *C.raŋ (03–10l)

Tib. མཚལ་ *grans* ‘number’, Bur. རྩམ་ *khrañ* ‘measure (v.)’, Chi. 量 *ljang* < *raŋ (03–45a)

- Tib. ལབ་ *lab* ‘speak, talk, tell’, Chi. 誦 *dep* < *lʰap (21–23g) ‘garrulous’
 Tib. ལམ་ *lam* ‘road’, Bur. ལམ་: *lamh*
 Tib. ལུས་ *lus* ‘body’, Bur. ལུ་ *lū* ‘person’
 Tib. ལྗོངས་ *zîn* < *lʷiŋ (Benedict’s law; cf. §15) ‘field’, Kur. ^L*leŋ* (§15f n. 21), Chi. 田 *den* < *lʷiŋ (32–19a)
 Tib. ལྗོངས་ *gzī* < *glʷi (Benedict’s law) ‘ground’, OBur. ལྗོངས་ *mliy* ‘ground’, Chi. 地 *dijH* < *lʷej-s (18–09b’) (cf. §15 n. 15)
 Tib. ལྗོངས་ *gzū* < *glʷu, OTib. ལྗོངས་ *gzī* (cf. §15 n. 16) < *glʷi (Benedict’s law) ‘bow’, Kur. *limi*, OBur. ལྗོངས་ *liy*, Chi. 矢 *syijX* < *liŋ? (26–19a) ‘arrow’
 Tib. ལྗོངས་ *bzi* < *blʷi (Benedict’s law) ‘four’, Kur. *ble*, OBur. ལྗོངས་ *liy*, Chi. 四 *sijH* < *s.li[j]-s (29–34a)
 Tib. ལྗོངས་ *slab* (pres. ལྗོངས་ *slob*) < *sləp ‘teach, learn’, Chi. 習 *zip* < *s-ləp (37–12a) ‘practice, exercise’
 Bur. ལམ་: *lanh* ‘be light, not dark’, Chi. 陽 *yang* < *laŋ (03–38e) ‘bright’

§208g. Rarely the languages disagree over whether *r- or *l- is the inherited initial:

- Tib. མཚོ་ *mjin* < *mlʷiŋ (Bodman’s law; cf. §18) < *mlʷeŋ (Dempsey’s law; cf. §14) ‘neck’, Bur. མཚོ་ *lanñ-* < *liŋ (Wolfenden’s law; cf. §54) < *leŋ (Dempsey’s law; cf. §62), Chi. 領 *ljengX* < *reŋ? (09–19f)
 Tib. རྩོད་ *brod* ‘joy, joyful’, Chi. 悅 *ywet* < *lot (22–13o) ‘pleased’

§208h. In at least one word both Tibetan and Burmese point to initial *y-, but in light of the Chinese cognates it is probable that the origin of y- in both Tibetan and Burmese should be sought among uvulars.

- Tib. གཡས་ *g.yas* < *gyas ‘right’, Bur. ཡལ་ *yā*, Chi. 右 *hjuwH* < *m-qʷəʔ-s ~ *m-qʷəʔ, *hjuwX* < *[ɢ]ʷəʔ (04–17i) ‘right hand’

§208i. In contrast, on the basis of the following comparisons, Jacques (2013: 295 note 6) and Schuessler (2015: 590) suggest that initial *j- in Old Chinese should be posited as one of the origins of Middle Chinese 喻 y-, i.e. it is not that the origin of y- in Tibetan and Burmese should be sought among uvulars, but rather that some words that Baxter and Sagart have reconstructed with uvular initials should instead be reconstructed with initial *j-.

- Chi. 羊 *yang* < *caŋ ‘sheep’ (03–39a), Tib. གཡས་དཀར་ *g.yan-dkar*, Japhug Rgy. *qazo* < *(qa-)jaŋ
 Chi. 癢 *yangX* < *caŋ? (03–39r) ‘itch’, Tib. གཡས་ *g.yah*, Japhug Rgy. *rza* < *(re)ja
 Chi. 祥 *zjang* < *scaŋ (03–39n) ‘auspicious’, Tib. གཡས་ *g.yan*
 Chi. 洋 *yang* < *caŋ (03–39h) ‘vast’, Tib. ཡངས་པོ་ *yaŋs-po*

§209. *Schiefner's Conjecture: Origins of Proto-Burmish Pre-glottalized Resonants*. In what appears to be the earliest observation on phonetic correspondences relating Tibetan and Burmese, Anton Schiefner suggests, 'Das Barmanische hat in manchen Fällen, wo das Tibetische das überständige *sa* gebraucht, einen aspirirten Consonanten im Anlaut [Burmese in some cases has an aspirated consonant as initial where Tibetan uses a superscript *s*-]' (Schiefner 1852: 340). Shafer repeats this suggestion (1940: 309). As Burmese aspirate resonants ubiquitously descend from proto-Burmish pre-glottalized resonants (Burling's law; cf. §56), Schiefner's conjecture can be understood as the proposal that proto-Burmish *ʔR- corresponds with Tibetan sR- (where 'R' is any resonant).

§209a. A number of examples conform to Schiefner's conjecture:

Bur. နှစ် *nhac* < *ʔnik 'kernel', Tib. སྨིང་ *sñin* < *snyin 'heart', Chi. 身 *syin* < *ʔniŋ (32–23a) 'body; self', Chi. 仁 *nyin* < *niŋ (32–28f) 'kindness'

Bur. နှာ *nhā* 'nose' < *ʔnā, Tib. སྒྲ་ *sna*

Bur. နှာပ *nhap* < *ʔnap 'mucus', Tib. སྒྲམ་ *snabs*

Bur. မျှင် *mhyac* < *ʔmik 'bamboo sprout', Tib. སྨྱིག་ *smyig* < *smʔig 'bamboo'

Bur. မှည့် *mhaññ?* < *ʔmiñ (Wolfenden's law; cf. §54) < *ʔmin (cf. §61) 'ripe', Tib. སྨིན་ *smin*

§209b. Nonetheless, some examples contravene Schiefner's conjecture in that Burmese fails to have the expected aspirated resonant anticipated by virtue of the *s*- in the Tibetan cognate.

WBur. လာ *la*, Lashi ʔlaX- 'moon', Tib. སྨི་ *zla* < *sla 'moon'

OBur. မြူဝ် *mrui*, Atsi -mui³¹ 'snake', Tib. སྨྱུ་ *sbrul* < *smrul (Simon's law; cf. §30) 'snake', Chi. 虺 *xjwɨjX* < *[ɲr]ujʔ (27–19a) (see §30 n. 38)

In the word for 'moon' the Lashi cognate points to a pre-glottalized initial in proto-Burmish.

§209c. Other examples contravene Schiefner's conjecture in that Burmese has an aspirate resonant (descending from a proto-Burmish pre-glottalized resonant) although the Tibetan cognate has no *s*- initial cluster.

Bur. ငှာ *nhāh* < *ʔnāh 'borrow', Tib. བྱི་ *brña* < *brñʔa (Houghton's law; cf. §27)

Bur. ညှိ *ññhi* /ñiʔ/ < *ʔniʔ 'burn', Atsi ʔje⁵⁵, Tib. རྩོད་ *rnod* 'roast, parch'

Bur. အနှစ် *anhac* < *aʔnik (Wolfenden's law; cf. §54) 'year', Tib. རྩེ་ *na-nin* 'last year', Chi. 年 *nen* < *C.n⁵¹[ŋ] (32–28a) 'harvest, year'

- Bur. ສັ ຫ *nhac* < *ʔnik (Wolfenden's law) 'two', Tib. གཉིས་ *gn̄is* < *gn̄is, Chi. 二 *nyijH* < *ni[j]s (29–28a)
- Bur. ສັ ຫ: *nhan̄h* < *ʔnan̄h 'grant, confer, bestow', Tib. གནས་ *gnañ*, Chi. 讓 *nyangH* < *naŋs (03–42i) 'yield (v.)'
- Bur. ສັ ຫ *nhañ* < *ʔnañ 'drive, drive away', Chi. 攘 *nyang* < *naŋ (03–42e) 'oppose, disturb'
- Bur. ມຸ ສັ ຫ *mhun* < *ʔmun 'be dim, dusky', Tib. མཁོ མ མ *mun* 'darkness', Chi. 昏 *xwon* < *m̄u[n] (32–40k) 'dusk, dark'
- Bur. ຈຸ ວັ ຫ *rhaññ* < *ʔrin (Wolfenden's law) 'long', Tib. ຂົນ ຈ *rin*⁴
- OBur. ຈຸ ວັ ຫ *rhyat* (cf. Nishi 1999: 47) < *ʔryat < *ʔryet (cf. §66) 'eight', Tib. བརྒྱ བ མ *brgyad* < *bryat (Li's law; cf. §25) < *bryet (cf. §33), Chi. 八 *peat* < *p̄ret (20–14a)
- WBur. ລ ຈ ຈ: *lheh* < *lhiyh < *ʔliyh 'flea', Tib. ལྷོ བ མ *lji-ba* < *h̄lvi (Bodman's law; cf. §18) 'flea'

In the search for the origins of the Burmish pre-glottalized initials it is tempting to point to the cluster initial *r-* or *g-* in some of the relevant Tibetan words. Nonetheless, because some of the Tibetan cognates have simplex resonants, the reconstruction of Tibetan-style clusters in the history of Burmese would be premature given the current state of knowledge.

§210. *Origins of Chinese Voiceless Resonants.* Comparisons to Tibetan and Burmese fail to make clear the origins of the Chinese voiceless resonants.

- Chi. 黑 *xok* < *m̄ək (05–38a) 'black', Tib. མཁོ མ *smag* < *smək (cf. §32) 'dark, darkness', Bur. ມັ ຫ *mañ* < *mən̄ (cf. §67) 'ink'
- Chi. 侈 *tsyheX* < *k-lajʔ (18–08t) 'wide, extend', OBur. ລຽ ວັ ຫ *klay* 'wide, broad'
- Chi. 魍 *trhje* < *r̄aj (18–11b) 'demon', Tib. རྩ མ *hdre* < *h̄re (Conrady's law; cf. §17)
- Chi. 脱 *thwat* < *m̄ə-l̄ot (22–13m) 'peel off', OBur. ລ ຈ ຈ ຈ *lo,t* 'be free', Tib. མོ མ *glod* 'loose, relaxed'
- Chi. 焜 *xjwijX* < *m̄ajʔ (27–17e) 'burn', Chi. 燬 *xjweX* < *m̄ajʔ 'fire' (18–19b), OTib. མ མ *mye*, Bur. ມີ: *mīh* < *m̄yih (cf. §68)
- Chi. 虺 *xjwijX* < *m̄rujʔ (27–19a) 'snake' (see §30 n. 38), Tib. མ མ མ *sbrul* < *smrul, OBur. ມຸ ມຸ ວັ ຫ *mruy*
- Chi. 昏 *xwon* < *m̄u[n] (32–40k) 'dusk, dark', Tib. མ མ མ *mun* 'darkness', Bur. ມຸ ສັ ຫ *mhun* 'be dim, dusky'

⁴ One could instead compare Tib. མ མ *sriñ* 'lengthen, prolong' to Bur. ຈຸ ວັ ຫ *rhaññ* 'long' to give the correspondence Schiefner predicts.

Chi. 婚 *xwon* < *mʰən (32–40m) ‘marriage’, Tib. ཚུན་ཀྱི་ *smyan-ka* < *smʰən (cf. §32) ‘marriage, married couple’

Chi. 泣 *khip* < *k-rəp (37–15h) ‘weep’, Tib. ཁྲལ་ཁྲལ་ *khrab-khrab* < *krəp (cf. §32) ‘a person prone to weep’

4.2.2 Simplex Obstruents

§211. Turning to the obstruents, although Tibetan has only a two-way manner distinction of voiced and voiceless (cf. §6), it would not be surprising if certain of this language’s onset clusters corresponded to manner distinctions in one of the other two languages. Old Burmese has a two-way aspirated and unaspirated manner distinction among obstruents, but this opposition originates from a three-way contrast of voiced, voiceless, and preglottalized obstruents in proto-Burmish (cf. §56). Old Chinese has a three-way distinction among voiced, voiceless unaspirated, and voiceless aspirated (cf. §104). In the simplest case, the available reflexes originate from the same manner of obstruent (§§212 and 213), but cases of disagreement are just as frequent (§214). Two conjectures are available that aim to simplify the overall picture of onset correspondences. First, Nishida’s conjecture proposes that Tibetan *dr-* and Burmese *khr-* correspond as a result of regular sound change (§215). Second, Schiefner’s conjecture (as was the case for the resonants; cf. §209) explains proto-Burmish pre-glottalized initials as a reflex of the onset clusters beginning in *s-, as preserved in Tibetan (§216).

§212. *Agreement on Initial Voiced Obstruents.* In many cases two or three of the languages point to a voiced obstruent.

§212a. Examples to be reconstructed *g-:

Tib. །་ *ga* (an interrogative stem), Chi. 胡 *hu* < *gʰa (01–01a) ‘how, what?’

Tib. གྲི་ *gri* ‘knife’, OBur. ၵိယံ: *kriyh* < *griyh ‘copper’

Tib. དགུང་ *dguṅ* ‘sky’, Wbur. ကောင့်: *koṅh* < *gūṅh (Maung Wun’s law; cf. §55)

Tib. བགྲོ་ *bgre* ‘grow old’, Bur. ၵိ: *krīh* < *grīh < *grāyh (cf. §68) ‘big’

Tib. འགུས་ *hgrus* ‘zeal, diligence’, OBur. ၵိဝှ်: *kruiwḥ* < *gruiwḥ ‘try hard’

Tib. རག་ *rgal* ‘cross, ford’, Chi. 河 *ha* < *C.gʰaj (18–01g) ‘river’ (cf. §33a n. 44)

Tib. སྤྲོ་ *sgug* ‘wait’, Chi. 候 *huwH* < *[g]ʰ(r)os (10–06e) ‘wait upon’
Bur. ကာ *kā* < *gā ‘tarry (v.)’, Chi. 遐 *hae* < *gʰra (01–12j) ‘distant’

§212b. Examples to be reconstructed *g-:

Tib. རྒྱུབ་ *hgrub* < *hgrub (cf. §34) ‘accomplish, achieve’, Chi. 洽
heap < *[g]ʳ[r][o]p (37–01m) ‘accord with’

§212c. Examples to be reconstructed *gʷ-:

Tib. གོ་ *go* < *gʷa (Laufer’s law; cf. §21) < *gʷa (cf. §34) ‘space’,
WBur. མཚོ་ *awa* < *Qʷa (cf. §71) ‘opening’

Tib. གོ་གམ་ *gro-ga* < *gʷra (Laufer’s law) < *gʷra ‘birch bark’ (cf. §34),
Chi. 樺 *hwaeH* < *[g]ʷras (01–27-) ‘birch’

Tib. གོ་མ་ *gro-ma* < *gʷra (Laufer’s law) < *gʷra (cf. §34) ‘*Potentilla
anserina*’, WBur. འཇམ་ *wa* < *Qʷa (cf. §71) ‘elephant foot yam’, Chi.
芋 *hjuH* < *[g]ʷ(r)as (01–23o) ‘taro’

Tib. གོ་གས་ *grogs* < *gʷrags (Laufer’s law) < *gʷrags (cf. §34)
‘friend’, Chi. 友 *hjuwX* < *[g]ʷəʔ (04–17e)

Tib. གོ་དྭ་ *grod* < *gʷrad (Laufer’s law) < *gʷrad (cf. §34) ‘stomach’,
Chi. 胃 *hjuwH* < *[g]ʷə[t]s (31–05a)

Tib. རྒྱལ་ *hgol* < *gʷral (Laufer’s law) < *gʷral (cf. §34) ‘part, devi-
ate’, Chi. 違 *hjuwH* < *[g]ʷə[j] (28–05d) ‘go against’

Tib. རྒྱུ་ *hgro* < *hgʷra (Laufer’s law) < *hgʷra (cf. §34) ‘go’, Chi.
于 *hju* < *gʷ(r)a (01–23a)

Tib. གློ་མོ་ *sgor-mo* < *sgʷar (Laufer’s law) < *sgʷar (cf. §34) ‘round’,
WBur. འཇམ་ *wanh* < *Qʷanh (cf. §71)

Tib. གློ་ *sgro* < *sgʷra (Laufer’s law) < *sgʷra (cf. §34) ‘feather’ Chi.
羽 *hjuX* < *[g]ʷ(r)aʔ (01–24a)

§212d. Examples to be reconstructed *d-:

Tib. དུག་ *dug* ‘poison’, WBur. ཇོ་ཇོ་ཇོ་ *tok* < *duk (Maung Wun’s law;
cf. §55) ‘be toxic’, Chi. 毒 *dowk* < *dʷuk (14–05a) ‘poison’

Tib. ཇོ་ *do* ‘an equal, match’, Bur. ཏཱ་ *tū* < *dū ‘be similar’

Tib. རྒྱལ་ *hdah* < *hdakə (cf. §38) ‘pass (v.)’, Chi. 渡 *duH* < *dʷak-s
< *dʷakə-s (cf. §198) (02–16b) ‘ford (v.)’

Tib. རྒྱལ་ *hdug* ‘remain, stay’, Chi. 住 *drjuH* < *dro(?)s (10–19g)
‘stop (v.)’

§212e. Examples to be reconstructed *b-:

Tib. བརྒལ་ *brgyal* < *bryal (Li’s law; cf. §25) ‘sink down, faint’, Chi.
罷疲 *bje* < *braj < *bral (cf. §200b) (18–17a, 18–16d) ‘fatigue’

Tib. བྱ་ *bya* ‘bird’, Bur. ཕཔ་ *pyāh* < *byāh ‘bee’

Tib. རྒྱལ་ *hbu* < *hbukə (cf. §38) ‘worm, insect’, OBur. ཕྱི་ལོ་ *puiwh* <
*buwh (cf. §69) < *buwkəh (cf. §74) ‘insect’, Chi. 蝮 *phjuwk* <
*pʰuk < *pʰukə (cf. §198) (14–26j) ‘a kind of snake’

Tib. ་ལྔ་ *ḥbar* < *ḥbər ‘burn, blaze’, Bur. འཕྲུལ་ *pa* < *ba < *bar (cf. §63) < *bər (cf. §67) ‘shine’, Chi. 焚 *bjun* < *bən (33–34a) ‘burn’
 Bur. འཕྲུལ་ *panḥ* < *banḥ ‘tired’, Chi. 疲 *bje* < *baj (18–16d) ‘exhausted’

§212f. Examples to be reconstructed *dz-:

Tib. ཇ་ *za* < *dza (Schieffner’s law; cf. §29) ‘eat’, Bur. འཕྲུལ་ *cāh* < *dzāḥ, Lashi *tsɔː*, Chi. 咀 *dzjoX* < *dzaʔ (01–57u)
 Tib. ཇོ་ *zin* < *dzin (Schieffner’s law) ‘be consumed’, Chi. 盡 *dzinX* < *Cə.dzinʔ (32–32a) ‘exhaust (v.)’
 Tib. ཇམ་ *gzan* < *gdzan (Schieffner’s law) ‘wear out, hurt, waste’, Chi. 殘 *dzan* < *[dz]ʰa[n] (24–41c) ‘injure, remnant’
 Tib. ཇམ་ *mdzah* ‘love’, Bur. འཕྲུལ་ *cā* < *dzā (or *jā), Chi. 慈 *dzi* < *dza (04–49j) ‘kind (adj.)’

§213. *Agreement on Initial Voiceless Obstruents*. In some correspondences all available evidence points to the reconstruction of a voiceless obstruent.

§213a. Examples to be reconstructed *k-:

Tib. ལྷོ་ *kluñ* ‘river’, Bur. ལྷོ་ *khlonḥ* < *kluñḥ (Maung Wun’s law; cf. §55), Chi. 谷 *kuwk* < *C.qʰok (11–14a) ‘valley’ (cf. §70 n. 21)
 Tib. ལྷོ་ *dkrug* ‘stir, agitate, disturb’, Chi. 覺 *kaewk* < *kʰruk (14–03f) ‘awake’, Chi. 攪 *kaewX* < *kʰruʔ (14–03i) ‘disturb’
 Tib. ལྷོ་ *skor* ‘go around’, Chi. 裹 *kwaX* < *s.[k]ʰo[r]ʔ (19–02d) ‘wrap (v.)’
 Tib. ལྷོ་ *khañ* < *kañ ‘house’, Bur. ལྷོ་ *khon* < *kuñ ‘roof’, Atsi *toʔ¹-kap*³⁵ ‘main roof’
 Tib. ལྷོ་ *krab* < *krab ‘armour, shield, mail’, Bur. ལྷོ་ *khyap* < *ʔkyap ‘scales’, Atsi *ʔkjaʔ*³, Chi. 甲 *kaep* < *kʰrap (35–02a) ‘shell’
 Tib. ལྷོ་ *mخال* < *mkal ‘kidney, reins’, Bur. ལྷོ་ *khāḥ* < *(ʔ)kāḥ ‘loins, waist’, Chi. 肝 *kan* < *s.kʰar (24–01l) ‘liver’
 Tib. ལྷོ་ *mखar* < *mkar / ལྷོ་ *ḥkhar* < *ḥkar ‘staff, stick’, Chi. 竿 *kan* < *kʰar (24–01k) ‘pole, rod’
 Tib. ལྷོ་ *ḥkhol* < *ḥkol < *ḥkorl (cf. §37) ‘boil’, Chi. 涪 *kwanH* < *kʰons < *kʰorls (cf. §201) (25–01f) ‘bubble’
 Tib. ལྷོ་ *ḥkhrab* < *ḥkrəp (cf. §32) ‘strike, stamp, tread heavily’, Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’
 Tib. ལྷོ་ *ḥkab* (pres. ལྷོ་ *ḥgebs*) ‘cover (v.)’, Chi. 蓋 *kajH* < *kʰaps (35–01q) ‘thatch, cover (v.)’

Bur. མཚོ་མཁོ་ *khanh* < *ʔkanh ‘dried up’, Atsi ʔkan¹¹, Chi. 乾 *kan* < *kʰar (24–02c) ‘dry’⁵

§213b. Examples to be reconstructed *kʷ-:

Tib. རྩམ་ *hkhor* < *hkw̥ar (Laufer’s law; cf. §21) < *hkw̥ar ‘circle’,

Chi. 歸 *kjwɨj* < *[k]w̥əj (28–02a) ‘return (v.)’

Tib. འཁོག་ *vkok* (pres. འཁོག་ *hgog*) < *kw̥ak ‘take away, snatch, rob’, Chi.

攫 *kjwak* < *kw̥ak (02–07b) ‘snatch away, seize’

§213c. Examples to be reconstructed *q-:

Tib. ལྷོགས་ *skyogs* < *skʷewks < *sqʷewks ‘ladle (n.)’, Chi. 勺 *tsyak* < *t-qewk ‘ladle (v.)’ (17–05a)

Tib. རབ་ *khab* < *kəp (cf. §32) < *qəp (cf. §34) ‘needle’, Bur. མཚོ་མཁོ་ *ap* < *əp (cf. §67) < *Qəp (cf. §71), Chi. 箴鍼 *tsyim* < *t.qəm (38–04no)

Tib. ལྷིམ་ *khyim* < *kʷim < *qʷim (cf. §34) ‘home’, Bur. མཚོ་མཁོ་ *im* < *Qim (cf. §71), Chi. 窰 *imH* < *q(r)[ə]m-s (38-07-) ‘subterranean room’

Tib. འཁྱིལ་ *hkhyig* < *hkʷik < *hqʷik (cf. §34) ‘tie, fasten, suffocate’, Bur. མཚོ་མཁོ་ *ac* < *Qik (cf. §71) ‘squeeze, throttle’, Chi. 縊 *ejH* < *qʷik-s (08–05g) ‘strangle’⁶

§213d. Examples to be reconstructed *ts-:

Tib. མཚོ་མཁོ་ *chan* < *čan ‘barley beer’, Chi. 漿 *tsjang* < *tsaŋ (03–49v) ‘rice-water drink’

Tib. བུ་སྐྱོན་ *btsun* ‘noble, righteous, honourable’, Chi. 尊 *tswon* < *[ts]ʷu[n] (34–26a) ‘honour (v.)’

Tib. མཚོ་མཁོ་ *tsha* < *tsə ‘grandchild’, Bur. མཚོ་མཁོ་ *sāh* ‘son’, Atsi *tsə*¹¹ ‘child’ (cf. §53g), Chi. 子 *tsiX* < *tsə? (04–47a) ‘child’

Tib. མཚོ་མཁོ་ *tshigs* < *tsigs ‘joint’, Bur. མཚོ་མཁོ་ *chac* < *tsik ‘joint’, Achang -*tshuk*, Chi. 節 *tset* < *tsʷik (29–30e) ‘joint of bamboo’

Tib. མཚོ་མཁོ་ *tshil* < *tsil ‘grease’, Bur. མཚོ་མཁོ་ *chī* < *tsʷi ‘oil’, Atsi *tshu*³¹

Tib. འཁྱིལ་ *tsug* (pres. འཁྱིལ་ *hdzugs*) insert, plant’, Chi. 鏃 *tsuwk* < *[ts]ʷok (11–18d) ‘arrowhead’

Tib. འཁྱིལ་ *tso* (pres. འཁྱིལ་ *htsod*) ‘cook, boil, dye’, Bur. མཚོ་མཁོ་ *chuih* < *tsuiw̥h ‘dye’, Lashi *tsha.uH*

Tib. མཚོ་མཁོ་ *rtsi* ‘juice, liquid’ (cf. བུ་སྐྱོན་ *bdud-rtsi* ‘ambrosia’), WBur. མཚོ་མཁོ་ *cheh* < *čiyh ‘medicine’, Lashi *čheiH*

⁵ Chi. 旱 *hanX* < *[g]ʰa[r]? (24–01s) ‘drought, dry’ is also a possible cognate, showing a different initial manner.

⁶ An alternative possible cognate 結 *ket* < *kʷit < *kʷik (29–01p) ‘tie, knot’ suffers the disadvantage that it would predict a Burmese velar rather than glottal initial.

- Tib. མོ་ཤི་ *tshwa* < *tswa ‘salt’, Bur. མོ་ཤི་ *chāh* < *tsāh, Lashi *tshoH*
 Tib. མོ་ཤི་ *tsho-ba* < *tso ‘fat, corpulent’, Bur. མོ་ཤི་ *chū* < *tsū ‘be fat’,
 Lashi *tshu*., Chi. 騰 *tsjwenX* < *tson? (25–39b) ‘fat, rich’
 Tib. མོ་ཤི་ *mtshon* < *mtson ‘weapon’, Chi. 鑿 *tswan* < *[ts]ʰor
 (24–39h) ‘perforate, penetrate’, Chi. 鑿 *tsjwen* < *tson (25–39c)
 ‘chisel, sharp point’
 Bur. མོ་ཤི་ *cap* ‘join, unite’, Chi. 接 *tsjep* < *tsap (35–15e) ‘connect with’

§213e. Examples to be reconstructed *t-:

- Tib. མོ་ཤི་ *chu* < *tʰu ‘water’, Chi. 水 *sywijX* < *s.tur? (28–14a)
 Tib. མོ་ཤི་ *gčig* < *gtʰek ‘one’ (Dempsey’s law; §14), Chi. 隻 *tsyek* <
 *tek (08–11c) ‘one of a pair’
 Tib. མོ་ཤི་ *rtul* ‘blunt, dull, stupid’, Chi. 頓 *twonH* < *tʰun-s (34–17j) ‘dull’⁷
 Tib. √rtod (pres. མོ་ཤི་) ‘tether, fasten, secure’, Chi. 綴 *trjwet* < *trot
 (22–10b) ‘bind’, Chi. 贅 *tsywejH* < *tots (22–11a) ‘unite, together’
 Tib. མོ་ཤི་ *lta* ‘look at’, Chi. 睹 *tuX* < *tʰa? (01–38c) ‘see’
 Tib. མོ་ཤི་ *mtho* < *mto ‘span’, WBur. མོ་ཤི་ *thwā* < *tō, Atsi *to*³¹
 Tib. √tag (pres. མོ་ཤི་ *hthag*) < *tək, Bur. མོ་ཤི་ *rak* < *rək (cf. §32) <
 *C-tək (cf. §72), Chi. 織 *tsyik* < *tək (05–13f) ‘weave’
 Tib. མོ་ཤི་ *hthug*, མོ་ཤི་ *mthug* ‘thick, dense’, Chi. 篤 *towk* < *tʰuk
 (14–08g) ‘firm, solid’
 Tib. √tab (pres. མོ་ཤི་ *hdebs*) < *təp ‘cast, send’, Chi. 答 *top* < *tʰəp
 (37–06a) ‘answer’

§213f. Examples to be reconstructed *p-:

- Tib. མོ་ཤི་ *-pa* agent noun suffix, Bur. མོ་ཤི་ *-pha* < *pa ‘male’, Lashi *-phoH*,
 Chi. 夫 *pju* < *pa (01–66a) ‘man’
 Tib. མོ་ཤི་ *pha* < *pa ‘father’, Bur. མོ་ཤི་ *pha* < *pa, Atsi *-wa*¹¹, Chi. 父 *bjuX*
 < *N-pa? (01–67a) ‘father’
 Bur. མོ་ཤི་ *phā* < *pā ‘mend, patch’, Chi. 補 *puX* < *Cə-pʰa? (01–67c) ‘patch’
 Tib. མོ་ཤི་ *phag* < *pag ‘pig’, Bur. མོ་ཤི་ *wak* < *C-pak (cf. §72), Chi. 富
pjuwH < *pək-s (05–33r) ‘rich; wealth’⁸
 Tib. མོ་ཤི་ *phun* < *pun ‘accomplish, complete’, Chi. 奔 *pwon* < *pʰur
 (33–28a) ‘run (v.)’
 Tib. མོ་ཤི་ *phyi* < *pyi ‘grandmother’, Bur. མོ་ཤི་ *phiyh* < *piyh, Atsi
-phyi (Yabu 1982: 40, nos 153–5), Chi. 妣 *pjiX* < *pij? (26–38n)
 ‘deceased mother’

⁷ Chi. 蠢 *tsyhwinX* < *tʰun? (34–19c) ‘stupid’ and Chi. 鈍 *dwonH* < *dʰun-s ‘dull’ (34–17i) are also possible cognates, showing a different initial manner.

⁸ One may instead wish to compare this Chinese word to Tibetan མོ་ཤི་ *phyugs* ‘cattle’.

Tib. ལྷུ་མ་ *phru-ma* < *pru ‘afterbirth’, Chi. 胞 *paew* < *pʰru (13–72b) ‘womb’

Tib. ལྷུ་རྩ་ *hphur* < *h̥pur ‘fly (v.)’, Chi. 飛 *pji* < *Cə.pu[r] (27–09a)

Tib. ལྷུ་སྤོང་ *span* (pres. ལྷུ་སྤོང་ *spoñ*) ‘let go, banish’, Bur. ལྷུ་སྤོང་ *phanʔ* < *pañʔ ‘procrastinate, delay’, Atsi *phanʔ*³¹ ‘escape, avoid’, Chi. 放 *pjangH* < *paŋs (03–57i) ‘release; let go’

Tib. ལྷུ་གྲ་ *lpags* ‘skin’, Chi. 膚 *pju* < *pra (01–51g) (§196a n. 90)

§213g. Sibilant correspondences are discussed below (cf. § 220).

§214. *Disagreement on Initial Obstruent Manner.* In other cases a given language disagrees about the manner of the initial obstruents.

§214a. In some cases Burmese points to a voiced initial as opposed to the voiceless initial indicated by Tibetan and Chinese.⁹

Bur. အကုန် *akun* < *gun ‘all’, Tib. ལྷུ་ *kun*

OBur. ལྷུ་ལོ་ *kyo,n* < *gyon ‘slave’, Tib. ལྷུ་ལོ་ *khol* < *kol ‘servant’, Chi. 信 *kwaenH* < *krʰons (25–011) ‘servant, groom’

Bur. ལྷུ་ *tā* < *dā ‘very red, flaming red’, Chi. 丹 *tan* < *tʰan (24–20a) ‘cinnabar’

Bur. ལྷུ་ *tū* < *dū ‘hammer’, Tib. ལྷུ་ *tho-ba* < *to ‘a large hammer’, Chi. 段 *twanH* < *tʰo[n]-s (25–23a) ‘hammer’

Bur. ལྷུ་ *tanḥ* < *danḥ ‘make taut, be tight’, Tib. ལྷུ་ *than-po* < *tañ ‘tense, tight, firm’, Chi. 張 *trjang* < *C.trəŋ (03–35h) ‘draw a bow’

Bur. ལྷུ་ *tac* < *dik (Wolfenden’s law; cf. §54) < *dek (Dempsey’s law; cf. §62) ‘one’, Tib. ལྷུ་ *gčig* < *gtʰveg (Dempsey’s law; cf. §14), Chi. 隻 *tsyek* < *tek (08–11c)

Bur. ལྷུ་ *prāh* < *brāh ‘flat, level’, Chi. 板 *paenX* < *C.pʰranʔ (24–49j) ‘plank, board’, Tib. ལྷུ་ *hphar* ‘board, flat board’

§214b. In quite a few cases the Chinese cognates offer voiceless initials against the voiced initials of Tibetan and proto-Burmish.

Chi. 肘 *trjuwX* < *t.kruʔ (13–23a) ‘elbow’, Tib. ལྷུ་ *gru-mo*

Chi. 九 *kjuwX* < *kuʔ (04–12a) ‘nine’, Tib. ལྷུ་ *dgu*, WBur. ལྷུ་ *kuiḥ* < *guiwḥ

Chi. 幾 *kjiX* < *kəjʔ (27–04a) ‘few; how many’, Tib. ལྷུ་ *hgah* < *hgəḥ ‘some’ (cf. §36 n. 47)

Chi. 旂 *tsyen* < *tan (24–20c) ‘a kind of flag’, Tib. ལྷུ་ *dar* ‘flag’

Chi. 燭 *tsyowk* < *tok (11–12e) ‘torch’, Tib. ལྷུ་ *dugs* ‘light, kindle’

⁹ The treatment of cognates of Tibetan *sC*- clusters is postponed until §§216–17.

- Chi. 晝 *trjuwH* < *truks (14–09a) ‘time of daylight’, Tib. འཇུག་ལོ་
gdugs ‘midday, noon’
- Chi. 顫 *tsyenH* < *tan (24–23s) ‘shivering, trembling’, Tib. རྩམ་ *hdar*
‘tremble, shudder’
- Chi. 展 *trjenX* < *tren? (24–26a) ‘roll over; unfold’, Tib. རྩམ་ *rdal*
‘spread, extend’
- Chi. 椽 *traewk* < *tr^hok (11–13c) ‘beat, strike’, Tib. རྩམ་ *rdug* ‘strike
against’
- Chi. 冢 *trjowngX* < *[t]roŋ? (11–13h) ‘tomb mound’, Tib. རྩམ་ *rduñ*
‘small mound, hillock’
- Chi. 瘵 *tanX* < *t^har? (24–211) ‘disease, suffering, distress’, Tib. རྩམ་
ldar ‘be weary, tired, faint’
- Chi. 半 *panH* < *p^hans (24–47a) ‘half’, Tib. རྩམ་ *bar* ‘intermediate space’
- Chi. 糞 *pjunH* < *p[u]r-s (33–32a) ‘manure, dirt’, Tib. རྩམ་ *brun* ‘dirt,
dung, excrement’
- Chi. 波 *pa* < *p^haj (18–161) ‘wave’, Tib. རྩམ་ *dbah* (cf. §36 n. 47)
- Chi. 井 *tsjengX* < *C.tseŋ? (09–22a) ‘well (n.)’, Tib. རྩམ་ *rdziñ* <
*rdzeñ (Dempsey’s law; cf. §14) ‘pond’
- Chi. 争 *tsreang* < *[ts]r^heŋ (09–23a) ‘strife, quarrel’, Tib. རྩམ་ *ziñ-*
cha < *dziñ (Schiefner’s law; cf. §29) < *dzeñ (Dempsey’s law)
‘turmoil, unrest’, Bur. འདྲེན་ *cac* < *dzik (Wolfenden’s law; cf. §54)
< *dzek (Dempsey’s law; cf. §62) ‘war’
- Chi. 臧 *tsang* < *ts^haŋ (03–49f’) ‘good’, Tib. རྩམ་ *bzañ* < *bdzañ
(Schiefner’s law)

§214c. In some examples of this type it is tempting to see Chinese pre-nasalization as corresponding to Tibetan voicing:¹⁰

- Chi. 含 *hom* < *Cə-m-k^həm (38–031’) ‘hold in the mouth’, Tib. རྩམ་
hgam < *hgəm ‘put in the mouth’
- Chi. 扞 *hanH* < *m-k^hars (24–01q) ‘shield (n.), ward off’, Tib. རྩམ་
hgal ‘oppose’ contradict’, Bur. འདྲེན་ *kā* < *gā ‘block, obstruct (v.);
shield (n.)’
- Chi. 撞 *draewng* < *[N-t]^hroŋ (12–08f’) ‘strike’, Tib. རྩམ་ *rduñ* ‘strike,
beat’
- Chi. 房 *bjang* < *Cə-N-paŋ (03–57y) ‘side room’, Tib. རྩམ་ *bañ-ba*
‘storehouse’
- Chi. 粉 *pjunX* < *mə.pəŋ? (33–30d) ‘flour’, Tib. རྩམ་ *dbur* ‘smooth
(v.)’

¹⁰ In the case of Chinese 争 *tsreang* < *[ts]r^heŋ (09–23a) ‘strife, quarrel’, mentioned directly above, Baxter and Sagart (2014) suggest that *m-ts^hreŋ and *mə-ts^hreŋ are also possible reconstructions, which would make this example appropriate for inclusion in this paragraph.

Jacques (2012b: 214–17) claims that Tibetan merged originally distinct voiced and prenasalized series. He points to the following correspondences between Tibetan and Japhug Rgyalrong (2012b: 215); the Rgyalrong reconstructions are those of Jacques.

- Tib. ཟམ་ *zam* < *dzam (Schieffner’s law; cf. §29) < *ndzam ‘bridge’,
 Japhug Rgy. *ndzom* < *ndzam
 Tib. ཉུག་ *dgu* < *də-ŋgu ‘nine’, Japhug Rgy. *ku-ngut* < *kə-t-ŋgu¹¹
 Tib. ཉུག་ *dug* < *ndug ‘poison’, Japhug Rgy. *tr-ndry* < *(tʰ)-ndək

The explanation of pre-nasalization giving rise to voiced onsets in Tibetan is, however, not very fruitful, because it does not explain the majority of Tibetan voiced consonants paralleling Chinese voiceless consonants (cf. §214b) and there is at least one counterexample in which Chinese pre-nasalization corresponds to Tibetan voiceless initials:

- Chi. 父 *bjuX* < *N-pa? (01–67a) ‘father’, Tib. ཕ་ *pha* < *pa, Bur. ၵ *pha* < *pa, Atsi -*wa*¹¹

Jacques made his observation regarding the relationship between Tibetan and Japhug Rgyalrong; to test it with Chinese data may not be appropriate, since doing so assumes a priori that there is a correspondence between prenasalized consonants in Rgyalrong and Old Chinese. Only further exploration of Rgyalrong correspondences with Tibetan and Chinese respectively can hope to further test or refine Jacques’s conjecture.

§214d. At times a Tibetan voiceless initial corresponds to a Chinese voiced initial. In only two correspondences does Burmese offer a cognate that unambiguously specifies the inherited manner, once agreeing with the voiceless Tibetan initial and once with the voiced Chinese initial.

- Tib. རྩོ་ *rko* ‘dig’, Chi. 掘 *gʷot* < *[g]ot (31–16s) ‘dig out (earth)’
 Tib. རྩོ་ *rkaŋ-pa* ‘foot, leg, hind-foot’, Chi. 行 *haeng* < *Cə.gʷraŋ (03–14a) ‘walk (v.)’
 Tib. ལམ་ *khal* < *kal ‘burden, load’, Bur. ၵ *ka* < *ga ‘saddle-frame’,
 Chi. 荷 *ha* < *gʷaj (18–01o) ‘carry’
 Tib. ལམ་ *khu* < *ku ‘paternal uncle’, Chi. 舅 *gjuwX* < *[g](r)u? (04–16b) ‘maternal uncle’
 Tib. ལམ་ *khul* ‘district, province’, Chi. 郡 *gjunH* < *gurs (34–12g) ‘district’
 Tib. ཚོ་ *čhod* < *čod ‘be sharp’, Chi. 絕 *dzjwet* < *[dz]ot (22–16a) ‘cut off, break off’, WBur. ၵ *chwat* < *(?)tsot or *(?)čot ‘pluck’

¹¹ Jacques accounts for the *-t* in *ku-ngut* ‘nine’ as analogical to the Japhug Rgy. numeral *kuurcat* ‘eight’ (2012b: 215); for the realization of /ng-/ as [nyg-] see Jacques (2004b: 51–2), but for the change of *t- to *n-* before nasals, i.e. *t-ŋg- > *nyg-* in this case, see Jacques (2014a: 8).

Tib. ཐུལ་པ་ *thul-ba* ‘rolled up; subdued’, Chi. 純 *dwon* < *d^sun (34–17n) ‘cover, wrap’

Tib. སྤ་ *spa* ‘a cane’, Bur. ဝါ: *wāh* < *C-pāh ‘bamboo’, Chi. 篔 *pae* < *br^sa (01–68-)

Tib. ཕ་ *pha* ‘yonder’, Chi. 夫 *bju* < *ba (01–66a) ‘this, that’

§214e. In two cases Tibetan and Burmese disagree about whether or not the word in question is voiced:

Tib. ཇིལ་ *zil* < *dzil ‘dew’, Bur. ဆိ: *chīh* < *(?)tsīh or *(?)čīh

Tib. རྗོལ་ *hjol* < *h^dʋol ‘hang down’, Chi. 垂 *dzywe* < *[d]oj (19–17a), WBur. ဆွဲ *chwai* < *(?)tsoi or *(?)čoi

§215. *Nishida’s Conjecture: Tibetan dr- Corresponding to Burmese khr-*. Nishida notes *dr-* as one of three Tibetan correspondences to Written Burmese *khr-* (1977: 4), proposing that all inherited **dr-* ‘shifted to *khr-* in Written Burmese’ (1977: 4). As evidence of this correspondence he offers the following three sets of comparisons:

WBur. ကြော *khrok* < *kruk ‘six’, Lashi *khjukH*, Tib. ལྷོག་ *drug*, Chi. 六 *ljuwk* < *k.ruk (14–16a)

WBur. ကျုပ် *khyup* < OBur. ကလုပ် *khlup* < *klup ‘sew’, Lashi *khju:pH*, Tib. འདྲུབ་ *drub* (pres *ᠠᠳᠷུབ་ hdrub*)

WBur. ကျေး *khyeh* < OBur. ကလိယံ *khliyh* ‘excrement’, Tib. འདྲི་མ་ *dri-ma* ‘dirt’

Nishida fails to notice that in two of these examples the initials originate not from Old Burmese *khr-* but from *khl-*.¹² As Nishida himself acknowledges, most authors compare WBur. ကျေး *khyeh* ‘excrement’ not to Tib. འདྲི་མ་ *dri-ma* ‘stain’ but rather to Tib. ལྷོག་ *lči* ‘excrement’ (e.g. Gong 1995: no 10, and Hill 2012b: 9). Setting aside the examples in which Burmese *khr-* descends from *khl-*, there remains the comparison WBur. ကြော *khrok*, Tib. ལྷོག་ *drug*, which is compelling, although unique. Turning from more distant relations to Tibetan’s presumed next of kin, Bumthap offers *grok* ‘six’ (Michailovsky and Mazaudon 1994: 552) and this word is not the only case of an East Bodish language having a velar cluster corresponding to Tibetan *dr-*:¹³

Tib. ལྷོག་ *drug* ‘six’, Bumthap *grok*, Dakpa *kro*⁵³

Tib. འདྲོད་ *drod* ‘warm’, Bumthap *grut*, Dakpa *kro*³⁵*po*⁵³

¹² Before Nishida, Houghton (1898: 46 note 2) and Miller (1956: 42, no 104) had also made the comparison of WBur. ကျုပ် *khyup* ‘sew’ and Tib. འདྲུབ་ *drub* (pres *ᠠᠳᠷུབ་ hdrub*) ‘sew’.

¹³ Tib. འདྲི་མ་ *dreg-pa* ‘dirt’ cannot be cognate with Bumthap *krekpa* ‘id.’, because འདྲི་མ་ *dreg-pa* has *-e-* before a velar, which should have changed to an *-i-* following Dempsey’s law (cf. §14).

Tib. ཇེ་ *dre* ‘mule’,¹⁴ Dakpa *kre*²³⁵

Tib. འཇི་ *hdri* ‘ask’, Khengkha *gri*,¹⁵ Dakpa *bri*³⁵

These East Bodish comparisons suggest that Nishida’s conjecture may isolate a genuine correspondence, but it is Tibetan and not Burmese that has innovated.

§216. *Schiefner’s Conjecture: Origins of Proto-Burmish Preglottalized Obstruents.* As mentioned above (cf. §209), Anton Schiefner (1852: 340) proposed that Tibetan clusters with *s-* correspond to Burmese aspirates. Keeping Burling’s law in mind (cf. §56), Schiefner’s conjecture may be paraphrased as a correspondence of Tibetan *sC-* with proto-Burmish **C-*, where ‘*C*’ is any obstruent.

§216a. A number of obstruent examples conform to Schiefner’s conjecture:

OBur. མིལ་ *khiyh* < **k̥iɣh* ‘borrow (money)’, Lashi *ʔce:iH*, Tib. སྐྱི་ *skyi*

Bur. ཆོ་མཚོ་ *khok* < **k̥uk* ‘bark (n.)’, Atsi *ʔku*⁵⁵, Tib. སྐྱེ་ལྗང་ *skog-pa* ‘shell, peel’, Chi. 殼 *khaewk* < **[kʰ]ʔrok* (11–03a) ‘hollow shell, hollow’

Bur. རྒྱུ་མཚོ་ *khrok* < **k̥ruk* ‘frighten’, Lashi *ʔkju:kH*, Tib. སྐྱེ་ལྗང་ *skrag* ‘be scared’, Chi. 嚇 *xaek* < **qʰrak* (02–10b) ‘frighten’

OBur. ལྗང་ལྗང་ *khyat* < **k̥yat* ‘love (v.)’, Atsi *ʔcit*⁵⁵, Tib. སྐྱིད་ *skyiid* ‘be happy’, Chi. 吉 *kjit* < **C.qit* ‘auspicious’ (29–01a)

WBur. ཇོ་མོ་ག་ *thon* ‘thousand’ < **(?)tuŋ*, Tib. ཇོ་མོ་ག་ *ston* ‘thousand’

§216b. In three examples a Tibetan voiced *sC-* cluster corresponds to an aspirate initial in Burmese. In the case of ‘frog’ the Lashi cognate confirms that the proto-Burmish initial is preglottalized.

Bur. ཇོ་མོ་ག་ *khañ* ‘ridge’ < **(?)kaŋ*, Tib. ཇོ་མོ་ག་ *sgañ* ‘hill, mound’, Chi. 岡 *kang* < **kʰaŋ* (03–02a) ‘hill’

Bur. ཇོ་མོ་ག་ *phāh* < **pāh* ‘frog’, Lashi *ʔpaH*, Tib. ཇོ་མོ་ག་ *sbal-pa*

WBur. ཇོ་མོ་ག་ *phwam?* < **(?)pom?* ‘be fat, plump’, Tib. ཇོ་མོ་ག་ *sbom* ‘fat, corpulent’

These examples suggests that the ancestor of proto-Burmish once had preglottalized voiced initials, which merged into the proto-Burmish (voiceless) preglottalized initials. Further support for this supposition may be found within the Burmish family. It is reasonable to speculate that the proto-Burmish alternation between **g-* and **k-* in the following non-causative/causative verb pair may have originated from a more straightforward **g-* versus **g-* alternation:

¹⁴ Michailovsky and Mazaudon in fact cite Tib. ཇེ་ *drel* ‘mule’ (1994: 552), but the *-l* in this word is a diminutive suffix (Uray 1952: 217) and ཇེ་ *dre* ‘mule’ is attested without this suffix.

¹⁵ According to Gwendolyn Hyslop (*per litteras*, 26 April 2016).

WBur. ကြောက် *krok* < *gruk ‘be afraid’, Lashi *kju:kH*

WBur. ခြောက် *khrok* < *^hkruk < *^hgruk ‘frighten, scare’, Lashi *ʔkju:kH*

§217. *Exceptions to Schiefner’s Conjecture.* There are apparent counterexamples to Schiefner’s conjecture.

§217a. First, there are cases in which non-aspirated Burmese obstruents correspond to Tibetan *sC*-:

Bur. ကိုယ် *kuiy* < *g- ‘body’, Tib. སྐ སུ *sku*, Chi. 軀 *khju* < *k^ho (10–10g)

Bur. ကြယ် *kray* ‘star’, Lashi *ʔkji*, Tib. སྐར་ སཀར *skar* (or སྐ སྐ སྐ *khri*, see Zeisler 2015)

WBur. ဝန်း *wanh* ‘be circular’, Tib. སྐོར་ སྐོར་ *sgor-mo* ‘round’, Chi. 回 *hwan* < *^har (25–12a) ‘turn around’

WBur. ညို *ññui* < *^hñjuw, Lashi *ñja:uV* ‘green, blue, brown’, Tib. སྐོ སྐོ *sno* ‘green’

WBur. ဝါး *wāh*, Lashi *wo* ‘bamboo’, Tib. སྐ་ སྐ་ *spa* ~ *sba* ‘cane’

Bur. ပုဆစ် *pu-chac* ‘knee joint’, Lashi *ʔpətH* ‘knee’, OTib. སྐུ་ སྐུ་ *spus-mo*

The Burmese word ကိုယ် *kuiy* ‘body’ might be a loan from Pali *kāya* as the final -y indicates. The pre-aspiration in the Lashi word *ʔpətH* ‘knee’, suggests that Burmese ought to have an aspirate initial in this word, i.e. *phu-chac rather than ပုဆစ် *pu-chac* ‘knee’. Perhaps the loss of aspiration can be explained on the basis of the etymon occurring in a compound. I have no explanation for the lack of aspiration in the other four words.

§217b. Second, there are cases where Burmish pre-glottalized initials do not correspond to *sC*- clusters in Tibetan.

Bur. ချပ် *kyap* < *^hkyap ‘scales’, Atsi *ʔkja^h*, Tib. སྐར་ སྐར་ *khra^h* ‘armour, shield, mail’, Chi. 甲 *kaep* < *k^hrap (35–02a) ‘shell’

Bur. သဉ္ဇးခြေ (*saññh*) *khre* < *^hkriy, Lashi *ʔkjeiH* ‘gall, bile’, Tib. སྐམ་ སྐམ་ *mkhris* < *mkris ‘gall, bile’

Bur. ဆောက် *chok* < *^hcuk ‘build, erect’, Atsi *ʔtsu^h*, Tib. སྐུག་ (pres. སྐུག་ *hdzugs*)

Bur. ဆူ *chū* < *^hcū ‘boil’, Atsi *ʔtsu^h*, Tib. སྐུ (pres. སྐུ *htshod*) ‘cook, boil, dye’

§217c. One comparison requires comment on its own. The pre-glottalization of the initial in the Lashi word for ‘otter’ corresponds to an initial *s*- in Tibetan, but so does the initial itself. Burmese, bizarrely, has a labial initial in this word.

Bur. ဖုံ *phyam* ‘otter’, Lashi *ʔsam*, Tib. སྐམ་ *sram*

§218. *Origins of Chinese Aspirate Obstruents*. Chinese voiceless aspirates have no clear origin.

§218a. Often Chinese voiceless aspirates correspond to plain voiceless consonants in the other languages.

- Chi. 苦 *khux* < *k^haʔ (01–01u) ‘bitter’, Tib. ཁ་ *kha* < *ka, Bur. ཞི: *khāh* < *kāh, Lashi *kho:H*
- Chi. 赫 *xaek* < *q^hrak (02–10a) ‘red, fiery’, Tib. ཁྲག་ *khrag* < *qrak ‘blood’, Bur. གྲོད་ < *ʔQrak ‘ashamed’
- Chi. 敞 *tsyhangX* < *t^haŋʔ (03–32m) ‘open, spacious’, Tib. ཐང་ *than* < *taŋ ‘plain (n.)’
- Chi. 倉 *tshang* < *ts^haŋ (03–48a) ‘granary’, Tib. གསལ་ *gsan* < OTib. གསལ་ *gtsan* ‘conceal, secret’ (cf. PT 1194, ll. 39–40)
- Chi. 紡 *phjangX* < *p^haŋʔ (03–57r) ‘spin’, Tib. ཕམ་ *phan* < *paŋ ‘spindle’, Bur. འདྲ་ *wanʔ* < *C-paŋ (cf. §72) ‘spin’
- Chi. 竊 *khuwH* < *k^hos (10–04a) ‘steal’, Tib. འུ་ *rku* (pres. འུ་ *rku*), OBur. མྱོད་ *khuiwḥ* < *kuiwḥ ‘steal’, Lashi *kha:uH*
- Chi. 軀 *khju* < *k^ho (10–10g) ‘body’, Tib. སྐ་ *sku*
- Chi. 殼 *khaewk* < *[k^h]rok (11–03a) ‘hollow shell, hollow’, Tib. སྐྱལ་ *skog* ‘shell, peel’
- Chi. 觸 *tsyhowk* < *t^hok (11–12g) ‘knock against’, Tib. གཏུག་ *gtug* ‘meet, touch’
- Chi. 空 *khuwng* < *k^hoŋ (12–01h) ‘hollow, empty, hole’, Chi. 孔 *khuwngX* < *k^hoŋʔ (12–02a) ‘empty’, Tib. ལུ་ *kuñ* < *kuñ ‘hole, pit, hollow, cavity’
- Chi. 蔥 *tshuwng* < *[ts]^hoŋ (12–19g) ‘onion’, Tib. བཅོས་ *btsoñ*
- Chi. 覆 *phjuwH* < *p^huks (14–23l) ‘cover’, Tib. ཕུག་ *phug* < *pug ‘cavern, hole’
- Chi. 唾 *thwaH* < *t^hojs (19–17m) ‘spit’, Tib. ཐོ་ལེ་ *tho-le* < *to-le
- Chi. 炭 *thanH* < *t^hans (24–24a) ‘charcoal, coal’, Tib. ཐལ་ *thal* < *tal ‘dust, ashes’
- Chi. 粲 *tshanH* < *ts^hars (24–40b) ‘bright and white’, Tib. མཚས་ *mtshar* < *mtsar ‘fair, beautiful, bright’
- Chi. 餐 *tshan* < *ts^har (24–40c) ‘eat, food, meal’, Tib. ཚས་མ་ *tshal-ma* < *tsal ‘breakfast’
- Chi. 屎 *syijX* < *q^hijʔ (26–20d) ‘dung’, Tib. ལྷི་ *lči*, OBur. ལྷིལ་ *khliyh* < *kliyh ‘dung’, Lashi *khjeiH*
- Chi. 犬 *khwenX* < *k^henʔ (32–04a) ‘dog’, Tib. ལྷི་ *khyi* < *kyi, OBur. ལྷིལ་ *khuyh* < *kuyh, Lashi *khuiH*
- Chi. 輝輝 *xjwij* < *q^wər (34–13kl) ‘brilliant’, Tib. ལྷོ་ལྷོ་ *khrol-khrol* < *k^wrəl (Laufer’s law; cf. §21) < *k^wrəl < *q^wrəl ‘bright, shining, sparkling, glistening’

Chi. 戡 *khom* < *k^hum (38–11q) ‘vanquish, kill’, Tib. √kum (pres. རྟུགས་ *hgums*) ‘kill’

§218b. At times Chinese voiceless aspirates correspond to voiced consonants in the other languages.

Chi. 妨 *phjang* < *p^haj (03–57q) ‘oppose’, Bur. འཇིག་ *pañh* < *bañh ‘impede, instruct’

Chi. 曲 *khjowk* < *k^h(r)ok (11–04a) ‘bent, crooked’, Tib. རྟུགས་ *hgugs* ‘bend’

Chi. 蜂蟻 *phjowng* < *p^h(r)oŋ (12–25st) ‘bee’, Tib. བུ་བ་ *bun-ba*

Chi. 披 *phje* < *p^h(r)aj (18–16j) ‘divide’, Tib. འབྲེལ་ *hbral* ‘be separate, to part’, Bur. རྩོལ་ *prāh* < *brāh ‘be diverse, scatter’

Chi. 寢 *tshimX* < *ts^him? (38–27f) ‘sleep’, Tib. གཟིམ་ *gzim* < *gdzim ‘sleep’

§218c. As one origin of Chinese aspirates, Schuessler proposes the Old Chinese consonant cluster *k-s- (changing to Middle Chinese 清 *tsh-*). He bases this suggestion on the comparison of Tibetan གཟིམ་ *gzim* ‘sleep’ and Old Chinese 寢 *tshimX* < *k-sim? (38–27f) ‘sleep’, both deriving from Trans-Himalayan *k-zim (2002: 158). This proposal may be rejected. As Walter Simon realized (1929: 179, no 263), following Schiefner’s law (cf. §29) it is Tibetan which has innovated, changing *gdzim to གཟིམ་ *gzim* (cf. Hill 2014f: 170).

§219. *Tibetan Palatalization*. One can identify three possible palatalizations in the history of Tibetan: Houghton’s law (*ñ^y- > ñ-; cf. §27), Benedict’s law (*l^y- > ź-; cf. §15), and the palatalization of non-laterals (*k^y-, *t^y-, *n^y-, *m^y-, *s^y- > ky-, č-, ñ-, my-, ś-; cf. §16). Because the conditioning environment for these changes remains unclear, the reconstructed forms that precede them must index the Tibetan development; I do this with a *^y that is not necessary for Chinese or Burmese. In fact, since Houghton’s law affected the East Bodish languages in addition to Tibetan, whereas the other two changes are Tibetan-specific, it is notationally more explicit to distinguish *^y₁ as the conditioning environment for Houghton’s law and *^y₂ as the conditioning environment for the other two changes.

§219a. Note that *^y₁, the conditioning environment for Houghton’s law, occurs only after velars and before the vowel ‘a’.

Tib. ཉ ནྱ *ña* < *ñ^y₁a (Houghton’s law; cf. §27) ‘fish’, Kur. *na*, Bur. ཇིག་ *nāh*, Chi. 魚 *ngjo* < *ŋa (01–31a)

Tib. གཉམ་པོ་ *gñan-po* < *gñ^y₁an (Houghton’s law) ‘pestilence’, Bur. རྩོལ་ *nānh* ‘poisonous snake’

Tib. བཞི་ *brña* < *brñʷa (Houghton's law) 'borrow', Kur. *ju*, Bur. ཏྱ་ *nhāh*

§219b. It is convenient to group the available examples of *y₂ according to the vowel in Tibetan. Most instances occur before the vowel -i-.

§219c. Examples of the vowel 'i':

Tib. རྩོད་ *zīn* < *lʷziñ 'field', Kur. ^l*ley* (§15f n. 21), Chi. 田 *den* < *lʷiŋ (32–19a)

Tib. རྩོམ་ *zim* < *lʷzim 'tasty', Kur. *lem*, Chi. 甜 *dem* < *lʷem (36–16) 'sweet'

Tib. གཞི་ *gzi* < *glʷzi 'ground', OBur. ལྷོལ་ *mliy*, Chi. 地 *dijH* < *lʷej-s (18–09b') (cf. §15 n. 15)

Tib. གཞུ་ *gzū* < *glʷzū, OTib. གཞི་ *gzi* < *glʷzi (cf. §15 n. 16) 'bow', Kur. *limi*, OBur. ལོལ་ *liyH*, Chi. 矢 *syijX* < *lijʷ? (26–19a) 'arrow'

Tib. བཞི་ *bzi* < *blʷzi 'four', Kur. *ble*, OBur. ལོལ་ *liy*, Chi. 四 *sijH* < *s.li[j]-s (29–34a)

Tib. འཇམ་ *hkhvig* < *hkhʷik 'tie, fasten, suffocate', Bur. ཟམ་ *ac* 'squeeze, throttle', Chi. 縊 *ejH* < *qʷik-s (08–05) 'strangle'

Tib. མཛིང་ *mjin* /mdʷziñ/ < *mlʷziñ (Bodman's law; cf. §18) 'neck', Kur. *mikpa*, WBur. ལའྲོང་ *laññ*, Chi. 領 *ljengX* < *reŋʷ? (09–19f)

Tib. གཉིས་ *gñis* < *gnʷzis 'two', Dakpa *nèi* (Hyslop 2011: 58), Bur. ལྷོང་ *nhac*, Chi. 二 *nyijH* < *ni[j]-s (29–28a)

Tib. སྙིང་ *sñin* < *snʷziñ 'heart', Kur. 'neng', Bur. ལྷོང་ *nhac* 'kernel', Chi. 仁 *nyin* < *niŋ (32–28f) 'kindness'

Tib. ལྷོལ་ *rñil* / ལྷོལ་ *sñil* < *rnʷzil / *snʷzil 'gums', Kur. 'nê', Chi. 齙 *ngjin* < *ŋə[n] (33–01-)

Tib. སྙིང་ *sig* < *sʷzik 'louse', Kur. *se*, Chi. 虱 *srit* < *sri[k] (29–35a)

Tib. སྙིང་ *sin* < *sʷziñ 'tree', Kur. *seng*, Bur. ཐང་ *sac*, Chi. 薪 *sin* < *si[ŋ] (32–22n) 'firewood'

§219d. Examples of the vowel 'e':

Tib. གཅིག་ *gčig* < *gtʷzek (Dempsey's law) 'one', Kur. *thé*, Bur. ཐང་ *tac*, Chi. 隻 *tsyek* < *tek (08–11c) 'one of a pair'

Tib. མཛེ་ *mje* /mdʷe/ < *mlʷze (Bodman's law; cf. §18) 'penis', Kur. *mili*, WBur. ལོལ་ *līh*

Tib. བརྗེད་ *brjed* < *mrjet (Simon's law; cf. §30) < *mlʷzed 'forget', Tamang 'mlet-pa

OTib. མྱིང་ *myiñ* < *mʷzeñ (Dempsey's law) 'name', Kur. *ngomeng*, Bur. མའྲོང་ *maññ*, Chi. 名 *mjieng* < *C.meŋ (09–31a)

Tib. མྱོད་ *myed* < *mʷzed 'no exist', Bur. མྱོད་ *mai?*, Chi. 靡 *mje* < *majʷ? (18–18h) 'not'

§219e. Examples of the vowel ‘a’ – one may note that the two available examples, although they have the vowel ‘a’ in Tibetan, inherited the vowel *-ə- at some point in their past:

- Tib. སློམ་ *sñam* < *snʲəṃ ‘think’, Chi. 恁 *nyimX* < *nəmʔ (28–25q)
 Tib. སླུང་ཀྱི་ *smyan-ka* < *smʲəṃ ‘marriage, married couple’, Chi. 婚
xwon < *mʲəṃ (32–40m) ‘marriage’

§219f. Examples of the vowel ‘o’:

- Tib. སློལ་ *skyogs* < *skʲəwks < *sqʲewks ‘ladle (n.)’, Chi. 勺 *tsyak* < *t-qewk (17–05a) ‘ladle (v.)’
 Tib. རྩོག་ཉོར་ *ñog-ñon* < *nʲəwks ‘soft, tender’, Bur. ညှက် *ññak*, Chi. 弱
nyak < *newk (17–09a)
 Tib. ལྗོ་ *žo* < *lʲəṃ ‘yoghurt’,¹⁶ Japhug Rgy. *tx-lu* ‘milk’

§219g. Examples of the vowel ‘u’:

- Tib. ལུང་ *śud* (pres. ལྗོ་ *śud*) < *sʲəṃ ‘rub’, Bur. သုတ် *sut* < *sut ‘wipe’,
 Lashi *su:tH*

§219h. A tempting and plausible explanation for the second palatalization of initials in Tibetan would be that this change occurred before the front vowels *-i-* and *-e-*. By design such a proposal immediately accounts for Tibetan examples attested with the vowels *-i-* and *-e-* (§219c, d). It is also noteworthy that the two available Chinese cognates for the Tibetan words with palatalized initials before *-o-* do not themselves have the nuclear vowel *-o-, but instead *-ew-* (§219f). Thus, these examples of palatalization in Tibetan before the vowel *-o-* need not contradict the proposal that Tibetan initials regularly palatalized before *-i-* and *-e-*.

§219i. Nonetheless, such an explanation faces at least two obstacles. First, palatalization before *-i-* and *-e-* does not explain those cases of palatalization before *-a-* (§219e). The second obstacle is more significant; I invoke the non-palatalization of laterals before *-e- to account for apparent exceptions to Benedict’s law (cf. §15d). Thus, *liñ ‘field’ and *leñs ‘hunt’ become *ziñ ‘field’ and *leñs ‘hunt’ (Benedict’s law) and then become the attested རྩོག་ *ziñ* ‘field’ and ལྗོ་ *liñs* ‘hunt’ (Dempsey’s law; cf. §14). The proposal that all initials are palatalized before *-e- robs us of this explanation for the exceptions to Benedict’s law.

§219j. Non-palatalized consonants before *-i-* are vanishingly rare in Old Tibetan, and those that do exist owe their explanation (as just summarized) to Dempsey’s law (§14 and esp. §15d n. 20). In contrast, although still rare, non-palatalized consonants before *-e-* are more plentiful and the

¹⁶ Kurtöp *ju* ‘milk’ and Monpa *jo*³⁵ may reflect loanwords; more study of the historical phonology of these languages is required.

available examples are unaccounted for (e.g. འདོད *hded* ‘drive, pursue’, འཕེལ *hphel* ‘increase’, གསེར *gser* ‘gold’). In Classical Tibetan, words beginning with *m-* furnish the most obvious cases of non-palatalized initials before *-e-*, but, as is widely recognized, Old Tibetan generally has *my-* before the front vowels *-i-* and *-e-* where classical Tibetan has simple *m-* (e.g. WTib. མི *mi*, OTib. མྱི *myi* ‘person’, WTib. མེད *med*, OTib. མྱེད *myed* ‘not exist’; cf. e.g. Beyer 1992: 33). Less widely recognized is the fact that there are a limited number of words that have *m-* before front vowels in Old Tibetan. Temple points to དམེག *dmeh* as the only example in the corpus of texts which he studies where *m-* does not palatalize before a front vowel (2012: 28 *et passim*); the word itself has an alternate spelling མྱེ *smye*, with palatalization (Hill 2013b). Laufer had previously pointed to མེན་ཏོག *men-tog* ‘flower’ as another example without palatalization (1914: 99). Two other words also show a pronounced tendency to not palatalize, namely བྱ་མེད *bud-med* ‘woman’ and ཕ་མེད *phra-men* ‘gilt silver’ (cf. Takata 2006: 164, Dotson 2007: 8 note 7, Hill 2013b: 67 note 6). These cases of *me-* in addition to *mye-* forestall the proposal that Tibetan underwent a regular change of **m-* to *my-* before the vowel **-e*.

§219k. In sum, while palatalization in Tibetan before inherited **-i-* is clear-cut, all other cases of palatalization in Tibetan remain unexplained.

§220. *Sibilant Correspondences*. Burmese and Chinese offer only the simple sibilant *s-*; Tibetan distinguishes *s-* and *ʃ-*. These simple inventories do not reflect simple correspondences. In particular, the straightforward *s-* of Burmese has four origins in proto-Burmish, namely *s-*, **ʃs-*, **ʃs-*, and **ʃs-*. I am unable to dispel this miasma and limit myself to presenting the evidence organized according to the proto-Burmish outcome (also cf. §197a).

§220a. Cognates of proto-Burmish **s-*:

- Bur. དབྱེད *sak* < **sak* ‘breath’, Lashi *səʔH*, Chi. 息 *sik* < **sək* (05–29a)
 Bur. དབྱེད *sac* < **sik* ‘tree’, Lashi *sə:kH*, Tib. ལྷོད *śin*, Chi. 薪 *sin* < **si[ŋ]* ‘firewood’ (32–33n)
 Bur. མེད་མེད་ *asaññh* < **siŋh* ‘liver’, Lashi *səŋH*, Tib. མེད་མེད་ *mčhin* < **m-sin* (? cf. §17b), Chi. 辛 *sin* < **sin* (32–33a) ‘pungent, painful’
 Bur. དབྱེད་ *sumh* < **sumh* ‘three’, Lashi *səmH*, Tib. གུམ་ *gsum*, Chi. 三 *sam* < **srum* (38–30a)

§220b. Cognates of proto-Burmish **ʃs-*:

- Bur. དབྱེད *sak* < **ʃsak* ‘life’, Lashi *-ʔsakH*, Tib. ལྷོག *srog*
 Bur. དབྱེད *sat* < **ʃsat* ‘kill’, Lashi *ʔsa:tH*, Tib. ལྷོག (pres. གསོད *gsod*),
 Chi. 殺 *sreat* < **srat* (21–29d)
 Bur. ལྷོག *si* < **ʃsi?* ‘know’, Lashi *ʔsɛ:X*, Tib. ལྷོག *śes*

§220c. Cognates of proto-Burmish *ś-:

WBur. འོ་འོ་འོ་ *sok* < *śuk ‘drink’, Lashi *śu:kH*, Chi. 嗽 *sraewk* < *śʳok (11–21o) ‘suck, inhale’

§220d. Cognates of proto-Burmish *ʔś-:

Bur. ལྷ་ *phyam* ‘otter’, Lashi ʔ*śam*, Tib. ལྷ་ *sram*, Chi. 獭 *that* < *ʔʳat (21–24i)

§220e. For three words it is not currently possible to unambiguously determine the proto-Burmish initial as Lashi cognates are unavailable, and other languages (e.g. Atsi) do not maintain pre-glottalized sibilants.

Bur. འོ་ *sai* < *sai ‘sand’, Atsi *seʔ*, Tib. ལྷ་ *sa* ‘earth’, Chi. 沙 *srae* < *śʳaj (18–15a) ‘sand’

Bur. འོ་ *sīh* ‘separate’, Atsi *saiʔʔ* ‘differ’ (?), Tib. ལྷ་ *gsil* ‘break down’

Bur. འོ་ *sa* ‘titivate’, Atsi *saiʔʔ* ‘redo, repair’, Tib. ལྷ་ *gsar* ‘new’, Chi. 鮮 *sjen* < *ser (23–21a) ‘fresh’

§220f. Jacques proposes Burmese *rh-* < *ʔr- as the cognate of Chinese *sr- (2015), offering the following two examples:

Chi. 色 *srik* < *srak (05–31a) ‘colour, sex, shame’, Bur. ལྷ་ *rhak* ‘ashamed’, Japhug Rgy. *tr-zrak* ‘shame’

Chi. 生 *sraeng* < *N.sreŋ (09–25a) ‘live, alive’, Bur. ལྷ་ *rhan* ‘alive’

I instead propose that Burmese ལྷ་ *rhak* ‘ashamed’ is cognate to Tibetan ལྷ་ *khrag* ‘blood’ < *qrak and Chinese 赫 *xaek* < *qʰrak (02–10a) ‘red, fiery’ (cf. §34a). Jacques’s second cognate set may be valid, but its vowel correspondence is irregular.

§220g. In two sibilant correspondence sets no Burmese cognate is available.

Tib. ལྷ་ *sriñ-mo* < *sreñ-mo ‘sister of a man’, Chi. 甥 *sraeng* < *s.reŋ (09–25g) ‘sister’s child’

Tib. √*sam* (pres. ལྷ་ *sems*) < *səm ‘think’, Chi. 心 *sim* < *səm (38–31a) ‘heart’

§221. *Sui Generis Initial Correspondences*. Some onset correspondences among the three languages, although they are without parallel, do not merit dismissal out of hand.

Tib. √*kag* (pres. ལྷ་ *hgog*) ‘block’, Chi. 攫 *kjwak* < *Cəqʷak (02–07b) ‘seize’

Tib. ལྷ་ *ñu* ‘weep’, Chi. 嗥 *haw* < *gʷu (13–01d) ‘roar, wail’

Tib. ལྷ་ *han-gu* ‘pigeon’, Chi. 鳩 *kjuw* < *[k](r)u (04–12n) (a kind of bird)

Tib. ཐུག་ *thug* ‘soup’, Chi. 粥 *tsyuwk* < *[t-q]uk (14–10a) ‘gruel’

Tib. རྩོམ་ *dom* ‘bear’, Bur. འ་ *wam*, Chi. 熊 *hjuwng* < **ɣ*^wəm (38–06a) (cf. §21a)

Tib. རྩམ་ *hdab-ma* ‘wing’, Chi. 翌/翼 *yik* < **ɣ*rəp ‘wing’ (05–18b, 05–17d)

Tib. སྤང་ *sdañ* < **sdəñ* ‘hate’, Chi. 憎 *tsong* < **ts*^səŋ (06–19d)

Tib. སྤུ་ *zuñ* < **dzuñ* ‘a pair’, Chi. 雙 *sraewng* < **[s]*^srəŋ (12–24a)

Tib. རྩོམ་ *hoñ* / རྩོམ་ *yoñ* < **h*^wañ ‘come’, Chi. 往 *hjewangX* < **ɣ*^waŋ? (03–26k) ‘go’, Bur. འ་ *wañ* ‘enter’

Tib. རྩ་ *ru* ‘horn’, རྩ་ *gru* ‘corner’, WBur. རྩ་ *khyui* ‘horn’, Chi. 角 *kaewk* < **C*.k^rok (11–02a) ‘horn, corner’

Tib. རྩ་ *sro-ma* ‘louse egg’, Chi. 卵 *lwanX* < **k*.r^or? (25–32a) ‘egg’
Bur. འ་ *cham-* < **tsam* ‘hair’, Lashi *tsham*, Chi. 髮 *sraem* < **s*^sram
‘long hair’ (13–71a), Chi. 簪 *tsom* < **C*₂.t^səm and *tsrim* < **ts*rəm
(38–28g) ‘hairpin’

4.3 Vowels of Trans-Himalayan

§222. With a few complications the vocalic correspondences among these three languages point to a vowel system in the proto-language with the same six nuclear vowels that are inherited into Old Chinese.

4.3.1 The Vowel *-a

§223. All three languages retain *-a- more or less unchanged. The copious examples are relegated to the Appendix (cf. §261).

4.3.2 The Vowel *-e

§224. Old Chinese preserves *-e-, which develops to other vowels in many environments in Tibetan and Burmese. Both Tibetan and Burmese change *-e- to -i- before velars (Dempsey’s law; cf. §14 for Tib. and §62 for Bur.); Burmese further changes *-i- to -a- in this environment (Wolfenden’s law; cf. §54). Both Tibetan and Burmese also change *-e- to -a- before dentals (cf. §33 for Tib. and §66 for Bur.).

Chi. 隻 *tsyek* < **tek* (08–11c) ‘one of a pair’, Tib. གཅིག་ *gčig* < **gt*^vek
‘one’ (Dempsey’s law; cf. §14), Bur. འ་ *tac* < **dik* (Wolfenden’s
law; cf. §54) < **dek* (Dempsey’s law; cf. §62)

Chi. 領 *ljengX* < **reŋ?* (09–19f) ‘neck’, Tib. རྩོམ་ *mjin* < **ml*^viñ
(Bodman’s law; cf. §18) < **ml*^veñ (Dempsey’s law), Bur. འ་ *laññ-*
laññ- < **liñ* (Wolfenden’s law) < **leñ* (Dempsey’s law)

- Chi. 井 *tsjengX* < *C.tseŋʔ (09–22a) ‘well (n.)’, Tib. རྩོམ་ *rdziñ* < *rdzeñ (Dempsey’s law) ‘pond’
- Chi. 爭 *tsreang* < *[ts]ʔreŋ (09–23a) ‘strife, quarrel’, Tib. རྩོམ་ *hdziñ* < *hdzeñ (Dempsey’s law) ‘quarrel, fight (v.)’, Tib. རྩོམ་ *ziñ-cha* < *zeñ (Dempsey’s law) ‘quarrel, dispute (n.)’, Bur. 𑜋𑜧𑜨 *cac* < *dzik (Wolfenden’s law) < *dzek (Dempsey’s law) ‘conflict’
- Chi. 甥 *sraeng* < *s.reŋ (09–25g) ‘sister’s child’, Tib. སྲིང་མོ་ *sriñ-mo* < *sreñ (Dempsey’s law) ‘sister of a man’
- Chi. 名 *mjieng* < *C.meŋ (09–31a) ‘name’, OTib. མྱིང་ *myiñ* < *mʔeñ (Dempsey’s law), Bur. 𑜇𑜨𑜃𑜫 *maññ* < *miñ (Wolfenden’s law) < *meñ (Dempsey’s law)
- Chi. 八 *peat* < *pʔret (20–14a) ‘eight’, Tib. བརྒྱད་ *brgyad* < *bryad (Li’s law; cf. §25) < *bryed (cf. §33), OBur. 𑜇𑜨𑜃𑜫 *rhyat* (cf. Nishi 1999: 47) < *ryet (cf. §66)
- Chi. 别 *bjet* < *N-pret (20–15a) ‘divide, separate’, Tib. འྲུང་ *hrad*; cf. Jacques 2010: 28) < *red (cf. §33) ‘scratch (v.)’, Bur. 𑜇𑜨𑜃𑜫 *prat* < *bret (cf. §66) ‘be cut in two, cut off’
- Chi. 鲜 *sjen* < *ser (23–21a) ‘fresh’, Tib. གསར་ *gsar* < *gser (cf. §33) ‘new’, Bur. 𑜇𑜨 *sa* < *sar (§63) < *ser (cf. §66) ‘titivate’
- Chi. 偏 *phjien* < *pʰen (23–27h) ‘oblique’, Tib. ཕལ་ *phal* < *pel (cf. §33) ‘step aside, make way’, Bur. 𑜇𑜨𑜃𑜫 *phay* < *(?)pel ‘go aside, put aside’
- Chi. 繕 *dzyenH* < *genʔs (24–25f) ‘repair’, Tib. གླེན་ *glan* < *glen (cf. §33) ‘patch, mend (v.)’
- Chi. 展 *trjenX* < *trenʔ (24–26a) ‘roll over; unfold’, Tib. རྩོམ་ *rdal* < *rdel (cf. §33) ‘spread, extend’
- Chi. 牒 *dep* < *lʔep (35–10g) ‘records’, Tib. ལེབ་མོ་ *leb-mo* ‘flat’
- Chi. 疊 *dep* < *lʔep (35–11a) ‘double’, Tib. ལེབ་ *ldeb* ‘double down’
- Chi. 蝴蝶 *hu-dep* < *gʰa-lʔep (35–10h) ‘butterfly’, Tib. ལེབ་ལེབ་ *phye-ma-leb*, Bur. 𑜇𑜨𑜃𑜫 *lip-prā*

4.3.3 The Vowel *-i

§225. Chinese and Tibetan maintain *-i-*; Burmese also generally retains it, but before inherited velars it changes the vowel to *-a-* and the final to a palatal (Wolfenden’s law; cf. §54).

- Chi. 縊 *ejH* < *qʰik-s (08–05g) ‘strangle’, Tib. རྩོམ་ *hkhvig* < *hʰqʰig (Peiros and Starostin’s law; cf. §34) ‘tie, fasten, suffocate’, Bur. 𑜇𑜨 *ac* < *ik (Wolfenden’s law) < *Qik (Peiros and Starostin’s law; cf. §71) ‘squeeze, throttle’

- Chi. 矢 *syijX* < * $\text{li}j$? (26–19a) ‘arrow’, Tib. གུ་ *gzu* < * $\text{gl}^{\text{h}}\text{u}$, OTib. གུ་ *gzi* (cf. §15 n. 16) < * $\text{gl}^{\text{h}}\text{i}$ (Benedict’s law; cf. §15) ‘bow’, Kur. *limi*, OBur. ལོ་ལོ་ *liy*
- Chi. 二 *nyijH* < * $\text{ni}[\text{j}]$ -s (29–28a) ‘two’, Tib. གཉིས་ *gn̄is*, Bur. ལྷན་ *nhac* < * $\text{?}^{\text{h}}\text{nik}$ (Wolfenden’s law)
- Chi. 妣 *pjiX* < * $\text{pi}j$? (26–38n) ‘deceased mother’, Tib. ཕྱི་ *phyi* < * pyi ‘grandmother’, Bur. ཕོ་ལོ་ *phiyh* < * piyh , Atsi -*phyi* (Yabu 1982: 40, nos 153–5)
- Tib. མཁྲིས་ *mkhris* < * mkris ‘gall, bile’, WBur. འཕྲུལ་ཤེད་ (*saññh*) *khre* < * kriy , Lashi ཀེའི་ *H*
- Chi. 節 *tset* < * $\text{ts}^{\text{h}}\text{ik}$ (29–30e) ‘joint of bamboo’, Tib. ཚེགས་ *tshigs* < * tsigs ‘joint’, Bur. ཚལ་ *chac* < * tsik (Wolfenden’s law), Achang -*tshuk*
- Chi. 四 *sijH* < * $\text{s.li}[\text{j}]$ -s (29–34a) ‘four’, Tib. བཞི་ *bzi* < * $\text{bl}^{\text{h}}\text{i}$ (Benedict’s law), Kur. *ble*, OBur. ལོ་ལོ་ *liy*
- Chi. 虱 *srit* < * $\text{sri}[\text{k}]$ (29–35a) ‘louse’, Tib. ཤིག་ *sig*
- Chi. 田 *den* < * $\text{li}^{\text{h}}\text{i}^{\text{h}}$ (32–19a) ‘field’, Tib. ཞིང་ *zin* < * $\text{li}^{\text{h}}\text{i}^{\text{h}}$ (Benedict’s law; cf. §15), Kur. ^l*ley* (§15f n. 21)
- Chi. 身 *syin* < * ni^{h} (32–23a) ‘body; self’, Chi. 仁 *nyin* < * ni^{h} (32–28f) ‘kindness’, Tib. སྙིང་ *sñin* ‘heart’, Bur. ལྷན་ *nhac* < * $\text{?}^{\text{h}}\text{nik}$ (Wolfenden’s law) ‘kernel’, Atsi *?nik*⁵ ‘heart’
- Chi. 年 *nen* < * [n]i^{h} (32–28a) ‘harvest; year’, Tib. ལོ་ལོ་ *na-nin* ‘last year’, Bur. རྩ་ལྷན་ *anhac* < * $\text{a}^{\text{h}}\text{nik}$ (Wolfenden’s law) ‘year’, Atsi *?nik*⁵
- Chi. 盡 *dzinX* < * Cə.dzin ? (32–32a) ‘exhaust (v.)’, Tib. ཟེན་ *zin* < * dzin (Schiefner’s law) ‘be consumed’
- Chi. 薪 *sin* < * $\text{si}[\text{ŋ}]$ (32–33n) ‘firewood’, Tib. ཤིང་ *sin* ‘tree’, Bur. འཕྲུལ་ *sac* < * sik (Wolfenden’s law) ‘wood, timber’, Atsi *sek*⁵ ‘tree’
- Tib. ལྷི་ *skyi* ‘borrow’, OBur. ཕོ་ལོ་ *khiyh* < * kiyh , Lashi ལེ་འི་ *H*
- Tib. འདོད་ *ri* (pres. འདོད་ *hdri*) ‘write’, OBur. ཕོ་ལོ་ *riyh*
- Tib. ལྷི་ལོ་ *ljid-po* < * $\text{hl}^{\text{h}}\text{id}$ (Bodman’s law; cf. §18) ‘heavy’, WBur. ལེ་ *leh* < * liyh
- Tib. ཚེམ་ *tshil* ‘grease’, Bur. མེ་ *chī* < * tsī ‘oil’, Atsi *tshu*³¹
- Tib. ལྷི་ *rtsi* ‘juice, liquid’ (cf. འདོད་ལྷི་ *bdud-rtsi* ‘ambrosia’), WBur. ལེ་ *cheh* < * čiyh ‘medicine’, Lashi *čheiH*

4.3.4 The Vowel *-o

§226. The vowel *-o- is maintained as such in Tibetan, proto-Burmish, and Chinese.

- Chi. 殼 *khaewk* < * $\text{[k}^{\text{h}}\text{]rok}$ (11–03a) ‘hollow shell, hollow’, Tib. སྐོག་ *skog* ‘shell, peel’

- Chi. 蔥 *tshuwng* < *[ts]^hoŋ (12–19g) ‘onion’, Tib. བཙོང་ *btson*
- Chi. 裹 *kwaX* < *s.[k]^ho[r]? (19–02d) ‘wrap (v.)’, Tib. སྐོར་ *skor* ‘go around’
- Chi. 垂 *dzywe* < *[d]oŋ (19–17a) ‘hang down’, Tib. རྗོལ་ *hyol*, WBur. རྗོལ་ *chwai* < *choi
- Chi. 唾 *thwaH* < *t^hojs (19–17m) ‘spit’, Tib. ཐོལ་ *tho-le* ‘spit’
- Tib. མཐོ་ *mtho* < *mto ‘span’, WBur. ཐོལ་ *thwā* < *tō, Atsi *to*³¹
- Chi. 綴 *trjwet* < *trot (22–10b) ‘bind’, Chi. 贅 *tsywejH* < *tots (22–11a) ‘unite, together’, Tib. རྩུ་ *rtod* (pres. རྩོད་) ‘tether, fasten, secure’
- Chi. 脫 *thwat* < *mā-l^hot (22–13m) ‘peel off’, Tib. རྩོད་ *glod* ‘loose, relaxed’, OBur. རྩོད་ *lo,t* ‘be free’
- Chi. 悅 *ywet* < *lot (22–13o) ‘pleased’, Tib. རྩོད་ *brod* ‘joy, joyful’
- Chi. 絕 *dzjwet* < *[dz]ot (22–16a) ‘cut off, break off’, Tib. རྩོད་ *čhod* ‘be sharp’, WBur. རྩོད་ *chwat* < *chot ‘pluck’
- Chi. 鑽 *tswan* < *[ts]^hor (24–39h) ‘perforate, penetrate’, Chi. 鑄 *tsjwen* < *tson (25–39c) ‘chisel, sharp point’, Tib. མཚོན་ *mtshon* ‘weapon’
- Chi. 涓 *kwanH* < *k^hons (25–01f) ‘bubble’, Tib. རྩོད་ *hkhoh* ‘boil’
- Chi. 信 *kwaenH* < *kr^hons (25–011) ‘servant, groom’, Tib. རྩོད་ *khol* ‘servant’, OBur. རྩོད་ *kyo,n* ‘slave’
- Chi. 卵 *lwanX* < *k.r^hor? (25–32a) ‘egg’, Tib. རྩོད་ *sro-ma* ‘louse egg’
- Tib. རྩོད་ *nor* ‘wealth’, Bur. རྩོད་ *nwāh* < *nōh ‘cow, cattle’
- Chi. 掘 *gjwot* < *[g]ot (31–16s) ‘dig out (earth)’, Tib. རྩོད་ *rko* ‘dig’

4.3.5 The Vowel *-u

§227. Chinese and Tibetan generally maintain *u, which is subject to two developments in Burmese: before velars *-u becomes -o- (Maung Wun’s law; cf. §55) and final *-uw becomes -uiw [-əw] (cf. §69). One must also bear in mind that in Chinese *-ə is difficult to distinguish from -u- before acute finals (cf. §194); thus, Chinese examples in Baxter and Sagart’s reconstruction showing *ə where the other two languages have -u- are included in the list below.

- Chi. 九 *kjuwX* < *[k]u? (04–12a), WBur. འུ་ *kuih* < *kuiw^h < *guw^h (cf. §69), Tib. ཉུ་ *dgu* ‘nine’
- Chi. 鳩 *kjuw* < *[k](r)u (04–12n) (a kind of bird), Tib. རྩོད་ *han-gu* ‘pigeon’
- Chi. 舅 *gjwX* < *[g](r)u? (04–16b) ‘maternal uncle’, Tib. རྩོད་ *khu* ‘paternal uncle’, WBur. འུ་ *kui* < *kuiw < *guw (cf. §69) ‘elder brother’
- Chi. 歎 *sraewk* < *s^hrok (11–21o) ‘suck’, WBur. རྩོད་ *sok* < *šuk (Maung Wun’s law; cf. §55) ‘drink’, Lashi *śu:kH*
- Chi. 嗥 *haw* < *g^hu (13–01d) ‘roar, wail’, Tib. རྩོད་ *nu* ‘weep’, WBur. རྩོད་ *nu* < *nuiw < *nu (cf. §69)

- Chi. 肘 *trjuwX* < *t.kruʔ (13–23a) ‘elbow’, Tib. ལྷོ་མོ་ *gru-mo* ‘elbow’
 Chi. 流 *ljuw* < *[r]u (13–46a) ‘flow’, Tib. ལྷོ་ ལྷོ་ *rgyu* < *ryu (Li’s law; cf. §25)
- Chi. 胞 *paew* < *pʰru (13–72b) ‘womb’, Tib. ལྷོ་མ་ *phru-ma* ‘afterbirth’
 Tib. ལྷོ་ ལྷོ་ *rku* ‘steal’, OBur. ལྷོ་ལྷོ་ *khuiw* < *(?)kuw (cf. §69) ‘steal’
 Tib. ལྷོ་ལྷོ་ *hgrus* ‘zeal, diligence’, OBur. ལྷོ་ལྷོ་ *kruiwḥ* < *gruḥ (cf. §69) ‘try hard’
- Tib. ལྷོ་ ལྷོ་ *nu* ‘suck’, OBur. ལྷོ་ལྷོ་ *nuiwʔ* < *nuwʔ (cf. §69) ‘breast’
 Tib. ལྷོ་ ལྷོ་ *dmu* ‘type of sky god’, OBur. ལྷོ་ལྷོ་ *muiwḥ* < *muwḥ (cf. §69) ‘sky’, Tan. ལྷོ་ ལྷོ་ *mə* < *mu (L3513) (cf. Jacques 2014b: 154)
- Tib. ལྷོ་ ལྷོ་ *lus* ‘body’, Bur. ལྷོ་ ལྷོ་ *lū* ‘person’
 Tib. ལྷོ་ ལྷོ་ *su* ‘who?’, Bur. ལྷོ་ ལྷོ་ *sū* ‘him’
- Chi. 覺 *kaewk* < *kʰruk (14–03f) ‘awake’, Chi. 攪 *kaewX* < *kʰruʔ (14–03i) ‘disturb’, Tib. ལྷོ་ལྷོ་ *dkrug* ‘stir, agitate, disturb’
 Chi. 毒 *dowk* < *dʰuk (14–05a) ‘poison’, Tib. ལྷོ་ལྷོ་ *dug*, WBur. ལྷོ་ལྷོ་ *tok* < *duk (Maung Wun’s law) ‘be toxic’
- Chi. 篤 *towk* < *tʰuk (14–08g) ‘firm, solid’, Tib. ལྷོ་ལྷོ་ *hthug*, ལྷོ་ལྷོ་ *methug* ‘thick, dense’
- Chi. 晝 *trjuwH* < *truks (14–09a) ‘time of daylight’, Tib. ལྷོ་ལྷོ་ *gdugs* ‘midday, noon’
- Chi. 粥 *tsyuwk* < *[t-q]uk (14–10a) ‘gruel’, Tib. ལྷོ་ལྷོ་ *thug* ‘soup’
- Chi. 六 *ljuwk* < *k.ruk (14–16a) ‘six’, Tib. ལྷོ་ལྷོ་ *drug*, WBur. ལྷོ་ལྷོ་ *khrok* < *kruk (Maung Wun’s law) ‘six’, Lashi *khjukH*
- Chi. 蝮 *phjuwk* < *pʰuk (14–26j) ‘a kind of snake’, Tib. ལྷོ་ལྷོ་ *hbu* ‘worm, insect’, OBur. ལྷོ་ལྷོ་ *puiwḥ* < *buwḥ (cf. §69) ‘insect’
- Chi. 覆 *phjuwH* < *pʰuks (14–23l) ‘cover’, Tib. ལྷོ་ལྷོ་ *phug* ‘cavern, hole’
- Chi. 腦 *nawX* < *nʰuʔ < *nʰuq (cf. §199) (16–28f) ‘brain’, WBur. ལྷོ་ལྷོ་ *nhok* < *ʰnuk (Maung Wun’s law) < *ʰnuq (cf. §73) ‘brain’, Atsi ʰnuʔ⁵
- Tib. ལྷོ་ ལྷོ་ *thuñ* ‘short’, WBur. ལྷོ་ལྷོ་ *tonḥ* < *duñḥ (cf. §55)
- Chi. 運 *hjunH* < *[ɕ]ʷər-s < *[ɕ]ʷər-l-s (cf. §201) (23–13d) ‘move’, Tib. ལྷོ་ལྷོ་ *hgul* < *hgul (Peiros and Starostin’s law; cf. §34) < *hgurl (cf. §37) ‘move’
- Chi. 飛 *pji* < *Cə.pu[r] (27–09a) ‘fly (v.)’, Tib. ལྷོ་ལྷོ་ *hphur*
- Chi. 眉 *mij* < *mrər < *mrər-l (cf. §201) (27–14a) ‘eyebrow’, WBur. ལྷོ་ལྷོ་ *mweh* < *muyḥ < *murlḥ (cf. §64) ‘body hair’
- Chi. 虺 *xjwijX* < *ḥruʔ (27–19a) ‘snake’ (see §30 n. 38), OBur. ལྷོ་ལྷོ་ *mruy*, Tib. ལྷོ་ལྷོ་ *sbrul* < *smrul (Simon’s law; cf. §30)
- Chi. 水 *sywijX* < *s.turʔ (28–14a) ‘water’, Tib. ལྷོ་ ལྷོ་ *ḥhu* < *ʰu
- Chi. 律 *lwit* < *[r]ut (31–18c) ‘pitch pipe’ (cf. Sagart 2014), Tib. ལྷོ་ལྷོ་ *rus* ‘bone’, OBur. ལྷོ་ལྷོ་ *ruiwḥ* < *ruwḥ (cf. §69)
- Chi. 率繹 *lwit* < *[r]ut (31–23a) ‘rope’, Tib. ལྷོ་ལྷོ་ *rgyud* < *ryud (Li’s law) ‘continuum’

- Tib. \sqrt{sud} (pres. ལྷོད *sud*) ‘rub’, Bur. འཕྲོད *sut* < *sut ‘wipe’, Lashi *su:tH*
- Chi. 昏 *xwon* < *m̥^hu[n] (32–40k) ‘dusk, dark’, Tib. ལྷོད *mun* ‘darkness’
- Chi. 根 *kon* < *[k]ʰə[n] < *[k]ʰərl (cf. §201) (33–01b) ‘root, trunk’,
Tib. ལྷོད *khul-ma* < *kurl (cf. §37) ‘bottom or side of sth’
- Chi. 銀 *ngin* < *ŋrə[n] < *ŋrərl (cf. §201) (33–01k) ‘silver’, Tib.
དྲུག *dnul* < *dnurl (cf. §37), OBur. འཕྲོད *nuy* < *nurl (cf. §64)
- Chi. 齧 *ngjin* < *ŋə[n] < *ŋərl (cf. §201) (33–01-) ‘gums’, Tib. ལྷོད *rñil* < *rñil < *rñirl (cf. §37)
- Chi. 分 *pjun* < *pə[n] < *pərl (cf. §201) (33–30a) ‘divide’, Tib. ལྷོད *hbul* < *hbul, ལྷོད *hphul* < *hphurl (cf. §37) ‘give’
- Chi. 塵 *drin* < *[d]rə[n] < *[d]rərl (cf. §201) (33–17a) ‘dust’, Tib.
རྩེད *rdul* < *rdurl (cf. §37)
- Chi. 貧 *bin* < *(Cə)[b]rə[n] < *(Cə)[b]rərl (cf. §201) (33–30v) ‘poor’, Tib. ལྷོད *dbul* < *dburl (cf. §37)
- Chi. 軍 *kjun* < *[k]wər < *[k]wərl (cf. §201) (34–13a) ‘army’, Tib.
གཡུག *gyul* < *gyurl (cf. §37) ‘army, battle’
- Chi. 奔 *pwon* < *p^hur (33–28a) ‘run (v.)’, Tib. ལྷོད *phun* ‘accomplish, complete’
- Chi. 糞 *pjunH* < *p[u]rs (33–32a) ‘manure, dirt’, Tib. ལྷོད *brun* ‘dirt, dung, excrement’
- Chi. 郡 *gjunH* < *gurs (34–12g) ‘district’, Tib. ལྷོད *khul* ‘district, province’
- Chi. 頓 *twonH* < *t^hun-s (34–17j) ‘dull’, Chi. 蠢 *tsyhwinX* < *t^hun? (34–19c) ‘stupid’, Chi. 鈍 *dwonH* < *d^huns (34–17i) ‘dull’, Tib.
རྩེད *rtul* ‘blunt, dull, stupid’
- Chi. 順 *zywinH* < *Cə.lu[n]s (34–20c) ‘follow; obey’, Tib. \sqrt{tul} (pres. ལྷོད *hdul*) ‘tame, subdue’
- Chi. 尊 *tswon* < *[ts]ʰu[n] (34–26a) ‘honour (v.)’, Tib. ལྷོད *btsun* ‘noble, righteous, honourable’
- Chi. 入 *nyip* < *nup (37–16a) ‘enter’, Tib. ལྷོད *nub* ‘sink, set’
- Chi. 戡 *khom* < *k^hum (38–11q) ‘vanquish, kill’, Tib. \sqrt{kum} (pres. ལྷོད *hgums*) ‘kill’
- Chi. 三 *sam* < *sr[u]m (38–30a) ‘three’, Tib. ལྷོད *gsum*, Bur. འཕྲོད *sumh* < *sumh ‘three’, Lashi *somH*

4.3.6 The Vowel *-ə

§228. Old Chinese distinguishes the vowels ‘a’ and ‘ə’ which merge in Tibetan and also generally also in Burmese. The copious examples of inherited *ə are relegated to the Appendix (§262). For exemplary purposes it suffices here to offer a few near minimal pairs.

- Chi. 咀 *dzjoX* < *dzaʔ (01–57u) ‘eat’, Tib. མྱ *za* < *dza (Schieffner’s law; cf. §29), Bur. ཅུ: *cāh*, Japhug Rgy. *nda*
 Chi. 慈 *dzi* < *dzəʔ (04–49j) ‘kind (adj.)’, Tib. མྱེལ་ *mdzah* ‘love’, Bur. ཅུ *cā*
 Chi. 如 *nyo* < *na (01–56g) ‘as, like, if’, Tib. ཉི *na* ‘if, when’
 Chi. 耳 *nyiX* < *nəʔ (04–40a) ‘ear’, Tib. ཉི *rna*, Bur. ཉི: *nāh*
 Chi. 無 *mju* < *ma (01–69a) ‘not have’, Tib. མྱ *ma*, Bur. ཅུ *ma*
 Chi. 母 *muwX* < *məʔ (04–64a) ‘mother’, Tib. མྱ *ma*, Bur. ཅུ *ma*

§228a. Handel (2008: 431) claims that all Trans-Himalayan languages other than Chinese merge *a and *ə and uses this apparent shared merger to characterize ‘Tibeto-Burman’ as one branch on a bifurcate *Stammbaum*. This proposal is not correct. Burmese provides evidence for separate treatment of *-a- and *-ə- (cf. Hill 2014a: 103–4; cf. §68 above).¹⁷ In particular, Chinese *-əj distinctly corresponds to Burmese *-i*.

- Bur. མྱ: *mīh* ‘fire’, Chi. 焜 *xjwījX* < *mājʔ (27–17e) ‘burn’
 Bur. མྱ: *nīh* ‘near’, Chi. 邇 *nyeX* < *nājʔ (07–20c) ‘near, draw near to’
 Bur. མྱ: *mrīh* ‘tail’, Chi. 尾 *mjiX* < *[m]əjʔ (27–17a)

In contrast, Chinese *-*aj* corresponds to Burmese *-ay*

- Bur. ཅུ: *sai* ‘sand’, Chi. 沙 *srae* < *sʳaj (18–15a) ‘sand’
 Bur. ཅུ: *nai* ‘be inclined on one side’, Chi. 俄 *nga* < *ŋʳaj (18–05h) ‘slanting’
 Bur. ཅུ: *phai* ‘avoid, shun’, ཅུ: *phay* ‘push aside’, Chi. 跛 *paX* < *pʳajʔ (18–16m) ‘walk lame’
 Bur. ཅུ: *phai*ʔ ‘break off a small piece’, Chi. 破 *phaH* < *pʳajʳ (18–16o) ‘break (v.)’

§228b. The vowel *-ə- also appears in the reconstructed rime *-*əw*, which indexes the correspondence of Tibetan *-u-* to Chinese *-o-* (cf. §35). The copious examples are relegated to the Appendix (cf. §256).

4.3.7 Unexpected Vowel Correspondences

§229. In a number of cases there are comparisons that in other respects appear acceptable, but where the main vowel in one of the three languages is

¹⁷ Jacques observes that Tangut open-syllable cognates of Chinese *a and *ə behave differently (2014b: 76). Chinese *a corresponds to Tangut *-i* in the examples Tan. 𑖇 *dzjʳ* < *ndzja (L4517) ‘eat’, Chi. 咀 *dzjoX* < *dzaʔ (01–57u) and Tan. 𑖇 *jir*² < *r-ja (L2798) ‘hundred’, Chi. 百 *paek* < *pʳak (02–37a). Chinese *ə correspond to Tangut *-u* in the examples Tan. 𑖇 *nju*ʳ < *njə (L4681) ‘ear’, Chi. 耳 *nyiX* < *nəʔ (04–40a) and Tan. 𑖇 *dzu*ʳ < *ndzə (L1338) ‘love’, Chi. 慈 *dzi* < *dza (04–49j) ‘kind (adj.)’.

unexpected. Some cases probably involve undiscovered regular sound changes, others may reflect morphological ablaut patterns in the proto-language.

§229a. Tibetan sometimes has *-e-* where one expects *-a-*:

- Chi. 我 *ngaX* < *ŋʰajʔ (18–05a) ‘I, we’, Tib. རོ་ *ned* ‘we’
 Chi. 移 *ye* < *laj (18–08q) ‘move (v.)’, Tib. རྗེ *rje* < *rly²e (cf. §31)
 ‘exchange’, Bur. ལེ *lai* ‘change, exchange’ (cf. §36a n. 48)
 Chi. 多 *ta* < *[t-l]ʰaj (18–08a) ‘many’, Tib. ཆེ *che* < *t²e < *t²ey
 (cf. §36) ‘great’, Tib. མཐེན་ *mthe-bo* ‘thumb’, Bur. ཏུ་ལོ་ *tay* ‘very’
 (intensive)
 Chi. 魑 *trhje* < *raǰ (18–11b) ‘demon’, Tib. རྩོེ *hdre* < *hre < *hrey
 (cf. §36) ‘demon’
 Chi. 靡 *mje* < *majʔ (18–18h) ‘not’, Tib. མེད་ *myed* ‘not exist’, Bur. མེ་
maiʔ
 Chi. 徧 *penH* < *pʰe[n]-s < *pʰerl-s (cf. §201) (23–27b) ‘(go) all
 around’, Tib. √pel (pres. རྒྱལ་) < *perl (cf. §37) ‘increase, augment’
 Chi. 連 *ljen* < *renʔ < *rerlʔ (cf. §201) (23–32a) ‘cohere’, Tib. རྩེན་
hbrel < *hbrel (cf. §37) ‘be connected’
 Chi. 霰 *senH* < *[s]ʰe[n]-s (24–44d) ‘sleet’, Tib. སེར་ *ser* ‘hail’
 Chi. 焜 *xjwijX* < *mǝjʔ (27–17e) ‘burn’, Chi. 燬 *xjweX* < *mǝjʔ
 ‘fire’ (18–19b), OTib. མྱི་ *mye* < *myey (cf. §36) ‘fire’, Bur. མི་ *mih*
 < *mǝyh (cf. §68)
 Chi. 饑 *ginH* < *[g]rǝ[r]-s (33–05r) ‘famine’, Tib. བཞེན་ *bkren-po*
 ‘beggar, destitute person’
 Chi. 銑 *senX* < *sǝrʔ (33–25h) ‘glossy’, Tib. གསེར་ *gser* ‘gold’

§229b. Proto-Burmish sometimes has **-u-* where one expects **-a-*:

- Tib. ཁྲན་ *khan* < *kañ ‘house’, Bur. རེའི་ *khon* < *kuñ ‘roof’, Atsi
toʔ¹-kaŋ³⁵ ‘main roof’
 Tib. སྐྱོད་ *skrag* ‘be scared’, Chi. 嚇 *xaek* < *qʰrak (02–10b), WBur.
 རྒྱུ་ཁོང་ *krok* < *gruk ‘be afraid’, Lashi *kju:kV*, WBur. རྒྱུ་ཁོང་
khrok < *ʔkruk ‘frighten, scare’, Lashi ʔ*kju:kH*

§229c. Chinese sometimes has **-ə-* where we expect **-i-*:

- Chi. 禁 *kimH* < *krǝms (38–18k) ‘prohibit’, Tib. མཚམས་ *khirms* ‘right,
 law’
 Chi. 其 *gi* < *gǝ (04–04a) (3p possessive), Tib. ལྱི་ *gyi*, etc. (genitive)
 Chi. 齦 *ngjin* < *ŋǝ[n] (33–01-) ‘gums’, Tib. རྩི་ *rñil* / རྩི་ *sñil* < *ñyil
 Chi. 窖 *imH* < *q(r)[ǝ]m-s (38–07-) ‘subterranean room’, Tib. རྩི་
kyim ‘home’, Bur. རྩི་ *im*
 Chi. 蔭 *imH* < *q(r)ǝm-s (38–03b) ‘shade’, Tib. རྩི་མ་ *grib-ma*
 ‘shadow’, Bur. རྩི་ *a-rip* < *Qrip

§229d. Chinese sometimes has *-e- where we expect *-i-:

Chi. 甜 *dem* < *l'em (36-16-) 'sweet', Tib. རྗེའི་ *zim* < *l'im 'tasty'

Chi. 地 *dijH* < *l'ej-s (18-09b) 'ground' (cf. §15 n. 15), Tib. ལྷོ་གླི་ *gzi*
< *gl'vi (Benedict's law), OBur. ལྷོ་ལྷོ་ *mliy*

§229e. In one word Burmese -i- corresponds to Tibetan -o-:

Bur. နှံ့ *n̄hi* /ŋi?/ < *?ni? 'burn', Atsi ?*nje*⁵⁵, Tib. རྗེ་ *rnod* 'roast, parch'

4.4 Finals of Trans-Himalayan

§230. The reconstruction of the finals *-ʔ (§231), *-q (§232), *-k (§233), *-ŋ (§234), *-p (§235), *-m (§236), *-t (§237), *-n (§238), *-r (§239), *-j (§240), *-l (§241), and *-rl (§242) is relatively straightforward. Nonetheless, there exist some unexpected correspondences (§243).

4.4.1 Final *-ʔ

§231. The final *-ʔ is here reconstructed for the correspondence of *-ʔ in Old Chinese with open syllables in Tibetan and Burmese (cf. §199).

Chi. 五 *nguX* < *C.ŋ'aʔ (01-29a) 'five', Tib. ལྷོ་ *l̄na* < *l̄naʔ, Bur. ငါး: *nāh*

Chi. 苦 *khuX* < *k^haʔ (01-01u) 'bitter', Tib. ལྷོ་ *kha* < *kaʔ, Bur. ခါး: *khāh* < *(?)kāh

Chi. 咀 *dzjoX* < *dzaʔ (01-57u) 'eat', Tib. མེ་ *za* < *dza (Schieffner's law; cf. §29) < *dzaʔ, Bur. ဝဵု: *cāh* < *dzāh, Lashi *tsɔ:*

Chi. 旅 *ljoX* < *raʔ (01-55a) 'military unit', Tib. རྗེ་ *dgra* < *dgraʔ 'enemy'

Chi. 父 *bjuX* < *N-paʔ (01-67a) 'father', Tib. ཕ་ *pha* < *paʔ, Bur. ဝ *pha* < *(?)pa < *(?)paʔ

Chi. 睹 *tuX* < *t'aʔ (01-38c) 'see', Tib. ལྷོ་ *lta* < *ltaʔ 'look at'

Chi. 羽 *hjuX* < *C^w(r)aʔ (01-24a) 'feather', Tib. ལྷོ་ *sgro* < *sg^wra (Laufer's law; cf. §21) < *sg^wra (cf. §34) < *sg^wraʔ

4.4.2 Final *-q

§232. The final uvular stop is here reconstructed for the correspondence of *-ʔ in Old Chinese with -g in Tibetan or -k in Burmese (see §199).

Chi. 語 *ngjoX* < *ŋaʔ < *ŋaq (01-29t) 'speak', Tib. ལྷོ་ *nag* < *ŋaq 'speech'

- Chi. 女 *nrjoX* < *nraʔ < *nraq (01–56a) ‘woman’, Tib. ཉག་མོ་ *ñag-mo* < *nʷaq (cf. §39b n.49)
- Chi. 武 *mjuX* < *maʔ < *maq (01–71a) ‘military’, Tib. དམག་ *dmag* < *dmaq ‘army’
- Chi. 友 *hjuwX* < *ɣʷəʔ < *ɣʷəq (04–17e) ‘friend’, Tib. རྩོགས་ *grog*s < *gʷraks (Laufer’s law; cf. §21) < *gʷrəks (cf. §32) < *ɣʷrəks (Peiros and Starostin’s law; cf. §34) < *ɣʷrəqs
- Chi. 婦 *bjuwX* < *mə.bəʔ < *mə.bəq (04–63a) ‘woman, wife’, Tib. བག་མ་ *bag-ma* < *bəq (cf. §32) < *bəq ‘bride’
- Chi. 後 *huwX* < *[ɣʷ](r)əʔ < *[ɣʷ](r)əq (10–08a) ‘behind’, Tib. འོག་ *hog* < *həq ‘under’
- Chi. 蚰 *xuwX* < *qʰs(r)əʔ < *qʰs(r)əq (10–01n) ‘ant’, Tib. རྩོག་མོ་ *grog-mo* < *grog (Peiros and Starostin’s law) < *groq
- Chi. 嘔 *uwX* < *qʰ(r)əʔ < *qʰ(r)əq (10–10i) ‘vomit’, Tib. སྐྱུག་ *skyug* < *sqyug (Peiros and Starostin’s law) < *sqyuq
- Chi. 帚 *tsyuwX* < *[t.p]əʔ < *[t.p]əq (13–20Aa) ‘broom’, Tib. ཕྱགས་མ་ *phyags-ma* < *pyəqs (cf. §32) < *pyəqs
- Chi. 腦 *nawX* < *nʷuʔ < *nʷuq (16–28f) ‘brain’, WBur. နှောင့် *nhok* < *ʷnuk (Maung Wun’s law; cf. §55) < *ʷnuq
- Chi. 住 *drjuH* < *droʔs < *drəwʔs (cf. §202) < *drəw(q)s (10–19g) ‘stop (v.)’, Tib. རྩལ་ *hdug* < *hdəwg (cf. §35) < *hdəwq ‘remain, stay’

4.4.3 Final *-k

§233. The velar stop final is preserved as such in all three languages. The copious examples are relegated to the Appendix (§263).

§233a. To account for the correspondence of Old Chinese *-k to open syllables in the other two languages (as well as Tibetan *-h*) I reconstruct *-kə, which develops to *-k in Chinese via apocope, and undergoes a series of changes such as *-kə > *-gə- > *-yə > *-x in Tibetan and Burmese, with subsequent unconditioned loss of *-x in Burmese and the same loss in Tibetan conditioned by all vowels except for *-a* (cf. §§38, 198).

Chi. 渡 *duH* < *dʰak-s < *dʰakə-s¹⁸ (02–16b) ‘ford (v.)’, Tib. རྩལ་ *hdah* < *hdakə ‘pass (v.)’

Chi. 射 *zyek* < *Cə.lak < *Cə.lakə (02–26a) ‘hit with bow and arrow’, Tib. མཚན་ *mdah* < *mlah (Bodman’s law; cf. §18) < *mlakə ‘arrow’, OBur. མཚན་ *mlāh* < *mlākəh

¹⁸ One may assume that the suffix *-s* was only applied after the loss of *-ə, but the current notation is most explicit and therefore most helpful.

- Chi. 百 *paek* < *p^hrak < *p^hrakə (02–37a) ‘hundred’, Tib. ་ལྷུ < OTib. ་ལྷུ *brgyaḥ* (PT 1111, l. 5 *et passim*) < *bryaḥ (Li’s law; cf. §25) < *bryakə, OBur. གྲ རྟཱ < *ryākə
- Chi. 魄 *phaek* < *p^hrak < *p^hrakə (02–38o) ‘soul’, Tib. ་ལྷུ *bla* < OTib. ་ལྷུ *brlaḥ* (PT 1287, l. 57) < *brlakə, WBur. ལོའོའོའོ *lipprā* ‘butterfly, soul’ < *brākə
- Chi. 極 *gik* < *[g](r)ək < *[g](r)əkə (05–04e) ‘ridge of roof, highest point, centre’, Tib. ་ལྷུ *mkhaḥ* < *mkakə ‘sky’
- Chi. 易 *yek* < *lek < *lekə ‘change; exchange’ (08–12a), Tib. ་ལྷུ *rje* < *r^hye (cf. §31) < *r^hyekə ‘exchange’, Bur. ལོ *lai* < *laikə (cf. §36a n. 48)
- Chi. 角 *kaewk* < *C.k^hrok < *C.k^hrəwk (cf. §202) < *C.k^hrəwkə (11–02a) ‘horn, corner’, Tib. ་ལྷུ *ru* < *rəw (cf. §35) < *rəwkə ‘horn’, ་ལྷུ *gru* < *grəw (cf. §35) < *grəwkə ‘corner’, WBur. ལྷུ *khyui* < *(?)kyəw (cf. §70) < *(?)kyəwkə ‘horn’
- Chi. 蝮 *phjuwk* < *p^huk < *p^huwkə (14–26j) ‘a kind of snake’, Tib. ་ལྷུ *ḥbu* < *ḥbukə ‘worm, insect’, OBur. ལྷུ *puiwh* < *buwh (cf. §69) < *buwkəḥ ‘insect’
- Chi. 日 *nyit* < *C.ni[k] < *C.nikə (29–26a) ‘sun’, Tib. ་ལྷུ *ñi-ma* < *n^hi < *n^hikə, OBur. ལྷུ *niy* < *niykə
- Chi. 漆 *tshit* < *ts^hi[k] < *ts^hikə (29–32a) ‘varnish’, Tib. ་ལྷུ *tshi* < *tsikə ‘sticky matter’, WBur. ལྷུ *ceḥ* < OBur. *ciyh < *dziykəḥ ‘be sticky, adhesive’

4.4.4 Final *-ŋ

§234. The velar nasal final is preserved as such in all three languages. The copious examples are given in the Appendix (cf. §264).

§234a. In a number of words proto-Burmish has final *-k where Chinese and Tibetan point instead to *-ŋ.

- Chi. 爭 *tsreang* < *[ts]^hreŋ (09–23a) ‘conflict’, Bur. ལོ *cac* < *dzik (Wolfenden’s law; cf. §54) < *dzek (Dempsey’s law; cf. §62), Tib. ་ལྷུ *ḥdziñ* < *ḥdzeñ (Dempsey’s law; cf. §14)
- Chi. 身 *syin* < *ṣiŋ (32–23a) ‘body; self’, Chi. 仁 *nyin* < *niŋ (32–28f) ‘kindness’, Tib. ་ལྷུ *sñiñ* ‘heart’, Bur. ལྷུ *nhac* < *^hnik (Wolfenden’s law) ‘kernel’, Atsi *’nik*^s ‘heart’
- Chi. 年 *nen* < *[n]^hi[ŋ] (32–28a) ‘harvest; year’, Tib. ་ལྷུ *na-niñ* ‘last year’, Bur. ལྷུ *anhac* < *^hnik (Wolfenden’s law) ‘year’, Atsi *’nik*^s
- Chi. 薪 *sin* < *si[ŋ] (32–33n) ‘firewood’, Tib. ་ལྷུ *śiñ* ‘tree’, Bur. ལོ *sac* < *sik (Wolfenden’s law) ‘wood, timber’, Atsi *sek*^s ‘tree’
- Chi. 新 *sin* < *C.si[n] (32–33k) ‘new’, Bur. ལོ *sac* < *sik (Wolfenden’s law) ‘new’, Atsi *sek*^s

I previously proposed that this change is conditioned by an original *i vowel as opposed to an original *e vowel, i.e. *-iŋ > *-ik > -ac and *-eŋ > *-iŋ > -aŋñ (cf. Hill 2012a: 74), but this is not correct because ‘conflict’ undergoes the change even though it has a vowel ‘e’ in Chinese. There are further obstacles to a phonological explanation of this correspondence. The Achang word *sanH-* ‘tree’ (Nishi 1999: 106) requires that this alternation be recognized at the level of proto-Burmish and demonstrates that the outcome of a stop or nasal is not deterministic. Bailang, a language preserved in three poems in the 後漢書 *Hòu Hànshū* transcribed with Chinese characters (Coblin 1979), has a nasal final in 仍 *nəŋ > niŋ 心 ‘heart’ (28a), like Tibetan, but a stop final in 息 *sək > sik 木 ‘wood’ (39a) like the Burmish languages. The cases of Bailang and Achang reveal that whether a particular language reflects -ik or -iŋ in the relevant words is not predictive of subgroup affiliation. This alternation must be reconstructed in the proto-language and, like the unpredictable alternation of final -n and -r within Germanic (Goth. *fon* ‘fire’ versus OEng. *fȳr*), it will receive explanation as part of the nominal inflection system.

4.4.5 Final *-p

§235. The labial stop final *-p is maintained as such in all three languages.

Chi. 誚 *dep* < *lʰap (21–23g) ‘garrulous’, Tib. ལཔ *lab* ‘speak, talk, tell (v.)’

Chi. 蓋 *kajH* < *kʰaps (35–01q) ‘thatch, cover (v.)’, Tib. འཇམས་ *hgebs* ‘cover (v.)’

Chi. 甲 *kaep* < *kʰrap (35–02a) ‘shell’, Tib. མཚལ་ *khraḅ* ‘armour, shield, mail’, Bur. ၶုၼ် *khyap* < *ʰkyap ‘scales’

Chi. 接 *tsjep* < *tsap (35–15e) ‘connect with’, Bur. ၵုၼ် *cap* ‘join, unite’

Chi. 答 *top* < *tʰəp (37–06a) ‘answer (v.)’, Tib. འདྲེན་ *hdebs* ‘cast, send’

Chi. 習 *zip* < *s-ləp (37–12a) ‘practice, exercise’, Tib. ལྟོ་ *slab* (pres. ལྟོ་ *slob*) ‘teach, learn’

Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’, Tib. འཇམས་ *hkhraḅ* < *hkrəp ‘strike, stamp, tread heavily’, OBur. ၶုၼ် *ryap* ‘stand, stop, halt’

Chi. 泣 *khip* < *k-rəp (37–15h) ‘weep’, Tib. མཚལ་ *khraḅ-khraḅ* ‘a person prone to weep’

Chi. 入 *nyip* < *nup (37–16a) ‘enter’, Tib. ལྷོ་ *nub* ‘sink, set’

4.4.6 Final *-m

§236. The labial nasal final *-m is maintained as such in all three languages.

Chi. 藍 *lam* < *N-k.rʰam (35–05k) ‘indigo’, Tib. རམས་ *rams*

- Chi. 甜 *dem* < *l'em (36–16-) ‘sweet’, Tib. ཞིམ་ *zim* < *l'vim ‘tasty’
 Chi. 含 *hom* < *Cə-m-k'əm (38–031) ‘hold in the mouth’, Tib. འགམ་ *hgam* ‘put in the mouth’
 Chi. 熊 *hjuwng* < *G'wəm (38–06a) ‘bear (n.)’, Tib. ལྷོམ་ *dom*, Bur. ၵာမ *wam*
 Chi. 恁 *nyimX* < *nəmʔ (38–25q) ‘think’, Tib. ལྷོམ་ *sñam*
 Chi. 心 *sim* < *səm (38–31a) ‘heart’, Tib. √sam (pres. ལྷོམ་ *sems*) ‘think’
 Chi. 戡 *khom* < *k'hs'um (38–11q) ‘vanquish, kill’, Tib. √kum (pres. འགམ་ *hgums*) ‘kill’
 Chi. 三 *sam* < *sr[u]m (38–30a) ‘three’, Tib. གསུམ་ *gsum*, Bur. သုံး *sumh* < *sumh, Lashi *səmH*
 Chi. 尋 *zim* < *sə-l[ə]m (38–17) ‘warm up (food)’, Bur. လုံ *lum* ‘warm’
 Tib. ལམ་ *lam* ‘road’, Bur. လမ်း *lamh*

4.4.7 Final *-t

§237. The dental stop final *-t is maintained as such in all three languages.

- Chi. 八 *peat* < *p'ret (20–14a) ‘eight’, Tib. བརྟེན་ *brgyad* < *bryad (Li’s law; cf. §25) < *bryed (cf. §33), OBur. ရှုတ် *rhyat* (cf. Nishi 1999: 47) < *ryet (cf. §66)
 Chi. 別 *hjet* < *N-pret (20–15a) ‘divide, separate’, Tib. √rad (pres. རྩོད་ *hḍrad*; cf. Jacques 2010: 28) < *red (cf. §33) ‘scratch (v.)’, Bur. ပြတ် *prat* < *bret (cf. §66) ‘be cut in two, cut off’
 Chi. 末 *mat* < *m'at (21–37a) ‘end of a branch’, Tib. མཐོག་ *smad* ‘the lower part’
 Chi. 殺 *sreat* < *srat (21–29d) ‘kill’, Tib. √sad (pres. གསོད་ *gsod*), Bur. သတ် *sat*
 Chi. 綴 *trjwet* < *trot (22–10b) ‘bind’, Chi. 繫 *tsywejH* < *tots (22–11a) ‘unite, together’, Tib. √rtod (pres. རྩོད་) ‘tether, fasten, secure’
 Chi. 脫 *thwat* < *mə-ʃ'ot (22–13m) ‘peel off’, Tib. རྩོད་ *glod* ‘loose, relaxed’, OBur. လေဝတ် *lo,t* ‘be free’
 Chi. 悅 *ywet* < *lot (22–13o) ‘pleased’, Tib. རྩོད་ *brod* ‘joy, joyful’
 Chi. 絕 *dzjwet* < *[dz]ot (22–16a) ‘cut off, break off’, Tib. རྩོད་ *chod* ‘be sharp’, WBur. ဆတ် *chwat* < *chot ‘pluck’
 Chi. 率絳 *lwit* < *[r]ut (31–23a-) ‘rope’, Tib. ལྷོད་ *rgyud* < *ryud (Li’s law; cf. §25) ‘continuum’
 Tib. √süd (pres. ལྷོད་ *süd*) ‘rub’, Bur. သုတ် *sut* < *sut ‘wipe’, Lashi *su:tH*

4.4.8 Final *-n

§238. The dental nasal *-n is inherited unchanged in all three languages, with the exception that proto-Burmish merges *in and *-in (cf. §61).

- Chi. 繕 *dzyenH* < *genʔs (24–25f) ‘repair’, Tib. གླེན་ *glan* < *glen (cf. §33) ‘patch, mend (v.)’
- Chi. 殘 *dzan* < *dzʰan (24–41c) ‘injure, remnant’, Tib. གཙམ་ *gzan* < *gdzan (Schiefner’s law; cf. §29) ‘wear out, hurt, waste’
- Chi. 尊 *tswon* < *[ts]ʰu[n] (34–26a) ‘honour (v.)’, Tib. བརྩུན་ *btsun* ‘noble, righteous, honourable’
- Chi. 昏 *xwon* < *mʰu[n] (32–40k) ‘dusk, dark’, Tib. མུན་ *mun* ‘darkness’, Bur. မှုန် *mhun* ‘be dim, dusky’
- Chi. 婚 *xwon* < *mʰən (32–40m) ‘marriage’, Tib. སྤྱེན་ཀ་ *smyan-ka* ‘marriage, married couple’
- Tib. མྱེན་ *smin* ‘ripe’, Bur. မှည့် *mhaññʔ* < *ʔminʔ (Wolfenden’s law; cf. §54) < *ʔminʔ (cf. §61), Atsi ʔmiŋ⁵⁵
- Tib. ཇིན་ *drin* ‘kindness’, Bur. ရည်း *raññh* < *rinḥ (Wolfenden’s law) < *rinḥ (cf. §61) ‘love’
- Chi. 辛 *sin* < *sin (32–33a) ‘pungent, painful’, Tib. མཚིན་ *mčhin* < *m-sin (? cf. §17b) ‘liver’, Bur. သည်း *saññh* < *sinḥ (Wolfenden’s law) < *sinḥ (cf. §61), Atsi *sej*¹¹
- Tib. སྤོན་ *-sen* ‘(finger)nail’, Bur. သည်း *-saññh* < *-sinḥ (Wolfenden’s law) < *-sinḥ (cf. §61), Atsi *-sej*¹¹

4.4.9 Final *-r

§239. The rhotic final *-r is maintained in Tibetan and Chinese; it is dropped without a trace in Burmese (cf. §201).

- Chi. 裹 *kwaX* < *s.[k]ʰo[r]ʔ (19–02d) ‘wrap (v.)’, Tib. སྐོར་ *skor* ‘go around’
- Chi. 鮮 *sjen* < *s[ʃ][e]r (23–21a) ‘fresh’, Tib. གསར་ *gsar* ‘new’, Bur. သ sa < *(?)sar or *(?)śar ‘titivate’
- Chi. 竿 *kan* < *kʰar (24–01k) ‘pole, rod’, Tib. མཁམ་ *mkhar* / འཁམ་ *hkhar* ‘staff, stick’
- Chi. 獻 *xjonH* < *ŋars (24–17e) ‘offer, present, wise man’, Tib. སྤོན་ *snar* ‘intelligent, quick of apprehension’¹⁹
- Chi. 瘡 *tanX* < *tʰarʔ (24–21l) ‘disease, suffering, distress’, Tib. ཕྲན་ *ldar* ‘be weary, tired, faint’
- Chi. 纏 *drjen* < *[d]ra[n] (24–28c) ‘bind, wind’, Tib. སྤོན་ *star* ‘tie fast, fasten to’
- Chi. 難 *nan* < *nʰar (24–35d) ‘difficult’, Tib. མཉན་ *mnar* ‘suffer, be tormented’ (cf. §33a n. 43), Bur. နာ *nā* ‘hurt’

¹⁹ If one instead compares Chi. 義 *ngjeH* < *ŋ(r)ajs (18–05r) ‘duty, justice’, then the final correspondence instead points to *-rl.

- Chi. 霰 *senH* < *[s]ʰe[n]-s (24–44d) ‘sleet’, Tib. སེར *ser* ‘hail’
 Chi. 緩 *hwanX* < *[ɣ]ʷʰa[n]ʔ (25–14l) ‘slack; slow’, Tib. རྒྱུ་རྒྱུ་ *hgor* < *hɣʷar ‘tarry, linger’
 Chi. 飛 *pji* < *Cə.pə[r] (27–09a) ‘fly (v.)’, Chi. 翕翕 *pjun* < *(Cə.pə[r] (33–30ef) ‘fly (v.), soar’, Chi. 奮 *pjunH* < *p[ə]ʰ[n]-s (33–33a) ‘spread wings and fly’, Tib. རྩུ་རྩུ་ *hphur* ‘fly (v.)’
 Chi. 銑 *senX* < *səʔ (33–25h) ‘glossy’, Tib. གསེར་ *gser* ‘gold’
 Tib. རྩུ་ *nor* ‘wealth’, Bur. ၵဝ: *nwāh* < *nōh ‘cow, cattle’

4.4.10 Final *-j

§240. Chinese and Burmese maintain *-j (Bur. -y) (cf. §200a), which is lost in Tibetan (cf. §36). The one complication is that Burmese changes inherited *-əy as -ī (cf. §68).

- Chi. 邇 *nyeX* < *nəjʔ (07–20c) ‘near, draw near to’, Tib. ཉེ *ñe* < *nʰey ‘near’, Bur. ၵဝ: *nīh* < *nōyʰ (cf. §68)
 Chi. 敲 *kje* < *kraɣ (18–01dʰ) ‘slanting’, Chi. 揜 *kjeX* < *kraɣʔ (18–01y) ‘pull aside’, Bur. ဝဝ် *kay* < *gay ‘be distended’
 Chi. 嘉 *kae* < *kʰraj (18–04g) ‘excellent’, Bur. ဝဲ *kai* < *gai ‘overdo, exceed’
 Chi. 俄 *nga* < *ŋʰaj (18–05h) ‘slanting’, Bur. ဝဲ *nai*ʔ ‘be inclined on one side’
 Chi. 膠 *tsyheX* < *k-lajʔ (18–08t) ‘wide, extend’, OBur. ၵဝ် *klay* < *glay ‘wide, broad’
 Chi. 羅 *la* < *rʰaj (18–10a) ‘a kind of net’, Tib. སྒྲ་ *dra* < *dray ‘net’, Tib. རྩུ་ *rgya* < *rya (Li’s law; cf. §25) < *ryay ‘net, trap’
 Chi. 籬 *lje* < *raj (18–11g) ‘hedge’, Tib. རྩུ་ *ra* < *ray ‘courtyard’
 Chi. 沙 *srae* < *sʰraj (18–15a) ‘sand’, Tib. སྒྲ་ *sa* < *say ‘earth’, Bur. ဝဲ *sai* ‘sand’
 Chi. 波 *pa* < *pʰaj (18–16l) ‘wave’, Tib. བལྟ་ *dbah* ‘wave’ (cf. §36 n. 47)
 Chi. 訛 *pje* < *p(r)aj (18–16h) ‘one-sided, insincere words’, Tib. སྒྲ་ *phra-mo* < *pray ‘slander’
 Chi. 跛 *paX* < *pʰajʔ (18–16m) ‘walk lame’, Bur. ဝဲ *phai* ‘avoid, shun’, ဝဝ် *phay* < *(?)pay ‘push aside’
 Chi. 破 *phaH* < *pʰaj-s (18–16o) ‘break (v.)’, Bur. ဝဲ *phai*ʔ < *(?)paiʔ ‘break off a small piece’
 Chi. 禾 *hwa* < *[ɣ]ʰoj (19–07a) ‘growing grain’, Tib. སྒྲ་ *gro* < *gro (Peiros and Starostin’s law; cf. §34) < *groy ‘wheat’
 Chi. 垂 *dzywe* < *doj (19–17a) ‘hang down’, WBur. ၵဝ် *twai* < *toi ‘drooping, hanging’

- Chi. 挫 *tswaH* < *ts^soj(?) -s (19–21c) ‘push down’, WBur. ḡ *cwai* < *coi ‘attach, stick to, hold’
- Chi. 幾 *kjijX* < *kəj? (27–04a) ‘few; how many’, Tib. འགྲོ་ *hgah* ‘some’ (cf. §36 n. 47)
- Chi. 移 *ye* < *laj (18–08q) ‘move (v.)’, Tib. ཇི་ *rje* < *rl^ve < *rl^vey (cf. §31) ‘exchange’, Bur. ၵ *lai* ‘change, exchange’ (cf. §36a n. 48)
- Chi. 多 *ta* < *[t-l]ʰaj (18–08a) ‘many’, Tib. ཇི་ *che* < *t^ve < *t^vey ‘great’, Tib. མཐུ་ *mthe-bo* ‘thumb’, Bur. ၵ *tay* < *day ‘very’ (intensive)
- Chi. 魍 *trhje* < *ra^j (18–11b) ‘demon’, Tib. འཛི་ *hdre* < *h^re (Conrady’s law, §17) < *h^rey
- Chi. 尾 *mjiX* < *[m]əj? (27–17a) ‘tail’, Bur. ၵ *mrīh* < *mrəy^h (cf. §68)
- Chi. 焜 *xjwijX* < *məj? (27–17e) ‘burn’, Chi. 燬 *xjweX* < *məj? ‘fire’ (18–19b), OTib. ཇི་ *mye* < *myey, Bur. ၵ *mīh* < *məy^h (cf. §68)

4.4.11 Final *-l

§241. The lateral final *-l in Tibetan is preserved, in Chinese becomes *-j (§200b), and in Burmese is generally lost (cf. §63), but kept as -y after the vowel -u- (cf. §64).

- Chi. 可 *khaX* < *[k]ʰsaj? < *[k]ʰsal? (18–01a) ‘be able’, Chi. 可 *gaX* < *g^saj? < *g^sal? (18–01a) ‘carry’, Tib. √kal (pres. འགྲོ་ *hgel*) ‘load’, Tib. འཛི་ *hkhel* ‘be loaded’
- Chi. 河 *ha* < *C.[g]ʰaj < *C.[g]ʰal (18–01g) ‘river’, Tib. འགྲོ་ *rgal* ‘cross, ford’ (cf. §33a n. 44)
- Chi. 荷 *ha* < *[g]ʰaj < *[g]ʰal (18–01o) ‘carry’, Chi. 駕 *kaeH* < *kra^j-s < *kral-s (18–04e) ‘yoke (v.)’, Tib. འཛི་ *khal* ‘burden, load (n.)’, Bur. ၵ *ka* < *gal ‘saddle’
- Chi. 歌 *ka* < *k^saj < *k^sal (18–01q) ‘sing, song’, Bur. ၵ *ka* < *gal ‘dance (v.)’
- Chi. 加 *kae* < *k^sraj < *k^sral (18–04a) ‘add’, Tib. འཛི་ *bkral* ‘appoint’, Tib. འཛི་ *khral* ‘tax (n.)’, Bur. ၵ *krāh* < *grāl^h ‘interval’
- Chi. 枷 *kaeH* < *kra^j-s < *kral-s (18–04c) ‘stand, support’, Bur. ၵ *krā* < *grāl ‘last, take time’
- Chi. 義 *ngjeH* < *ŋaj-s < *ŋal-s (18–05r) ‘duty, justice’, Chi. 儀 *ngje* < *ŋaj < *ŋal (18–05u) ‘proper demeanour; model’, Bur. ၵ *ñha* < *ñal ‘distribute equally’
- Chi. 施 *syē* < *laj (18–09l) < *ljal ‘give, bestow, extend’, Bur. ၵ *lyāh* < *lyāl^h ‘extended, be prolonged’
- Chi. 離 *lje* < *[r]aj < *[r]al (18–11f) ‘leave, distribute’, Tib. འཛི་ *ral* ‘rent, rift’

- Chi. 披 *phje* < *p^h(r)aj (18–16j) ‘divide’, Tib. འབྲུག་ *hbral* ‘be separate, to part’, Bur. ပြာ: *prāh* < *brāh < *brāl̥h ‘be diverse, scatter’
- Chi. 罷疲 *bje* < *[b]raj < *[b]ral (18–17a, 18–16d) ‘fatigue’, Tib. བརྒྱལ་ *brgyal* < *bryal (Li’s law; cf. §25) ‘sink down, faint’
- Tib. སྐལ་པ་ *sbal-pa* ‘frog’, Bur. ཡང་ *phāh* < *pāl̥h, Lashi *paH*
- Tib. གསལ་ *gsal* ‘clear’, Bur. སང་ *sā* < *(?)sāl or *(?)sāl ‘shine’
- Chi. 蝸 *kwaē* < *k^hroj < *k^hrəwǵ (cf. §202) < *k^hrəwl (19–04c) ‘snail’,
WBur. རྩོད་ *krwe* < *kruy < *grəwy (cf. §70) < *grəwl ‘shell’
- Chi. 橢 *thwaX* < *l^hoj? < *l^hol? (19–16c) ‘oval’, WBur. ལྷ་ *lhwāh* < *l^hōh < *l^hōlh ‘oblong (shield)’
- Chi. 墮 *xjwie* < *l^hoj (19–16e) ‘destroy’, WBur. ལྷ་ *lhwāh* < *l^hōh < *l^hōlh ‘hurdle over, unfurl’
- Chi. 唾 *thwaH* < *t^hoj-s (19–17m) ‘spit’, Tib. ཐོ་ལེ་ *tho-le* ‘spit’,
WBur. རྩོད་ *thweh* < *thuyh < *(?)tulh ‘spittle’
- Chi. 底 *tejX* < *t^hij? < *t^hil? (26–14a) ‘bottom’, Tib. མཐོང་ *mithil* ‘bottom, base’
- Tib. ཚིལ་ *tshil* ‘grease’, Bur. ཚི *chī* < *(?)cī or *(?)cī ‘oil’
- Tib. གསལ་ *gsil* ‘split’, Bur. ཚི: *sīh* < *(?)sīlh or *(?)sīlh
- Chi. 虺 *xjwijX* < *m^hruj? < *m^hrul? (27–19a) ‘snake’ (cf. §30 n. 38),
Tib. སྐྱལ་ *sbrul* < *smrul (Simon’s law; cf. §30), OBur. རྩོད་ *mruy* < *mrul
- Chi. 違 *hjjw* < *[g]wə[j] < *[g]wəl (28–05d) ‘go against’, Tib. འགྲོ་ *hgol* < *hgwal (Laufer’s law; cf. §21) < *hg^wəl (cf. §32) < *hg^wəl (Peiros and Starostin’s law; cf. §34) ‘part, deviate’
- Chi. 壞 *hweajH* < *N-[k]^hruj-s < *N-[k]^hrul-s (28–06d) ‘destroy, ruin’, Tib. འབྲུག་ *hdrul* ‘rot (v.)’, Tib. སྐྱལ་ *brul* ‘crumbles’

4.4.12 Final *-rl

§242. The reconstruction *-rl indexes the correspondence of Chinese *-r, Tibetan -l, and Burmese open syllable (or -y after the vowel -u-) (cf. Tib. §37, Bur. §§63–4, and Chi. §201).

- Chi. 遣 *khjenX* < *[k]^he[n]ʔ < *[k]^herlʔ (23–04b) ‘send away’, Tib. བསྐལ་ (pres. སྐྱལ་ *skyel*) < *skyarl ‘send’
- Chi. 運 *hjunH* < *[g]wər-s < *[g]wər-l-s (23–13d) ‘move’, Tib. འགྲོ་ *hgul* < *hgul (Peiros and Starostin’s law; cf. § 34) < *hgurl ‘move’
- Chi. 徧 *penH* < *p^he[n]-s < *p^herl-s (23–27b) ‘(go) all around’, Tib. འཕེལ་ (pres. འཕེལ་) < *perl ‘increase, augment’
- Chi. 扞捍 *hanH* < *m-k^ha[r]-s < *m-k^har-l-s (24–01q, 24–01i) ‘shield (n.), ward off’, Chi. 干 *kan* < *k^ha[r] (24–01a) ‘protect,

- guard', Tib. རགལ་ *hgal* < *hgarl 'oppose, contradict', Bur. ཏང *kā* < *gārl 'shield (n.)'
- Chi. 肝 *kan* < *s.kʰa[r] < *s.kʰarl (24–011) 'liver', Tib. མཀལ་ *mkhal* < *mkarl 'kidney, reins', Bur. ཟེ: *khāh* (<?)kārllh 'loins, waist'
- Chi. 扞 *hanH* < *m-kʰa[r]-s < *m-kʰarl-s (24–01q) 'fend off', Tib. རགལ་ *hgal* < *hgarl 'oppose'
- Chi. 鼾 *xan* < *[qʰ]ʰa[r]? < *[qʰ]ʰarl? (24-01-) 'snore', Tib. ཧལ་ *hal* < *harl 'pant, snort'
- Chi. 鞞 *kjon* < *ka[r] < *karl (24–08c) 'quiver', Tib. རྒྱལ་པ་ *rkyal-pa* < *rkyarl 'sack, bag'
- Chi. 炭 *thanH* < *[tʰ]ʰa[n]s < *[tʰ]ʰarls (24–24a) 'charcoal, coal', Tib. ཐལ་ *thal* < *tarl 'dust, ashes'
- Chi. 餐 *tshan* < *tsʰar < *tsʰarl (24–40c) 'eat, food, meal', Tib. མཚམ་མ་ *tshal-ma* < *tsarl 'breakfast'
- Chi. 蹠 *bjon* < *bar < *barl (24–54l) 'paw', Tib. ཕྱག་སྐལ་ *phyag-sbal* < *sbarl 'soft part of an animal's paw'
- Chi. 蕃 *bjon* < *[b]ar < *barl (24–54m) 'ample, flourish', Tib. ཅཔལ་ *dpal* < *dparl 'glory', Tib. སྐལ་མེག་ *sbal-mig* < *sbarl 'bud, sprout'
- Chi. 展 *trjenX* < *tren? < *trerl? (24–26a) 'roll over; unfold', Tib. རྫོང་ *rdal* < *rdel (cf. §33) < *rderl 'spread, extend'
- Chi. 援 *hjwon* < *[g]ʰa[n] < *[g]ʰarl (25–14e) 'pull up', Tib. རྫོང་ལྷོ་ *hgrol* < *hgʷral (Laufer's law; cf. §21) < *hgʷral (Peiros and Starostin's law) < *hgʷrarl 'become free'
- Chi. 西 *sej* < *s-nʰar < *s-nʰarl (26–31a) 'west' (cf. Sagart 2004: 71–4), Tib. མཚམ་མ་ *mnal* < *mnarl 'sleep', Bur. མོང་ *nāh* < *nārllh 'rest, stop a while'
- Chi. 眉 *mij* < *mrær < *mrærl (27–14a) 'eyebrow', WBur. རལུ་ *mweh* < *muyh < *murllh 'body hair'
- Chi. 根 *kon* < *[k]ʰə[n] < *[k]ʰərl (33–01b) 'root, trunk', Tib. ལུམ་མ་ *khul-ma* < *kurl 'bottom or side of sth'
- Chi. 銀 *ngin* < *ŋrə[n] < *ŋrærl (33–01k) 'silver', Tib. ལྷོ་ལྷོ་ *dnul* < *dnurl, OBur. ཅལ་ *nuy* < *nurl
- Chi. 齧 *ngjin* < *ŋə[n] < *ŋərl (33–01-) 'gums', Tib. རྫོང་ལྷོ་ *rñil* < *rñ'irl < *rñ'irl
- Chi. 分 *pjun* < *pə[n] < *pərl (33–30a) 'divide', Tib. རྫོང་ལྷོ་ *hbul* < *hburl, རྫོང་ལྷོ་ *hphul* < *hphurl 'give'
- Chi. 塵 *drin* < *[d]rə[n] < *[d]rærl (33–17a) 'dust', Tib. ལྷོ་ *rdul* < *rdurl
- Chi. 貧 *bin* < *(Cə.)[b]rə[n] < *(Cə.)[b]rærl (33–30v) 'poor', Tib. ལྷོ་ *dbul* < *dburl
- Chi. 郡 *gjunH* < *gur-s < *gurl-s (34–12g) 'district', Tib. ལུམ་ *khul* < *kurl 'district, province'

Chi. 軍 *kjun* < *[k]^wər < *[k]^wərɪ (34–13a) ‘army’, Tib. གཡུལ་ *g.yul* < *gyurl ‘army, battle’

Chi. 輝輝 *xjwǐj* < *q^whər (34–13k, 34–13l) ‘brilliant’, Tib. རྩོལ་རྩོལ་ *khrol-khrol* < *k^wral (Laufer’s law) < *q^wral (Peiros and Starostin’s law) < *q^wrarɪ ‘bright, shining, sparkling, glistening’

4.4.13 Irregular Finals

§243. There are many cases in which it is tempting to compare words in these three languages, but the correspondences witnessed in the finals are not those seen above.

§243a. Chinese at times has *-n, where the Tibetan correspondence predicts *-r. In the final example of the list immediately below, the only one with a Burmese cognate, rather than the expected -Ø or -y Burmese confirms -n.

Chi. 半 *panH* < *p^sans (24–47a) ‘half’, Tib. བར་ *bar* ‘intermediate space’

Chi. 顫 *tsyenH* < *tan (24–23s) ‘shivering, trembling’, Tib. འདྲོ་ *hdar* ‘tremble, shudder’

Chi. 旗 *tsyen* < *tan (24–20c) ‘a kind of flag’, Tib. དྲ་ *dar* ‘flag’

Chi. 板 *paenX* < *C.p^sran? (24–49j) ‘plank, board’, Tib. འཕམ་ *hphar* ‘board, flat board’, Bur. ပြာꩻ *prāh* ‘flat, level’

Chi. 丹 *tan* < *t^san (24–20a) ‘cinnabar’, Bur. တာ *tā* ‘very red, flaming red’

Chi. 焚 *bjun* < *bən (33–34a) ‘burn’, Tib. འབར་ *hbar* ‘burn, blaze’, Bur. ဝှာ *opa* ‘shine’

Chi. 粉 *pjunX* < *mə.pən? (33–30d) ‘flour’, Tib. དབྱེད་ *dbur* ‘smooth (v.)’

Chi. 羨 *ljen* < *ran (24–32a) ‘connect, unite in a row’, Tib. གྲལ་ *gral* ‘row’

Chi. 爛 *lanH* < *[r]^san-s (23–07l) ‘tear (v.)’, Tib. འདྲེལ་ *hdral* (pres.)

Chi. 展 *trjenX* < *tren? (24–26a) ‘roll over; unfold’, Tib. རྩོལ་ *rdal* ‘spread, extend’

Chi. 蠢 *tsyhwinX* < *t^sun? (34–19c) ‘stupid’, Chi. 鈍 *dwonH* < *d^sun-s ‘dull’ (34–17i), Chi. 頓 *twonH* < *t^sun-s (34–17j), Tib. ལྷུ་ *rtul* ‘blunt, dull, stupid’

Chi. 純 *dwon* < *d^sun (34–17n) ‘cover, wrap’, Tib. ལྷུ་བ་ *thul-ba* ‘rolled up; subdued’, Tib. ལྷུ་པ་ *thul-pa* ‘fur coat’

Chi. 連 *ljen* < *ren? (23–32a) ‘cohere’, Tib. འབྲེལ་ *hbreɪ* ‘be connected’

- Chi. 涪 *kwanH* < *kʰon-s (25–01f) ‘bubble’, Tib. འཛོལ་ *hkhol* ‘boil’
 Chi. 信 *kwaenH* < *krʰon-s (25–011) ‘servant, groom’, Tib. ལོལ་ *khol*
 ‘servant’, OBur. རྒྱུ་ལྷོ་ *kyo,n* ‘slave’

§243b. It is not always possible to confidently assign a cognate set to Trans-Himalayan *-r or *rl, as the following examples show:

- Chi. 頤 *konX* < *[k]ʰə[n]? (33-01-) ‘neck’, Tib. མགུལ་ *mgul*, Tib. མགུར་ *mgur*
 Chi. 粲 *tshanH* < *[tsʰ]ʰars (24–40b) ‘bright and white’, Tib. མཚོར་ *mtshar* ‘fair, beautiful, bright’, Tib. √stsal (pres. གསལ་ *gsal*; cf. Hill 2012b: 25) ‘clear, bright’

§243c. Sometimes Chinese has *-r where one expects *-n:

- Chi. 鑽 *tswan* < *[ts]ʰor (24–39h) ‘perforate, penetrate’, Chi. 鑄 *tsjwen*
 < *tson (25–39c) ‘chisel, sharp point’, Tib. མཚོན་ *mtshon* ‘weapon’
 Chi. 糞 *pjunH* < *p[u]r-s (33–32a) ‘manure, dirt’, Tib. བྱིན་ *brun* ‘dirt, dung, excrement’
 Chi. 奔 *pwon* < *pʰur (33–28a) ‘run (v.)’, Tib. ཕུན་ *phun* ‘accomplish, complete’
 Chi. 饑 *ginH* < *[g]rə[r]-s (33–05r) ‘famine’, Tib. བཀའ་ལོ་ *bkren-po* ‘beggar, destitute person’
 Chi. 乾 *kan* < *[k]ʰar (24–02c) ‘dry’, Chi. 旱 *hanX* < *[g]ʰa[r]? (24–01s) ‘drought, dry’, Bur. ཅམ་ *khanh* ‘dried up’
 Chi. 疲 *bje* < *baj (18–16d) ‘exhausted’, Bur. ཅམ་ *panh* ‘tired’
 Chi. 圍 *hwij* < *[g]wə[j] (28–05g) ‘surround’, Bur. ཅམ་ *wanh* ‘circular’

§243d. Chinese at times has an unexpected final *-n:

- Chi. 段 *twanH* < *tʰo[n]-s (25–23a) ‘hammer’, Tib. ཐོ་བ་ *tho-ba* ‘a large hammer’, Bur. ཏཱ་ *tū* ‘hammer’
 Chi. 臍 *tsjwenX* < *tson? (25–39b) ‘fat, rich’, Tib. ཐོ་བ་ *tsho-ba* < *tso ‘fat, corpulent’, Bur. ཅུ་ *chū* < *tsū ‘be fat’, Lashi *tshu*:

§243e. In the word ‘water’ Chinese has an unexpected final *-r:

- Chi. 水 *sywijX* < *s.tur? (28–14a) ‘water’, Tib. ལྷུ་ *chu* < *tʰu

§243f. In two words Chinese has final *-əm where the other two languages suggest *-əp:

- Chi. 蔭 *imH* < *q(r)əm-s (38–03b) ‘shade’, Tib. གྲིབ་མ་ *grib-ma* ‘shadow’, Bur. འཕྱིལ་ *a-rip* < *Qrip ‘shadow’
 Chi. 箴鍼 *tsyim* < *t.qəm (38–04no) ‘needle’, Tib. ཁབ་ *khab* < *kəp < *qəp ‘needle’, Bur. འཕྱིལ་ *ap* ‘needle’ < *Qap

§243g. In some examples Chinese has a final *-t that is not reflected in the other two languages. Hill (2015b: 170) suggests that in the word for ‘rice’ Tibetan final -s might originate from the *-ts cluster seen in Chinese, but this explanation is not available for the other two words.

Chi. 糲 *lat* < *(mǎ-)r^hat (21–26g) ‘rice’, Tib. འབྲས་ *hbras* ‘rice’ < *hmras (Simon’s law; cf. §30)

Chi. 律 *lwit* < *[r]ut (31–18c) ‘pitch pipe’ (cf. Sagart 2014), Tib. རྩ་ *rus* ‘bone’, OBur. རྩོ་ *ruiwh* < *ruwh

Chi. 掘 *gjwot* < *[g]ot (31–16s) ‘dig out (earth)’, Tib. རྩོ་ *rko* ‘dig’

§243h. In the word for ‘ink’ Burmese has a velar nasal rather than a velar stop, expected from the Chinese and Tibetan comparanda:

Chi. 黑 *xok* < *m^hək (05–38a) ‘black’, Tib. མཚན་ *smag* < *smək ‘dark, darkness’, Bur. မင်္ဂ *man* ‘ink’

§243i. In two words Chinese has a final velar nasal rather than a velar stop or open syllable:

Chi. 癢 *yangX* < *gaŋʔ (03–39r) ‘itch’, Tib. གཡལ་ *g.yah*, Japhug Rgy. *rrza* < *(rɛ)ja

Chi. 曩 *nangX* < *n^haŋʔ (03–42k) ‘in past times’, Tib. གནམ་བོ་ *gnah-bo* ‘ancient, in old time’

§243j. In the second-person pronoun Burmese has a final velar nasal lacking in Chinese:

Bur. မင်္ဂ *nan* ‘you’, Chi. 汝 *nyoX* < *naʔ (01–56j)

§243k. In the word for ‘wait’ Tibetan has a final velar whereas Chinese lacks a final stop:

Chi. 候 *huwH* < *[g]^h(r)os < *[g]^h(r)əws (cf. §202) (10–06e) ‘wait upon’, Tib. སྐྱུག་ *sgug* < *sgəwg (cf. §35) ‘wait’

§243l. The onset and vowel of the word for ‘goose’ agrees across the three languages, but each language offers a different final consonant. The possibility cannot be excluded that these words are independent onomatopoeic coinages:

Tib. ལྔ་ *nan* ‘goose’, Bur. ငန်း *nanh*, Chi. 鵞 *nga* < *ŋ^ha[r] (18–05p)

§243m. In several words Tibetan has a final -d missing in the other languages:

Chi. 我 *ngaX* < *ŋ^hajʔ (18–05a) ‘I, we’, Tib. རེད་ *ned* ‘we’

Chi. 靡 *mje* < *majʔ (18–18h) ‘not’, Tib. མེད་ *myed* ‘not exist’, Bur. မဲ *maiʔ*

Chi. 偽 *ngjweH* < *N-ɠ^wajs (19–06k) ‘false, cheat’, Tib. རྩོད་ *rnod* < *r^hnat / *r^hwet ‘deceive’

Bur. ဝှံ့ *n̄nhi* /ŋiʔ/ < *niʔ ‘burn’, Atsi ၵၵၵ⁵⁵, Tib. རྩོད་ *rnod* ‘roast, parch’

4.5 Reprise of Diachronic Mysteries

§244. The most valuable contribution of a study of the historical phonology of Tibetan, Burmese, and Chinese is to draw new focus to the exceptions to the regular patterns. Problems with the etymologies of particular words and other irregularities relative to one language are discussed in the relevant section above (§43 for Tibetan, §76 for Burmese, §204 for Chinese). When the three languages are looked at together, the initial manner correspondences generally remain a mystery (cf. §§206–21). Important outstanding questions include the origin of Tibetan palatalization (§219), the origin of proto-Burmish pre-glottalization (cf. §209 and §216), the origin of Chinese aspirate initials (cf. §218), and the origin of the type A versus type B distinction in Chinese. The reconstruction of the vowels and finals is better understood than that of the initials, but numerous irregularities in both cases await clarification (cf. §229 and §243 respectively).

4.6 Concluding Remarks

§245. The ambition of this work lies not in the proposal of this or that reconstruction but in a methodological reorientation of the study of Trans-Himalayan languages towards the paragon of Indo-European historical linguistics. Indo-European $*h_1oktōu$ becomes English ‘eight’, Latin *octō*, and Sanskrit *aṣṭāu* according to regular and explicitly named sound laws. The journey from $*h_1oktōu$ to English ‘eight’ entails a stop at proto-Germanic $*ahtōu$ (cf. Gothic *ahtau*) and Old English *eahta*.²⁰ In observing the procession from Indo-European to proto-Germanic, one may first consider the consonants. The laryngeal $*h_1$ before vowels disappears without a trace. The palatal $*k̑$, after merging with $*k$, becomes $*h$ following Grimm’s law; the $*t$ remains unchanged because it is the second of two adjacent voiceless stops. Turning to the vowels, the change of ‘*o*’ to ‘*a*’ in Germanic is regular and unconditioned; the vowel $*ō$ remains, merging with \bar{a} . These changes arrive at the reconstruction of $*ahtōu$ in proto-Germanic. Old English brightened ‘*a*’ and ‘ \bar{a} ’ to ‘ æ ’ and ‘ $\bar{\text{æ}}$ ’ (e.g. Old English *rǣt* versus German *Ratte*);²¹ then front vowels, including ‘ æ ’ and ‘ $\bar{\text{æ}}$ ’, broke into diphthongs before *h*, *w*, or *r*, plus another consonant, for our purposes changing $*\text{æht-}$ to *eaht-*. Turning attention from the front of the word to its back, unstressed diphthongs were monophthongized on their way to Old English ($*-tōu > *-tō$). Subsequently unstressed ‘ \bar{o} ’ became ‘*a*’ (Hogg 2011: 233, §6.28) and through these steps Germanic $*ahtōu$ yields Old

²⁰ This discussion relies on Fortson (2010) and Ringe (2006).

²¹ This change did not occur before nasals, e.g. Old English *dranc* < West Germanic $*drank$.

English *eahta*. The passage from *eahta* to *eight* is historically attested and need not distract us here.

In contrast to this clear and explicit passage from Indo-European *h₁oktōu to Old English *eahta*, it is unclear how Matisoff's reconstruction *b-r-gyat 'eight' yields such forms as Tibetan བརྟན་ *brgyad*, Written Burmese ရှစ် *rhac*, Jingpho *mətsát*, Chokri Naga *tətha*, and Mizo *pariat*.²² Conversely, it is unclear what leads Matisoff to reconstruct *b-r-gyat, rather than *m-t-ryat, *par-gtsat or one of many other potential proposals. Matisoff's own remark is that the 'reflexes of this phonologically complex numeral are predictably varied' (2003: 151).

A fresh look at Trans-Himalayan words for 'eight' offers a useful yardstick to measure the methodological distance travelled herein.

Tib. བརྟན་ *brgyad* < *bryat (Li's law; cf. §25) < *bryet (cf. §33)
 OBur. ရှစ် *rhac* (cf. Nishi 1999: 47) < *ʔryat < *ʔryet (cf. §66)
 Chi. 八 *peat* < *pʰret (20–14a)

In contrast to Matisoff's single reconstruction *b-r-gyat (2003: 141 *et passim*), which fails to predict the attested forms, the reconstructions offered here predict the attested forms. The price of this rigour is the failure to posit a single proto-form, but this failure is a true mirror of the current state of knowledge. The differences among the earliest reconstructible forms of each language index problems that remain unsolved. What is the origin of the 'type A' (marked as ʔ) distinction in Chinese? What is the source of pre-glottalization in proto-Burmish? Why is the initial labial stop voiced in Tibetan but not in Chinese? Why is the rhotic palatalized in Tibetan and Burmese but not in Chinese? These are questions that the reconstructions offered here bring into focus; they are questions that demand answers.

²² The rule 'remove the hyphens to yield the Tibetan form' works in this and other cases (e.g. Tib. སྐྱ་ *sman* < *s-man, Matisoff 2003: 37), but not always (e.g. Tib. སྤྱི་ *śi* 'die' < *səy, Matisoff 2003: 34, Tib. ལེགས་ *legs* < *(y)ak, Matisoff 2003: 51).

Appendix: Complete Lists of Examples

This appendix includes complete lists of examples and some more detailed discussion, which did not sit conveniently in the main text.

§246. Coblin suggests a change $*mr > rm$ (1974) on the basis of the comparison of Old Tibetan རྩོད་ *rmañ* ‘horse’ and Old Burmese မြင်း: *mrañh* ‘horse’ (cf. §30). He proposes the retention of *smr-* as a conditioned exception to this change.

Tib. རྩོད་ *rma* ‘wound, WBur. မြ *mra* ‘keen, very sharp’

Tib. རྩོད་པ་ *mad-pa* ‘excellent, wonderful, marvellous’, WBur. မြဝံ *mrat* ‘be excellent, exceed; gain, profit’

Tib. རྩོད་པ་ *mu-ba* ‘fog; foggy, gloomy, dark’, WBur. မြူ *mrū* ‘minute particle; haze, fog’

Coblin also compares Tibetan རྩོད་ *rmañ-*, found in the word རྩོད་ལམ་ *rmañ-lam* ‘a dream’, with a Burmese word *mrañ-mak* ‘dream (v.)’, which I am unable to confirm. The standard word for ‘dream’ in Tibetan is རྩོད་ལམ་ *rmi-lam* rather than རྩོད་ལམ་ *rmañ-lam*. Even if Tibetan རྩོད་ *rmañ-* is cognate with Burmese *mak* ‘dream’ and Chinese 夢 *mjuwngH* < *C.məŋ-s (06–23a) ‘dream’, the comparisons in no way suggest that the *r-* in རྩོད་ *rmañ-* is due to metathesis. Coblin also compares Tibetan རྩོད་ *rme-ba* ‘speck, mole’ with Written Burmese မြေ *mre?* ‘decayed, crumbling, rotten (of wood of cloth)’, a word which occurs in the compound မြေ:မြေ *chweh-mre?* ‘moulder’, also spelled မြေ:မြေ *chweh-mraññ?*. The Old Tibetan variants of this word རྩོད་ *smye* and རྩོད་ *dmeh* ‘stain, sin’ (Hill 2013b) further suggest that any explanatory invocation of the *r-* initial must be treated with caution.

Because the ancestor of these languages almost certainly pre-dates the domestication of the horse (c.2000–1600 BCE; cf. Anthony 2007: 456–7, Beckwith 2009: 43–5),¹ this correspondence is likely characteristic of loanwords.

¹ Sawyer reports an even more recent introduction of horse and chariot as 1300–1200 BCE (1993: 5)

§247. The correspondence of Tibetan *-o-* to Chinese *wa* and *wə* (cf. §32):

- Tib. འཛོར་ *hkhor* < *k^war ‘circle’, Chi. 歸 *kjwɨj* < *k^wəj (28–02a) ‘return (v.)’
- Tib. ལྷོལ་ལྷོལ་ *khrol-khrol* < *k^wral ‘bright, shining, sparkling, glistening’, Chi. 輝輝 *xjwɨj* < *q^wəɹ (34–13kl) ‘brilliant’
- Tib. གོ་ *go* < *g^wa ‘space’, Bur. ཅེ་ *awa* ‘opening’
- Tib. གོང་མ་ *gon-ma* < *g^waŋ-ma ‘higher one, superior’, Chi. 皇 *hwang* < *G^wʰaŋ (03–24a) ‘sovereign’
- Tib. གོ་མ་ *gro-ma* < *g^wra-ma ‘*Potentilla anserina*’, Bur. འོ་ *wa* ‘elephant foot yam’, Chi. 芋 *hjuH* < *G^w(r)as (01–23o) ‘taro’
- Tib. གོ་ག་ *gro-ga* < *g^wra-ga ‘birch bark’, Chi. 樺 *hwaeH* < *G^wʰras (01–27-) ‘birch’²
- Tib. གོགས་ *grogs* < *g^wraks ‘friend’, Chi. 友 *hjuwX* < *G^wəʔ (04–17e)
- Tib. གོད་ *grod* < *g^wrat ‘stomach’, Chi. 胃 *hwɨjH* < *G^wət-s (31–05a)
- Tib. གོས་ *gros* < *g^wras ‘speech, talk’, Chi. 話 *hwaejH* < *G^wʰrats (22–01o) ‘speak; words’
- Tib. འགོ་ *hgro* < *h^gwra ‘go’, Chi. 于 *hju* < *G^w(r)a (01–23a)
- Tib. འཛོག་ (pres. འགོག་ *hgog*) < *k^wak ‘take away forcibly’, Chi. 攫 *kjwak* < *Cəq^wak (02–07b) ‘seize’
- Tib. འཛོག་ (pres. འགོག་ *hgog*) < *k^wak ‘prevent, avert’, Chi. 護 *huH* < *G^wʰaks (02–08k) ‘guard, protect’
- Tib. འགོར་ *hgor* < *h^gwar ‘tarry, linger’, Chi. 緩 *hwanX* < *G^wʰanʔ (25–14l) ‘slack; slow’
- Tib. འགོལ་ *hgor* < *h^gwal ‘part, deviate’, Chi. 違 *hwɨj* < *G^wəj (28–05d) ‘go against’
- Tib. འགོར་ *hgrol* < *h^gwral ‘become free’, Chi. 援 *hwɨj* < *G^wan (25–14e) ‘pull up’
- Tib. སྒོར་མོ་ *sgor-mo* < *sg^war ‘round’, WBur. འོ་ *wanʰ*
- Tib. སྒོ་ *sgro* < *sg^wra ‘feather’, Chi. 羽 *hjuX* < *G^w(r)aʔ (01–24a)

² As the earliest attestation, Schuessler cites the comparatively late 玉篇 *Yupian* (c.543 CE) and a source ‘JY’ which does not appear in his list of abbreviations (2007: 283) but presumably refers to the 集韻 *Jiyun* published in 1037 CE. This late date may militate against the likelihood this is a genuine cognate.

- Tib. རྫོག་ *rñod* < *rñʷat ‘deceive’, Chi. 偽 *ngjweH* < *ŋʷajs (19–06k) ‘false, cheat’
- Tib. རྩ་ *dom* ‘bear’, Kur. *wam*, Mon. *wom*³⁵, Bur. འ་ *wam* ‘bear’, Chi. 熊 *hjuwng* < *Cʷəm (38–06a) ‘bear’
- Tib. རྩོལ་ *hoñ* / རྩོལ་ *yoñ* < *hʷaṅ ‘come’, Bur. འ་ *wañ* ‘enter’, Chi. 往 *hjewangX* < *Cʷaŋʔ (03–26k) ‘go’
- Tib. རྩོད་ *hgrod* < *gʷrat ‘go, walk’, Chi. 越 *hjwot* < *Cʷat (22–05e) ‘pass over’

§248. The correspondence of Tibetan *-a-* to Chinese **-a-* (cf. §32):

- Tib. རྩ་པ་ *rkañ-pa* ‘foot, leg, hind-foot’, Chi. 行 *haeng* < *Cə.gʳraŋ (03–14a) ‘walk (v.)’
- Tib. རྩ་ *kha* ‘bitter’, Chi. 苦 *khuX* < *kʰsʰaʔ (01–01u)
- Tib. རྩ་ལ་ *khal* ‘burden, load’, Chi. 荷 *ha* < *gʳaj (18–01o) ‘carry’
- Tib. རྩ་ག་ *khrag* ‘blood’, Chi. 赫 *xaek* < *qʰsʳak (02–10a) ‘red, fiery’
- Tib. རྩ་ལ་ *khral* ‘tax’, Chi. 加 *kae* < *kʳaj (18–04a) ‘add’
- Tib. རྩ་ལ་ *khral* ‘armor, shield, mail’, Chi. 甲 *kaep* < *kʳap (0629a) ‘shell’
- Tib. རྩ་ལ་ *mkhar* / རྩ་ལ་ *hkhar* ‘staff, stick’, Chi. 竿 *kan* < *kʳar (24–01k) ‘pole, rod’
- Tib. རྩ་ལ་ *mkhal* ‘kidney, reins’, Chi. 肝 *kan* < *s.kʳar (24–01l) ‘liver’
- Tib. རྩ་ལ་ *mkhrañ* ‘hard, solid’, Chi. 梗 *kaengX* < *kʳraŋʔ (03–11e) ‘suffering’
- Tib. རྩ་ག་ *ga* (an interrogative stem), Chi. 胡 *hu* < *gʳa (01–01a) ‘how, what?’
- Tib. རྩ་ལ་ *gra-ma* ‘lattice’, Chi. 呂 *ljoX* < *raʔ (01–54a) ‘spine; pitch-pipe’
- Tib. རྩ་ལ་ *gran* ‘cold’, Chi. 涼 *ljang* < *C.raŋ (03–10l)
- Tib. རྩ་ལ་ *grañs* ‘number’, 量 *ljang* < *raŋ (03–45a) ‘measure’
- Tib. རྩ་ལ་ *gral* ‘row’, Chi. 連 *ljen* < *ran (24–32a) ‘connect, unite in a row’
- Tib. རྩ་ལ་ *dgra* ‘enemy’, Chi. 旅 *ljoX* < *raʔ (01–55a) ‘military unit’
- Tib. རྩ་ལ་ *glañ-ma*, རྩ་ལ་ *lcañ-ma* ‘willow’, Chi. 楊 *yang* < *laŋ (03–38q) ‘poplar’
- Tib. རྩ་ལ་ *hgal* ‘oppose, contradict’, Chi. 扞 *hanH* < *m-kʳars (24–01q) ‘shield (n.), ward off’

- Tib. \sqrt{kab} (pres. འགེབས་ *hgebs*) ‘cover (v.)’, Chi. 蓋 *kajH* < *k^saps (35–01q) ‘thatch, cover (v.)’
- Tib. \sqrt{kok} (pres. འགོག་ *hgog*) < *k^wak (Laufer’s law; cf. §21) ‘take away, snatch, rob’, Chi. 攫 *kjwak* < *k^wak (02–07b) ‘snatch away, seize’
- Tib. རྒྱལ་ *rgal* ‘cross, ford’, Chi. 河 *ha* < *C.g^saj (18–01g) ‘river’ (cf. §33a n. 44)
- Tib. རྒྱལ་མཚན་ *rgyan-ma* ‘distance’, Chi. 永 *hjwaengX* < *g^wraŋ? (03–27a) ‘long (time)’
- Tib. བརྒྱལ་ *brgyal* < *bryal (Li’s law; cf. §25) ‘sink down, faint’, Chi. 罷疲 *bje* < *braj (18–17a, 08–16d) ‘fatigue’
- Tib. བརྒྱ < OTib. བརྒྱལ་ *brgyah* (PT 1111, l. 5 *et passim*) < *bryah (Li’s law; cf. §25) ‘hundred’, OBur. ᄚᄚ *ryā*, Chi. 百 *paek* < *p^srak (02–37a)
- Tib. སྐོང་ *sgaŋ* ‘hill’, Chi. 岡 *kang* < *k^saŋ (03–02a)
- Tib. ང་ *ŋa* ‘I, me’, Chi. 吾 *ngu* < *ŋ^sa (01–29f)
- Tib. ལྔ་ *lŋa* ‘five’, Chi. 五 *nguX* < *C.ŋ^sa? (01–29a)
- Tib. སྤྲུལ་ *sŋar* ‘intelligent, quick of apprehension’, Chi. 獻 *xjonH* < *ŋ^sars (24–17e) ‘offer, present, wise man’
- Tib. ཇ་ *čan* ‘barley beer’, Chi. 漿 *tsjang* < *tsaŋ (03–49v) ‘rice-water drink’
- Tib. ཉ་ *ŋa* < *ŋ^sa (Houghton’s law; cf. §27) ‘fish’, Chi. 魚 *ngjo* < *ŋa (01–31a)
- Tib. ཉ་མོ་ *ŋa-mo* ‘wife, housewife’ (cf. §39b n. 49), Chi. 女 *nrjoX* < *nra? (01–56a) ‘woman’
- Tib. ལྟ་ *lta* ‘look at’, Chi. 睹 *tuX* < *t^sa? (01–38c) ‘see’
- Tib. སྤྲུལ་ *star* ‘tie fast, fasten to’, Chi. 纏 *drjen* < *draŋ (24–28c) ‘bind, wind’
- Tib. ཐང་ *thaŋ* ‘plain (n.)’, Chi. 敞 *tsyhangX* < *t^haŋ? (03–32m) ‘open, spacious’
- Tib. ཐང་པོ་ *thaŋ-po* ‘tense, tight, firm’, Chi. 張 *trjang* < *C.traj (03–35h) ‘draw a bow’
- Tib. ཐང་ *thal* ‘dust, ashes’, Chi. 炭 *thanH* < *t^hs^hans (24–24a) ‘charcoal, coal’
- Tib. དར་ *dar* ‘flag’, Chi. 旗 *tsyen* < *tan (24–20c) ‘a kind of flag’
- Tib. དྲཱ་ *dra* ‘net’, Chi. 羅 *la* < *r^saj (18–10a)
- Tib. འདྲ་ *h^sdar* ‘tremble, shudder’, Chi. 顫 *tsyenH* < *tan (24–23s) ‘shivering, trembling’

- Tib. རྩལ་ *hdah* ‘pass (v.)’, Chi. 渡 *duH* < *dʰak-s (02–16b) ‘ford (v.)’
- Tib. མཚལ་ *mdah* < *mlah (Bodman’s law; cf. §18) ‘arrow’, Chi. 射 *zyek* < *Cə.lak (02–26a) ‘hit with bow and arrow’
- Tib. བློ་ *drañ-po* ‘straight’, Chi. 良 *ljang* < *raŋ (03–43a) ‘good’
- Tib. ལྡན་ *ldar* ‘be weary, tired, faint’, Chi. 瘴 *tanX* < *tʰarʔ (24–211) ‘disease, suffering, distress’
- Tib. ཉ་ *na* ‘if, when’, Chi. 如 *nyo* < *na (01–56g) ‘as, like, if’
- Tib. གན་ *gnañ* ‘give’, Chi. 讓 *nyangH* < *naŋs (03–42i) ‘yield (v.)’
- Tib. གན་འབྲོ་ *gnañ-bo* ‘ancient, in old time’, Chi. 曩 *nanX* < *nʰaŋʔ (03–42k) ‘in past times’
- Tib. མན་ *mnañ* ‘suffer, be tormented’, Chi. 難 *nan* < *nʰar (24–35d) ‘difficult’
- Tib. ལྔ་ *lpags* ‘skin’, Chi. 膚 *pju* < *pra (01–51g) (§196a n. 90)
- Tib. ས་ *spa* ‘a cane’, Chi. 筍 *pae* < *brʰa (01–68-) ‘bamboo’
- Tib. √span (pres. སློ་ *spoñ*) ‘let go, banish’, Chi. 放 *pjangH* < *paŋs (03–57i) ‘release; let go’
- Tib. ཕ་ *pha* ‘yonder’, Chi. 夫 *bju* < *ba (01–66a) ‘this, that’
- Tib. ཕ་ *pha* ‘father’, Bur. pha, Chi. 父 *bjuX* < *N-paʔ (01–67a)
- Tib. ཕ་ *phan* ‘spindle’, Chi. 紡 *phjangX* < *pʰaŋʔ (03–57r) ‘spin’
- Tib. རྩལ་ *hphar* ‘board, flat board’, Chi. 板 *paenX* < *C.pʰranʔ (24–49j) ‘plank, board’
- Tib. བློ་ *bañ-ba* ‘storehouse’, Chi. 房 *bjang* < *Cə-N-paŋ (03–57y) ‘side-room’
- Tib. བློ་ *bar* ‘intermediate space’, Chi. 半 *panH* < *pʰans (24–47a) ‘half’
- Tib. རྩལ་ *dbah* ‘wave’ (cf. §36 n. 47), Chi. 波 *pa* < *pʰaj (18–16l)
- Tib. རྩལ་ *hbral* ‘be separate, to part’, Chi. 披 *phje* < *pʰ(r)aj (18–16j) ‘divide’
- Tib. རྩལ་ *hbras* ‘rice’ < *hmras (Simon’s law; cf. §30), Chi. 糲 *lat* < *(mə-)rʰat (21–26g) ‘rice’
- Tib. མ་ *ma* ‘not’, Bur. མ་ *ma* ‘not’, Chi. 無 *mju* < *ma (01–69a) ‘not have’
- Tib. མ་ *smad* ‘the lower part’, 末 *mat* < *mʰat (21–37a) ‘end of a branch’
- Tib. མ་ *tshal-ma* ‘breakfast’, Chi. 餐 *tshan* < *tsʰar (24–40c) ‘eat, food, meal’

- Tib. མཚོ་ *mtshar* ‘fair, beautiful, bright’, Chi. 粲 *tshanH* < *ts^hars (24–40b) ‘bright and white’
 Tib. ཇ་ *za* < *dza (Schiefner’s law; cf. §29) ‘eat’, Chi. 咀 *dzoX* < *dzaʔ (01–57u)
 Tib. གཙང་ *gzan* < *gdzan (Schiefner’s law) ‘wear out, hurt, waste’, Chi. 殘 *dzan* < *dz’an (24–41c) ‘injure, remnant’
 Tib. བཟང་ *bzan* < *bdzan (Schiefner’s law) ‘good’, Chi. 臧 *tsang* < *ts’an (03–49f’)
 Tib. རྩལ་ *zag* < *rak ‘day, 24hrs’, Chi. 夜 *yaeH* < *N.raks (02–27j) ‘night’
 Tib. ར་ *ra* ‘courtyard’, Chi. 籬 *lje* < *raj (18–11g) ‘hedge’
 Tib. རས་ *rams* ‘indigo’, Chi. 藍 *lam* < *N-k.r’am (35–05k) ‘indigo’
 Tib. རྩལ་ *lan* ‘rise’, Chi. 揚 *yang* < *laŋ (03–38j) ‘raise’
 Tib. རབ་ *lab* ‘speak, talk, tell (v.)’, Chi. 誑 *dep* < *l’ap (21–23g) ‘garrulous’
 Tib. རྩལ་ *sad* (pres. གསོད་ *gsod*) ‘kill’, Chi. 殺 *sreat* < *srat (21–29d)
 Tib. གསལ་ *gsan* < OTib. གསལ་ *gtsan* ‘conceal, secret’ (cf. PT 1194, ll. 39–40), Chi. 倉 *tshang* < *ts^han (03–48a) ‘granary’

§249. The correspondence of Tibetan ‘a’ to Chinese ‘ə’ (cf. §32):

- Tib. ཁམ་ *khāb* < *kəp ‘needle’, Chi. 箴鍼 *tsyim* < *t.qəm (38–04no)
 Tib. ཁྲམ་ *khṛab-khṛab* < *krəp ‘a person prone to weep’, Chi. 泣 *khīp* < *k-rəp (37–15h) ‘weep’
 Tib. ཁྲམ་ *hkṛab* < *hkṛəp ‘strike, stamp, tread heavily’, Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’
 Tib. ཁག་ *hgaḥ* < *hgəḥ ‘some’ (cf. §36 n. 50), Chi. 幾 *kjiX* < *kəjʔ (27–04a) ‘few; how many’
 Tib. ཁག་ *hgam* < *hgəḥ ‘put in the mouth’, Chi. 含 *hom* < *Cə-m-k’əm (38–031’) ‘hold in the mouth’
 Tib. སྤམ་ *sñam* < *sn’əm ‘think’, Chi. 恧 *nyimX* < *nəmʔ (38–25q)
 Tib. འཕྲུག་ *tag* < *tək ‘weave (v.)’, Chi. 織 *tsyik* < *tək (05–13f)
 Tib. འཕྲུག་ *tab* < *təp ‘cast, send’, Chi. 答 *top* < *t’əp (37–06a) ‘answer’
 Tib. སྤང་ *sdañ* < *sdəñ ‘hate’, Chi. 憎 *tsong* < *ts’an (06–19d)
 Tib. རྩལ་ *rna* < *rnə ‘ear’, Chi. 耳 *nyiX* < *nəʔ (04–40a)
 Tib. བྱམ་ *bran* < *brən ‘breast, Chi. 膺 *ing* < *q(r)əŋ (06–08e) ‘breast(plate); oppose’
 Tib. རྩལ་ *hbar* < *hbər ‘burn, blaze’, Chi. 焚 *bjun* < *bən (33–34a) ‘burn’

- Tib. སྤྲན་ *sbrañ* < *smrañ (Simon's law; cf. §30) < *smrən 'fly, bee',
Chi. 蠅 *ying* < *m.rəŋ (06–24a) 'fly'
Tib. མ་ *ma* < *mə 'mother', Chi. 母 *muwX* < *mə? (04–64a)
Tib. མེན་ལམ་ *rmañ-lam* < *rmən 'dream', Chi. 夢 *mjuwngH* <
*C.məŋ-s (06–23a)
Tib. མཚན་ *smag* < *smək 'dark, darkness', Chi. 黑 *xok* < *mʰək
(05–38a) 'black'
Tib. སྦྲུལ་ཀྱི་ *smyan-ka* < *smʷən 'marriage, married couple', Chi. 婚
xwon < *mʰən (32–40m) 'marriage'
Tib. ཚེ་ *tsha* < *tsə 'grandchild', Chi. 子 *tsiX* < *tsə? (04–47a) 'child'
Tib. མཚན་མོ་ *mdzah* < *mdzəh 'love', Chi. 慈 *dzi* < *dzə (04–49j) 'kind
(adj.)'
Tib. འཇམ་མཚན་ *slob* < *sləp 'teach, learn', Chi. 習 *zip* < *s-ləp
(37–12a) 'practice, exercise'
Tib. སེམས་ *sams* < *səm 'think', Chi. 心 *sim* < *səm
(38–31a) 'heart'

§250. The correspondence of Tibetan *-a-* to Chinese *-a-* before Tibetan dentals (cf. §33):

- Tib. མཚན་ *smad* 'the lower part', Chi. 末 *mat* < *mʰat (21–37a) 'end of
a branch'
Tib. འཇམ་མཚན་ *gsod* 'kill', Chi. 殺 *sreat* < *srat (21–29d), Bur.
ဝတ်ဝတ် *sat* < *ʷsat 'kill', Lashi ʷsa:tH
Tib. འབྲས་ *hbras* < *hmras 'rice', Chi. 糲 *ljeH* < *([m]ə)-rʰats
(21–26g) 'rice'
Tib. རྩོད་ *riod* < *riʷat 'deceive', Chi. 偽 *ngjweH* < *[N]-gʷ(r)ajs
(19–06k) 'false, cheat'
Tib. གཙང་ *gzan* < *gdzan 'wear out, hurt, waste', Chi. 殘 *dzan* <
*[dz]ʰa[n] (24–41c) 'injure, remnant'

§251. The correspondence of Tibetan *-a-* to Chinese *-a-* before Tibetan *-r*, and *-l* (cf. §33):

- Tib. གྲུ་ *gral* 'row', Chi. 連 *ljen* < *ran (24–32a) 'connect, unite in a
row'
Tib. ཐམས་ *thal* 'dust, ashes', Chi. 炭 *thanH* < *[tʰ]ʰa[n]s (24–24a)
'charcoal, coal'
Tib. བར་ *bar* 'intermediate space', Chi. 半 *panH* < *pʰans (24–47a)
'half'

- Tib. ལྷོར *star* ‘tie fast, fasten to’, Chi. 纏 *drjen* < *[d]ra[n] (24–28c)
‘bind, wind’
- Tib. རམར *hphar* ‘board, flat board’, Chi. 板 *paenX* < *C.pʰran? (24–49j)
‘plank, board’, Bur. རྩོལ་ *prāh* ‘flat, level’
- Tib. རྩོད་ *hdar* ‘tremble, shudder’, Chi. 顫 *tsyenH* < *tan (24–23s)
‘shivering, trembling’
- Tib. དྲོ་ *dar* ‘flag’, Chi. 旗 *tsyen* < *tan (24–20c) ‘a kind of flag’
- Tib. མཚོ་ *mtshar* ‘fair, beautiful, bright’, Chi. 粲 *tshanH* < *[tsh]ʰars
(24–40b) ‘bright and white’
- Tib. མཁར་ *mkhar* / མཁར་ *hkhar* ‘staff, stick’, Chi. 竿 *kan* < *kʰar
(24–01k) ‘pole, rod’
- Tib. མན་ *mnar* ‘suffer, be tormented’, Chi. 難 *nan* < *nʰar (24–35d)
‘difficult’
- Tib. ལྷོ་ *ldar* ‘be weary, tired, faint’, Chi. 瘡 *tanX* < *tʰar? (24–21l)
‘disease, suffering, distress’
- Tib. རྩོད་ *hgal* ‘oppose, contradict’, Chi. 扞捍 *hanH* < *m-kʰa[r]s
(24–01q, 24–01i)³ ‘shield (n.), ward off’, Bur. ལོ་ *kā*
‘shield (n.)’
- Tib. མཁའ་ *mkhal* ‘kidney, reins’, Chi. 肝 *kan* < *s.kʰa[r] (24–01l)
‘liver’, Bur. འི་ *khāh* ‘loins, waist’
- Tib. ཧྲོ་ *hal* ‘pant, snort’, Chi. 鼾 *xan* < *[qʰ]ʰa[r]? (24–01-)
‘snore’
- Tib. ཚལ་མ་ *tshal-ma* ‘breakfast’, Chi. 餐 *tshan* < *tsʰar (24–40c) ‘eat,
food, meal’
- Tib. གཤམ་ *rgal* ‘cross, ford’, Chi. 河 *ha* < *C.[g]ʰaj (18–01g) ‘river’
(cf. §33a n. 44)
- Tib. ལམ་ *khral* ‘tax’, Chi. 加 *kae* < *kʰraj (18–04a) ‘add’
- Tib. བརྩལ་ *brgyal* < *bryal ‘sink down, faint’, Chi. 罷疲 *bje* < *[b]raj
(18–17a, 18–16d) ‘fatigue’
- Tib. ལམ་ *khal* ‘burden, load’, Chi. 荷 *ha* < *[g]ʰaj (18–01o) ‘carry’,
Bur. ལོ་ *ka* ‘saddle-frame’
- Tib. རྩོད་ *hbral* ‘be separate, to part’, Chi. 披 *phje* < *pʰ(r)aj (18–16j)
‘divide’, Bur. རྩོལ་ *prāh* ‘be diverse, scatter’
- Tib. ར་ *ra* ‘courtyard’, Chi. 籬 *lje* < *raj (18–11g) ‘hedge’
- Tib. ཇི་ *dra* ‘net’, Chi. 羅 *la* < *rʰaj (18–10a) ‘a kind of net’
- Tib. དྲོ་ *dbah* ‘wave’ (cf. §36 n. 47), Chi. 波 *pa* < *pʰaj (18–16l)
‘wave’

³ Gong also compares Chinese 干 *kan* < *kʰa[r] (24–01a) ‘protect, guard’ (1995 [2002]: 91).

§252. The correspondence of Tibetan velars to Burmese zero onset and Chinese uvulars (cf. §34):

- Tib. སྲོགས་ *skyogs* < *sk^yewks < *sq^yewks ‘ladle (n.)’, Chi. 勺 *tsyak* < *t-qewk ‘ladle (v.)’ (17–05a)
- Tib. ལམ་ *khab* < *kəp < *qəp ‘needle’, Bur. အဝ် *ap* < *əp < *Qəp, Chi. 箴鍼 *tsyim* < *t.qəm (38–04no)
- Tib. ལྷིམ་ *khyim* < *k^yim < *q^yim ‘home’, Bur. အိမ် *im* < *Qim, Chi. 窰 *imH* < *q(r)[ə]m-s (38-07-) ‘subterranean room’
- Tib. ལྷེག་ *hkhyig* < *hk^yik < *hq^yik ‘tie, fasten, suffocate’, Bur. အဝ် *ac* < *Qik ‘squeeze, throttle’, Chi. 縊 *ejH* < *q^hik-s (08–05g)⁴ ‘strangle’
- Tib. ལྷོ་ལྷོ་ *khrol-khrol* < *k^wral (Laufer’s law; cf. §21) < *k^wrəl < *q^wrəl ‘bright, shining, sparkling, glistening’, Chi. 輝輝 *xjwɨj* < *q^whər (34–13kl) ‘brilliant’
- Tib. ལྷག་ *khrag* < *q^rak ‘blood’, Chi. 赫 *xaek* < *q^hrak (02–10a) ‘red, fiery’, Bur. ရှက် *ashamed*’ (cf. §220f)
- Tib. སྲིད་ *skyid* < *sk^yit < *sq^yit ‘be happy’, Chi. 吉 *kjit* < *C.qit ‘auspicious’ (29–01a), OBur. ချင် *khyat* ‘love (v.)’
- Tib. སྲུག་ *skrag* ‘be scared’, Chi. 嚇 *xaek* < *q^hrak (02–10b), WBur. ဧခြင် *khrok* < *k^rkruk ‘frighten, scare’, Lashi *ʔkju:kH*
- Tib. གོ་ *go* < *g^wa (Laufer’s law) < *G^wa ‘space’, Bur. အဝ *awa* ‘opening’
- Tib. གོང་མ་ *gon-ma* < *g^wañ-ma (Laufer’s law) < *G^wañ ‘higher one, superior’, Chi. 皇 *hwang* < *G^wʰaŋ (03–24a) ‘sovereign’
- Tib. གོ་མ་ *gro-ma* < *g^wra-ma (Laufer’s law) < *G^wra-ma ‘*Potentilla anserina*’, Bur. wa ‘elephant foot yam’, Chi. 芋 *hjuH* < *G^w(r)as (01–23o) ‘taro’
- Tib. གོ་ག་ *gro-ga* < *g^wra-ga (Laufer’s law) < *G^wra-ga ‘birch bark’, Chi. 樺 *hwaeH* < *G^wʰras (01-27-) ‘birch’ (cf. §247 n. 2)
- Tib. གོགས་ *grogs* < *g^wraks (Laufer’s law) < *G^wraks ‘friend’, Chi. 友 *hjuwX* < *G^wəʔ (04–17e)
- Tib. གོད་ *grod* < *g^wrat (Laufer’s law) < *G^wrat ‘stomach’, Chi. 胃 *hwijH* < *G^wət-s (31–05a)
- Tib. གོ་ *hgro* < *hg^wra (Laufer’s law) < *hg^wra ‘go’, Chi. 于 *hju* < *G^w(r)a (01–23a)

⁴ An alternative possible cognate 結 *ket* < *k^hit < *k^hik (29–01p) ‘tie, knot’ suffers the disadvantage that it would predict a Burmese velar rather than glottal initial.

- Tib. འགོག་ *hgog* < *hg^wrak (Laufer's law) < *hg^wrak 'take away forcibly', Chi. 攫 *kjwak* < *Cəq^wak (02–07b) 'seize'
- Tib. √kak (pres. འགོག་ *hgog*) < *k^wak 'prevent, avert', Chi. 護 *huH* < *G^waks (02–08k) 'guard, protect'
- Tib. འགོར་ *hgor* < *hg^war (Laufer's law) < *hg^war 'tarry, linger', Chi. 緩 *hwanX* < *G^wan? (25–14l) 'slack; slow'
- Tib. འགོལ་ *hgol* < *hg^wal (Laufer's law) < *hg^wəl < *hg^wəl 'part, deviate', Chi. 違 *hwij* < *G^wəj (28–05d) 'go against'
- Tib. འགོལ་ *hgrol* < *hg^wral (Laufer's law) < *hg^wral 'become free', Chi. 援 *hjwon* < *G^wan (25–14e) 'pull up'
- Tib. སྐྱོར་ *sgor-mo* < *sg^war (Laufer's law) < *sg^war 'round', WBur. འདྲེ་ *wanḥ* 'be circular', Chi. 亘 *hwan* < *G^war 'turn around' (25–12a)
- Tib. སྐྱོ་ *sgro* < *sg^wra (Laufer's law) < *sc^wra 'feather', Chi. 羽 *hjuX* < *G^w(r)a? (01–24a)
- Tib. √grod < *g^wrat (Laufer's law) < *g^wrat 'go, walk', Chi. 越 *hwot* < *G^wat (22–05e) 'pass over'

§253. The correspondence of Tibetan velars to Burmese velars and Chinese velars (cf. §34):

- Tib. འཁོར་ *hkhor* < *k^war (Laufer's law) < *k^wər 'circle', Chi. 歸 *kjwij* < *k^wəj (28–02a) 'return (v.)'
- Tib. འཁོར་ *rkañ-pa* 'foot, leg, hind-foot', Chi. 行 *haeng* < *Cə.g^fraŋ (03–14a) 'walk (v.)'
- Tib. འཁོ་ *kha* 'bitter', Bur. འཁོ་ *khāḥ*, Chi. 苦 *khux* < *k^ha? (01–01u)
- Tib. འཁོ་ *khal* 'burden, load', Bur. འཁོ་ *ka* 'saddle-frame', Chi. 荷 *ha* < *g^faj (18–01o) 'carry'
- Tib. འཁོ་ *khral* 'tax', Bur. འཁོ་ *krāḥ* 'interval', Chi. 加 *kae* < *k^fraj (18–04a) 'add'
- Tib. འཁོ་ *khral* 'armour, shield, mail', Chi. 甲 *kaep* < *k^frap (35–02a) 'shell'
- Tib. འཁོ་ *mkhar* / འཁོ་ *hkhhar* 'staff, stick', Chi. 竿 *kan* < *k^far (24–01k) 'pole, rod'
- Tib. འཁོ་ *mkhal* 'kidney, reins', Bur. འཁོ་ *khāḥ* 'loins, waist', Chi. 肝 *kan* < *s.k^far (24–01l) 'liver'
- Tib. འཁོ་ *mkhran* 'hard, solid', Bur. འཁོ་ *ran?* 'mature', Chi. 梗 *kaengX* < *k^fraŋ? (03–11e) 'suffering'
- Tib. འཁོ་ *khral-khrab* < *krəp 'a person prone to weep', Chi. 泣 *khip* < *k-rəp (37–15h) 'weep'

- Tib. རྒྱལ་ *hkhraḅ* < *hkrəp ‘strike, stamp, tread heavily’, OBur. ལྷོ *ryap* ‘stand, stop, halt’, Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’
- Tib. རྒྱལ་ *hgaḅ* < *hgaḅ ‘some’ (cf. §36 n. 47), Chi. 幾 *kjiX* < *kəj? (27–04a) ‘few; how many’
- Tib. རྒྱལ་ *hgam* < *hgaḅm ‘put in the mouth’, Chi. 含 *hom* < *Cə-m-kʰəm (38–031) ‘hold in the mouth’
- Tib. གྱི *ga* (an interrogative stem), Chi. 胡 *hu* < *gʰa (01–01a) ‘how, what?’
- Tib. རྒྱལ་ *hgal* ‘oppose, contradict’, Bur. ལྷོ *kā* ‘block, obstruct (v.); shield (n.)’, Chi. 扞 *hanH* < *m-kʰars (24–01q) ‘shield (n.), ward off’
- Tib. √kab (pres. རྒྱལ་ *hgebs*) ‘cover (v.)’, Chi. 蓋 *kajH* < *kʰaps (35–01q) ‘thatch, cover (v.)’
- Tib. √kok (pres. རྒྱལ་ *hgog*) < *kʰwak (Laufer’s law; cf. §21) ‘take away, snatch, rob’, Chi. 攫 *kjwak* < *kʰwak (02–07b) ‘snatch away, seize’
- Tib. རྒྱལ་ *rgal* ‘cross, ford’, Chi. 河 *ha* < *C.gʰaj (18–01g) ‘river’ (cf. §33a n. 44)
- Tib. རྒྱལ་ *sgaḅ* ‘hill’, Bur. ཅེ *khaḅ*, Chi. 岡 *kang* < *kʰaḅ (03–02a)
- Tib. འ *na* ‘I, me’, Bur. འ *nā*, Chi. 吾 *ngu* < *ŋʰa (01–29f)
- Tib. རྒྱལ་ *rna* ‘drum’, Chi. 罟 *ngak* < *ŋʰak ‘beat a drum’ (02–14g)
- Tib. རྒྱལ་ *rnod* < *rñwat (Laufer’s law) ‘deceive’, Chi. 偽 *ngjweH* < *ŋʰajs (19–06k) ‘false, cheat’
- Tib. རྒྱལ་ *lṅa* ‘five’, Bur. འ *nāḅ*, Chi. 五 *nguX* < *C.ŋʰa? (01–29a)
- Tib. རྒྱལ་ *sṅar* ‘intelligent, quick of apprehension’, Chi. 獻 *xjonH* < *ŋjars (24–17e) ‘offer, present, wise man’

§254. The correspondence of Chinese *-j- to Burmese -y, and Tibetan -Ø, reconstructed *-j (§200a):

- Chi. 敲 *kje* < *kraḅ (18–01d) ‘slanting’, Chi. 拈 *kjeX* < *kraḅ? (18–01y) ‘pull aside’, Bur. ལྷོ *kay* ‘be distended’
- Chi. 嘉 *kae* < *kʰraj (18–04g) ‘excellent’, Bur. ལོ *kai* ‘overdo, exceed’
- Chi. 俄 *nga* < *ŋʰaj (18–05h) ‘slanting’, Bur. ཅེ *nai?* ‘be inclined on one side’
- Chi. 膠 *tsyheX* < *k-laj? (18–08t) ‘wide, extend’, OBur. ལྷོ *klay* ‘wide, broad’
- Chi. 羅 *la* < *rʰaj (18–10a) ‘a kind of net’, Tib. ན *dra* ‘net’, Tib. རྒྱ *rgya* < *rya (Li’s law; cf. §25) ‘net, trap’
- Chi. 籬 *lje* < *raj (18–11g) ‘hedge’, Tib. རྒྱ *ra* ‘courtyard’

- Chi. 沙 *srae* < *sʳaj (18–15a) ‘sand’, Tib. སྐ *sa* ‘earth’, Bur. འདྲ *sai* ‘sand’
- Chi. 波 *pa* < *pʳaj (18–16l) ‘wave’, Tib. དཔལ་ *dbah* ‘wave’ (cf. §36 n. 47)
- Chi. 誑 *pje* < *p(r)aj (18–16h) ‘one-sided, insincere words’, Tib. བཤོག་ *phra-mo* ‘slander’
- Chi. 跛 *paX* < *pʳajʔ (18–16m) ‘walk lame’, Bur. འཕགས་ *phai* ‘avoid, shun’, Bur. བཤོག་ *phay* ‘push aside’
- Chi. 破 *phaH* < *pʳaj-s (18–16o) ‘break (v.)’, Bur. འཕགས་ *phaiʔ* ‘break off a small piece’
- Chi. 禾 *hwa* < *[g]ʳoj (19–07a) ‘growing grain’, Tib. རྩོ་ *gro* ‘wheat’
- Chi. 垂 *dzywe* < *doj (19–17a) ‘hang down’, WBur. འདྲེ་ *twai* < *doi ‘(be) hanging, (be) attached’
- Chi. 挫 *tswaH* < *tsʳojʔ-s (19–21c) ‘push down’, WBur. འདྲེ་ *cwai* < *coi ‘attach, stick to, hold’
- Chi. 幾 *kijX* < *kəjʔ (27–04a) ‘few; how many’, Tib. འགྲུ་ *hgah* ‘some’ (cf. §36 n. 47)
- Chi. 移 *ye* < *laj (18–08q) ‘move (v.)’, Tib. རྩེ་ *rje* ‘exchange’, Bur. འདྲེ་ *lai* ‘change, exchange’ (cf. §36a n. 48)
- Chi. 多 *ta* < *[t-l]ʳaj (18–08a) ‘many’, Tib. རྩེ་ *che* ‘great’, Tib. མཐའ་ *mthe-bo* ‘thumb’, Bur. འདྲེ་ *tay* ‘very’ (intensive)
- Chi. 靡 *mje* < *majʔ (18–18h) ‘not’, Tib. མེད་ *myed* ‘not exist’, Bur. འདྲེ་ *maiʔ*
- Chi. 魑 *trhje* < *raj (18–11b) ‘demon’, Tib. རྩེ་ *hdre* < *hre
- Chi. 我 *ngaX* < *ŋʳajʔ (18–05a) ‘I, we’, Tib. རྩེ་ *ned* ‘we’
- Chi. 焜 *xjwijX* < *ŋəjʔ (27–17e) ‘burn’, Chi. 燬 *xjweX* < *majʔ ‘fire’ (18–19b), OTib. མེ་ *mye*, Bur. མེ་ *mīh* < mōyḥ (cf. §68)
- Chi. 邇 *nyeX* < *nəjʔ (07–20c) ‘near, draw near to’, Tib. ཉེ་ *ñe* ‘near’, Bur. མེ་ *nīh* < *nōyḥ (cf. §68)
- Chi. 偽 *ngjweH* < *N-gʳajs (19–06k) ‘false, cheat’, Tib. རྩོ་ *rñod* < *rñʳwat / *rñʳwet ‘deceive’

§255. The correspondence of Chinese *-u- to Tibetan -u-, reconstructed *-u- (cf. §202a):

- Chi. 胞 *paew* < *pʳu (13–72b) ‘womb’, Tib. བཤོག་ *phru-ma* ‘after-birth’
- Chi. 舅 *gjuwX* < *[g](r)uʔ (04–16b) ‘maternal uncle’, Tib. བཤོག་ *khu* ‘paternal uncle’
- Chi. 九 *kjuwX* < *[k]uʔ (04–12a) ‘nine’, Tib. རྩོ་ *dgu*

- Chi. 鳩 *kjuw* < *[k](r)u (04–12n) (a kind of bird), Tib. རྩ་གུ *hañ-gu* ‘pigeon’
- Chi. 嗥 *haw* < *g^hu (13–01d) ‘roar, wail’, Tib. རྩ་ལྷོ *ñu* ‘weep’
- Chi. 肘 *trjuwX* < *t.kru? (13–23a) ‘elbow’, Tib. ལྷོ་མོ་ *gru-mo*
- Chi. 流 *ljuw* < *[r]u (13–46a) ‘flow’, Tib. ལྷོ་ *rgyu* < *ryu (Li’s law; cf. §25)
- Chi. 篤 *towk* < *t^huk (14–08g) ‘firm, solid’, Tib. རྩལ་གྱི་ *hthug*, རྩལ་གྱི་ *methug* ‘thick, dense’
- Chi. 晝 *trjuwH* < *truks (14–09a) ‘time of daylight’, Tib. གཞུག་ལོ་ *gdugs* ‘midday, noon’
- Chi. 覺 *kaewk* < *k^hruk (14–03f) ‘awake’, Tib. རྩལ་གྱི་ *dkrug* ‘stir, agitate, disturb’
- Chi. 毒 *dowk* < *[d]^huk (14–05a) ‘poison’, Tib. རྩལ་གྱི་ *dug*
- Chi. 六 *ljuwk* < *k.ruk (14–16a) ‘six’, Tib. རྩལ་གྱི་ *drug*
- Chi. 粥 *tsyuwk* < *[t-q]uk (14–10a) ‘gruel’, Tib. རྩལ་གྱི་ *thug* ‘soup’
- Chi. 覆 *phjuwH* < *p^huks (14–23l) ‘cover’, Tib. རྩལ་གྱི་ *phug* ‘cavern, hole’
- Chi. 三 *sam* < *sr[u]m (38–30a) ‘three’, Tib. གཞུག་ལོ་ *gsum*
- Chi. 尊 *tswon* < *[ts]^h[u][n] (34–26a) ‘honour (v.)’, Tib. རྩལ་གྱི་ *btsun* ‘noble, righteous, honourable’
- Chi. 昏 *xwon* < *m^hu[n] (32–40k) ‘dusk, dark’, Tib. རྩལ་གྱི་ *mun* ‘darkness’
- Chi. 順 *zywinH* < *Cə.lu[n]s (34–20c) ‘follow; obey’, Tib. འཇུག་ལོ་ *hduł* ‘tame, subdue’
- Chi. 蠢 *tsyhwinX* < *t^hun? (34–19c) ‘stupid’, Chi. 鈍 *dwonH* < *d^huns (34–17i) ‘dull’, Tib. རྩལ་གྱི་ *rtul* ‘blunt, dull, stupid’
- Chi. 虺 *xjwijX* < *m^hruj? (27–19a) ‘snake’ (cf. §30 n. 38), Tib. རྩལ་གྱི་ *sbrul* < *smrul (Simon’s law; cf. §30)
- Chi. 水 *sywijX* < *s.tur? (28–14a) ‘water’, Tib. རྩལ་གྱི་ *ču*
- Chi. 率繹 *lwit* < *[r]ut (31–23a-) ‘rope’, Tib. རྩལ་གྱི་ *rgyud* < *ryud ‘continuum’
- Chi. 糞 *pjunH* < *p[u]rs (33–32a) ‘manure, dirt’, Tib. རྩལ་གྱི་ *brun* ‘dirt, dung, excrement’
- Chi. 奔 *pwon* < *p^hur (33–28a) ‘run (v.)’, Tib. རྩལ་གྱི་ *phun* ‘accomplish, complete’
- Chi. 郡 *gjunH* < *gurs (34–12g) ‘district’, Tib. རྩལ་གྱི་ *khul* ‘district, province’
- Chi. 飛 *pji* < *Cə.pu[r] (27–09a) ‘fly (v.)’, Tib. རྩལ་གྱི་ *hphur*
- Chi. 戡 *khom* < *k^hum (38–11q) ‘vanquish, kill’, Tib. འཇུག་ལོ་ *kum* (pres. རྩལ་གྱི་ *hgums*) ‘kill’
- Chi. 入 *nyip* < *nup (37–16a) ‘enter’, Tib. རྩལ་གྱི་ *nub* ‘sink, set’

§256. The correspondence of Chinese *-o- to Tibetan -u-, reconstructed *-əw- (cf. §§35, 70, and 202):

- Chi. 寇 *kuwH* < *[k]^h(r)os < *[k]^h(r)əw (10–04a) ‘steal’, Tib. ཀྱི *rku* < *rkəw, OBur. མྱི་ཏེ: *khuiwḥ* < *kəwḥ, Lashi *kha:uH*
- Chi. 候 *huwH* < *[g]^h(r)os < *[g]^h(r)əws (10–06e) ‘wait upon’, Tib. སྤྲུག་ *sgug* < *sgəwḡ ‘wait’
- Chi. 軀 *khju* < *k^ho < *k^həw (10–10g) ‘body’, Tib. སྤྱི་ *sku* < *skəw, Bur. ကိုယ် *kuiy* < *g-
- Chi. 住 *drjuH* < *dro(?)s < *drəw(?)s (10–19g) ‘stop (v.)’, Tib. རྟུག་ *ḥdug* < *ḥdəwḡ < *ḥdəwq (cf. §39) ‘remain, stay’
- Chi. 孺 *nyuH* < *nos < *nəws (10–31d) ‘child, mild’, Tib. ལྷོ་ *nu-bo* < *nəw ‘younger brother’
- Chi. 乳 *nyuX* < *no? < *nəw? (10–32a) ‘milk, nipple’, Tib. ལྷོ་ *nu* < *nəw ‘suck’, OBur. མྱི་ཏེ་ *nuiw?* < *nəw? ‘breast’
- Chi. 角 *kaewk* < *C.k^hrök < *C.k^hrəwk (11–02a) ‘horn, corner’, Tib. རྩ་ *ru* < *rəw ‘horn’, སྤྱི་ *gru* < *grəw ‘corner’, WBur. མྱི་ *kyui* < *(?) kyəw ‘horn’
- Chi. 穀 *kuwk* < *k^hok < *k^həwk (11–03i) ‘grain’, WBur. འཇོག་ *kok* < *guk (Maung Wun’s law) < *gəwk ‘rice plant’
- Chi. 曲 *khjowk* < *k^h(r)ok < *k^h(r)əwk (11–04a) ‘bent, crooked’, Tib. རྟུག་ *ḥgugs* < *ḥgəwḡ ‘bend’, WBur. འཇོག་ *kok* < *guk (Maung Wun’s law) < *gəwk ‘bend (v.)’
- Chi. 燭 *tsyowk* < *tok < *təwk (11–12e) ‘torch’, Tib. སྤྲུག་ *dugs* < *dəwḡs ‘light, kindle’, WBur. འཇོག་ *tok* < *duk (Maung Wun’s law) ‘blaze, flame, shine’
- Chi. 觸 *tsyhowk* < *t^hok < *t^həwk (11–12g) ‘knock against’, Tib. རྟུག་ *gtug* < *gtəwḡ ‘meet, touch’
- Chi. 楸 *traewk* < *tr^hok < tr^həwk (11–13c) ‘beat, strike’, Tib. སྤྲུག་ *rdug* < *rdəwḡ ‘strike against’
- Chi. 冢 *trjowngX* < *[t]ron? < *[t]rəwḡ? (11–13h) ‘tomb mound’, Tib. རྩ་ *rdun* < *rdəwḡn ‘small mound, hillock’, WBur. འཇོག་ *ton* < *duḡn (Maung Wun’s law) < *dəwḡn ‘hill, mountain’
- Chi. 俗 *zjowk* < *s-[ɕ]ok⁵ < *s-[ɕ]əwk (11–14a) ‘popular usage’, Tib. ལུག་ *lugs* < *ləwḡ ‘way, manner’
- Chi. 谷 *kuwk* < *C.q^hok < *C.q^həwk (11–14a) ‘valley’ (cf. §70 n. 77), Tib. ལྷོ་ *klun* < *kləwḡn ‘stream, river’, OBur. མྱོག་ *khloḡḥ* < *(?)klunḥ (Maung Wun’s law) < *(?)kləwḡḥ ‘river’

⁵ The comparison of the initials looks more plausible with Schuessler’s reconstruction *s-lok (2009: 159, §11–14).

- Chi. 鏃 *tsuwk* < *[ts]ʰok < *[ts]ʰəwk (11–18d) ‘arrowhead’, Tib.
 √*tsug* (pres. འཕྲུག་ *hdzugs*) < *h₂dzəwgs ‘insert, plant’
- Chi. 款 *sraewk* < *sʰrok < *sʰrəwk (11–21o) ‘suck, inhale’, WBur.
 འདྲུག་ *sok* < *suk (Maung Wun’s law) < *śəwk ‘drink’, Lashi *śu:kH*
- Chi. 空 *khuwng* < *kʰoŋ < *kʰəwŋ (12–01h) ‘hollow, empty, hole’,
 Chi. 孔 *khuwngX* < *kʰoŋʔ < *kʰəwŋʔ (12–02a) ‘empty’, Tib. ལྷོ་
khuñ < *kəwñ ‘hole, pit, hollow, cavity’, WBur. རྩེ་ *khonh* <
 *(?)kuŋh (Maung Wun’s law) < *(?)kəwŋh ‘be hollow’
- Chi. 痛 *thuwngh* < *ʰoŋs < *ʰəwŋs (12–10q) ‘be pained’, Tib. གཏུ་
gdun < *gdəwñ ‘feel pain, be pained’
- Chi. 撞 *draewng* < *[N-t]ʰroŋ < *[N-t]ʰrəwŋ (12–08f) ‘strike’, Tib.
 རྩོ་ *rduñ* < *rdəwñ ‘strike, beat’
- Chi. 蜂蟻 *phjowng* < *pʰ(r)oŋ < *pʰ(r)əwŋ (12–25st), Tib. རྩོ་ *bun-*
ba < *bəwñ ‘bee’
- Chi. 霧 *mjuH* < *kə.m(r)[o]ks (13–76t) < *kə.m(r)[əw]ks ‘fog,
 mist’, Tib. རྩོ་ *rmugs* < *rməwgs ‘dense fog’
- Chi. 雙 *sraewng* < *[s]ʰroŋ < *[s]ʰrəwŋ (12–24a), Tib. རྩོ་ *zun* <
 *dzun (Schieffner’s law; cf. §29) < *dzəwñ ‘a pair’, Bur. ཕྱོ་ *-cum* <
 *(?)dzum (or *(?)jūm) < *(?)dzəwŋ (or *(?)jəwŋ) ‘pair’
- Chi. 洽 *heap* < *[ɕ]ʰr[o]p < *[ɕ]ʰr[əw]p (37–01m) ‘accord with’, Tib.
 འགྲུབ་ *hgrub* < *hgrəwb ‘accomplish, achieve’

§257. Triplets of Tibetan verbs exhibiting voicing alternation (reproduced from Hill 2014c; cf. §40):

- A: √*gag* (འགག་ *hgag*, འགགས་ *hgags*) ‘be stopped, break off’
 B: √*gag* (འགོག་ *hgog*/འགོགས་ *hgegs*, བཀག་ *bkag*, དགག་ *dgag*, རྩོག་ *khog*)
 ‘hinder, prohibit’
 C: √*kegs* (འཇགས་ *khegs*, འཇགས་ *khegs*) ‘be hindered, be prohibited’

- A: √*gañ* (གྱང་ *gañ*, གྱང་ *gañ*) ‘fill intr.’
 B: √*gañ* (འགྱེངས་ *hgeñs*, བཀྱང་ *bkañ*, དགྱང་ *dgañ*, རྩོང་ *khon*) ‘fill tr.’
 C: √*keñs* (འཇེངས་ *kheñs*, འཇེངས་ *kheñs*) ‘be full’

- A: √*gab* (གཤག་ *gab*, གཤག་ *gab*, གཤག་ *gab*, གོབ་ *gob*) ‘hide intr.’
 B: √*gab* (འགེབས་ *hgebs*, བཀའབ་ *bkab*, དགཤག་ *dgab*, རྩོབ་ *khob*) ‘cover tr.’
 C: √*kebs* (འཇེབས་ *khebs*, འཇེབས་ *khebs*) ‘be covered over’

- A: √*grol* (འགྲོལ་ *hgrol*, རྒྱལ་ *grol*) ‘be free’
 B: √*grol* (འགྲོལ་ *hgrol*, བཀྲོལ་ *bkrol*, དགྲོལ་ *dgrol*, རྩོལ་ *khrol*) ‘liberate’
 C: √*krol* (འཇྲོལ་ *hkrol*, རྩོལ་ *khrol*) ‘unravel’

A: \sqrt{dul} (དུལ་ *dul*, དུལ་དྲོད་ *duld*) ‘be tame’

B: \sqrt{dul} (འདུལ་ *hdul*, བདུལ་ *btul*, གདུལ་ *gdul*, ལྷུལ་ *thul*) ‘tame, subdue’

C: \sqrt{tul} (འཇུལ་ *htul*, ལྷུལ་ *thul*) ‘be tame’

A: \sqrt{dzug} (ཟུག་ *zug*, ཟུགས་ *zugs*) ‘pierce, penetrate’

B: \sqrt{dzug} (འཇུགས་ *hdzugs*, བཟུགས་ *btsugs*, གཟུགས་ *gzugs*, རྩུགས་ *tshugs*)
‘plant, establish, insert’

C: \sqrt{tsugs} (འཇུགས་ *htsugs*, རྩུགས་ *tshugs*) ‘go into, begin’

A: \sqrt{gum} (འགུམ་ *hgum*, གུམ་ *gum*) ‘die’

B: \sqrt{gum} (འགུམས་ *hgums*, བགུམས་ *bkums*, དགུམ་ *dgum*, ལུམས་ *khums*)
‘kill’

C: –

A: \sqrt{bab} (འབབ་ *hbab*, བབས་ *babs*) ‘fall, descend’

B: \sqrt{bab} (འབབས་ *hbabs*, བབ་ *phab*, དབབ་ *dbab*, རོབ་ *phob*) ‘bring down’

C: –

A: $\sqrt{byuñ}$ (འབྱུང་ *hbyuñ*, བྱུང་ *byuñ*) ‘come out, appear’

B: $\sqrt{byuñ}$ (འབྱུངས་ *hbyuñ*, བྱུངས་ *phyuñ*, དབྱུང་ *dbyuñ*, བྱུངས་ *phyuñs*) ‘take out, remove’

C: –

A: \sqrt{bye} (འབྱེ་ *hbye*, བྱེ་ *bye*) ‘open intr.’

B: \sqrt{bye} (འབྱེད་ *hbyed*, བྱེ་ *phye*, དབྱེ་ *dbye*, བྱེས་ *phyes*) ‘open tr.’

C: –

A: \sqrt{bral} (འབྲལ་ *hbral*, བྲལ་ *bral*) ‘separate intr.’

B: \sqrt{bral} (འབྲལས་ *hbrals*, བྲལས་ *phral*, དབྲལ་ *dbral*, བྲལས་ *phrol*) ‘separate tr.’

C: –

A: \sqrt{bri} (འབྲི་ *hbri*, བྲི་ *bri*) ‘lessen, diminish’

B: \sqrt{bri} (འབྲིད་ *hbrid*, བྲིས་ *phris*, དབྲི་ *dbri*, བྲིས་ *phris*) ‘reduce, subtract’

C: –

A: –

B: \sqrt{gug} (འགུགས་ *hgugs*, བཀུག་ *bkug*, དགུག་ *dgug*, ལུག་ *khug*) ‘summon’

C: \sqrt{kug} (ལུག་ *khug*, ལུགས་ *khugs*) ‘get, find’

A: –

B: √god (འགོད་ *hgod*, བཀོད་ *bkod*, དགོད་ *dgod*, ཁོད་ *khod*) ‘place, register’C: √kod (འཁོད་ *hkhod*, འཁོད་ *hkhod*) ‘be situated, be registered’

A: –

B: √don (འདོན་ *hdon*, བཏོན་ *bton*, གདོན་ *gdon*, ཐོན་ *thon*) ‘take out’C: √ton (འཐོན་ *hthon*, ཐོན་ *thond*) ‘go out, come out’

A: –

B: √jun (འཇུན་ *hjun*, བཇུན་ *bčun*, གཇུན་ *gčun*, ཇུན་ *čhun*) ‘tame, subdue’C: √cun (འཇུན་ *hčhun*, ཇུན་ *čhun*) ‘be tamed, be subdued’

A: –

B: √dzud (འཇུད་ *hdzud*, བཇུད་ *btsud*, གཇུད་ *gzud*, ཇུད་ *tshud*) ‘put inside’C: √tsud (འཇུད་ *htsud*, ཇུད་ *tshud*) ‘be put inside’A: √grig (འགྲིག་ *hgrig*, འགྲིག་ *hgrig*) ‘suit, agree’

B: –

C: √krig (འཁྲིག་ *hkrig*, འཁྲིགས་ *hkhriḡs*) ‘cohere, stick together’A: √gril (འགྲིལ་ *hgril*, གྲིལ་ *gril*) ‘be twisted’

B: –

C: √kril (འཁྲིལ་ *hkril*, འཁྲིལ་ད་ *hkrild*) ‘wind, coil’A: √du (འདུ་ *hdu*, འདུས་ *hdus*) ‘come together, assemble’

B: –

C: √tu (འཇུ་ *hthu*, འཇུ་ *hthu*) ‘gather, collect’

§258. The correspondence of *kh-* in Burmese to plain voiceless consonants (i.e. non-glottalized) in Burmish languages, reconstructed **k-* (cf. §56):

Bur. ཁི: *khāh* < **kāh* ‘bitter’, Lashi *kho:H*, Tib. ཁ་ *kha*, Chi. 苦 *khux*
< **k^haʔ* (01–01u)

Bur. ཁུ: *khūh* < **kūh* ‘scoop out’, Lashi *khu:H*

WBur. ཁྱ་ *-khwā-* < **kō* ‘cucumber’, Lashi *-khoH*

WBur. ཁེ་ *khye* < **kyiy* ‘(barking) deer’, Atsi *-čhi⁵¹*

Bur. ཁྱུ་ *khuyi* < **kyui* ‘horns’, Lashi *khjou*

WBur. ཁྱུའི་ *khuyih* < **kyuiwḥ* ‘snap, break’, Lashi *-khja:uH*

OBur. ཁྱུའི་ *khuyiw* < **kyuiw* ‘sweet’, Lashi *čha:u*

OBur. ཁྱུའི་ *-khuiwḥ* < **kuiwḥ* ‘smoke’, Lashi *-khouH*

OBur. ກູ່: *khuiwḥ* < *kuiwḥ ‘steal’, Lashi *kha:uH*, Tib. འུ་རུ་ (pres. ກູ່ *rku*), Chi. 偷 *khuwH* < *k^hos (10–04a)

OBur. ກູ່: *khuyḥ* < *kuyḥ ‘dog’, Lashi *khuiH*, Tib. རྩི ກູ່ *khvi*, Chi. 犬 *khwenX* < *k^{wh}en? (32–04a)

WBur. ກູ່: *khwak* < *kok ‘bowl’, Lashi *khu?H*

OBur. ກູ່: *khin* < *kin ‘weigh’, Atsi *čhinH*

Bur. ກູ່: *khwan* < *kon sentence classifier, Lashi *khuanH*

OBur. ກູ່: *khlīyḥ* < *kliyḥ ‘dung’, Lashi *khjeiH*, Tib. ལྷི ກູ່ *lči*, Chi. 屎 *syijX* < *q^hij? (26–20d)

OBur. ກູ່: *khlup* < *klup ‘sew’, Lashi *khju:pH*, Tib. འུ་རུ་ (pres. ກູ່ *ḥdrub*)

Bur. ກູ່: *khlwat* < *klot ‘take off’, Lashi *khju:tH*

OBur. ກູ່: *khlyap* < *klap ‘flat object’, Lashi *khjapH*

Bur. ກູ່: *khram* < *kram ‘garden plot’, Lashi *khjam*

OBur. ກູ່: *khriy* < *kriy ‘foot’, Lashi *khjei*

Bur. ກູ່: *khryak* < *kyak ‘navel’, Lashi *čho?H*

WBur. ກູ່: *khrok* < *kruk ‘six’, Lashi *khjukH*, Tib. ལྷི ກູ່ *drug*, Chi. 六 *ljuwk* < *k.ruk (14–16a)

WBur. ກູ່: *-khyonḥ* < *kyunḥ ‘throat’, Lashi *khjunḥH*

Bur. ກູ່: *khyañḥ* < *kyañḥ ‘ginger’, Lashi *čhayḥH*

Bur. ກູ່: *khyyut* < *kyut ‘dusk, twilight’, Lashi *čho?H*

WBur. ກູ່: *khywat* < *kyot ‘undress’, Atsi *k'jut^s*

WBur. ກູ່: *khywan* < *kyon ‘pare, peel’, Lashi *čhu:n*

§259. The correspondence of Burmese *-a-* to Chinese **-a-* (cf. §67):

Bur. ອາ: *cāḥ* ‘eat’, Chi. 咀 *dzoX* < *dza? (01–57u)

Bur. ອາ: *pha* ‘father’, Chi. 父 *bjuX* < *N-pa? (01–67a)

Bur. ອາ: *nā* ‘I’, Chi. 吾 *ngu* < *ŋ^a (01–29f)

Bur. ອາ: *nāḥ* ‘five’, Chi. 五 *nguX* < *C.ŋ^a? (01–29a)

Bur. ອາ: *khāḥ* ‘bitter’, Chi. 苦 *khux* < *k^ha? (01–01u)

Bur. ອາ: *ma* ‘not’, Chi. 無 *mju* < *ma (01–69a)

Bur. ອາ: *nāḥ* ‘fish’, Chi. 魚 *ngjo* < *ŋa (01–31a)

Bur. ອາ: *wāḥ* ‘bamboo’, Chi. 筍 *pae* < *br^a (01–68-)

Bur. ອາ: *ryak* ‘day, 24hrs’, Chi. 夜 *yaeH* < *N.raks (02–27j) ‘night’

OBur. ອາ: *ryā* ‘hundred’, Chi. 百 *paek* < *p^arak (02–37a)

- OBur. 𑖇𑖅: *mlāh* ‘arrow’, Chi. 射 *zyek* < *Cə.lak (02–26a) ‘hit with bow and arrow’
- Bur. 𑖇𑖅: *tañh* ‘make taut, be tight’, Chi. 張 *trjang* < *C.trəŋ (03–35h) ‘draw a bow’
- Bur. 𑖇𑖅: *lanʔ* ‘platform, scaffold, watchtower’, Chi. 揚 *yang* < *laŋ (03–38j) ‘raise’
- Bur. 𑖇𑖅: *nhañh* ‘grant, confer, bestow’, Chi. 讓 *nyangH* < *naŋs (03–42i) ‘yield (v.)’
- Bur. 𑖇𑖅: *khrañ* ‘measure (v.)’, Chi. 量 *ljang* < *raŋ (03–45a)
- Bur. 𑖇𑖅: *rañʔ* ‘mature’, Chi. 梗 *kaengX* < *kʰraŋʔ (03–11e) ‘suffering’
- Bur. 𑖇𑖅: *wañʔ* ‘spin’, Chi. 紡 *phjangX* < *pʰaŋʔ (03–57r)
- Bur. 𑖇𑖅: *khañ* ‘hill’, Chi. 岡 *kang* < *kʰaŋ (03–02a)
- Bur. 𑖇𑖅: *phañʔ* ‘procrastinate, delay’, Chi. 放 *pjangH* < *paŋs (03–57i) ‘release; let go’
- Bur. 𑖇𑖅: *prāh* ‘flat, level’, Chi. 板 *paenX* < *C.pʰraŋʔ (24–49j) ‘plank, board’
- Bur. 𑖇𑖅: *kā* ‘block, obstruct (v.); shield (n.)’, Chi. 扞 *hanH* < *m-kʰars (24–01q) ‘shield (n.), ward off’
- Bur. 𑖇𑖅: *khāh* ‘loins, waist’, Chi. 肝 *kan* < *s.kʰar (24–01l) ‘liver’
- Bur. 𑖇𑖅: *ka* ‘saddle-frame’, Chi. 荷 *ha* < *gʰaj (18–01o) ‘carry’
- Bur. 𑖇𑖅: *prāh* ‘be diverse, scatter’, Chi. 披 *phje* < *pʰ(r)aj (18–16j) ‘divide’
- Bur. 𑖇𑖅: *wa* ‘elephant foot yam’, Chi. 芋 *hjuH* < *Cʷ(r)as (01–23o) ‘taro’
- Bur. 𑖇𑖅: *wam* ‘bear’, Chi. 熊 *hjuwng* < *Cʷəm (38–06a)
- Bur. 𑖇𑖅: *wañ* ‘enter’, Chi. 往 *hwangX* < *Cʷaŋʔ (03–26k) ‘go’
- Bur. 𑖇𑖅: *kā* ‘tarry (v.)’, Chi. 遐 *hae* < *gʰra (01–12j) ‘distant’
- Bur. 𑖇𑖅: *phā* ‘mend, patch’, Chi. 補 *puX* < *Cə-pʰaʔ (01–67c) ‘patch’
- Bur. 𑖇𑖅: *nan* ‘you’, Chi. 汝 *nyoX* < *naʔ (01–56j)
- Bur. 𑖇𑖅: *nhañ* ‘drive, drive away’, Chi. 攘 *nyang* < *naŋ (03–42e) ‘oppose, disturb’
- Bur. 𑖇𑖅: *pañh* ‘impede, instruct’, Chi. 妨 *phjang* < *pʰaŋ (03–57q) ‘oppose’
- Bur. 𑖇𑖅: *lanh* ‘be light, not dark’, Chi. 陽 *yang* < *laŋ (03–38e) ‘bright’

Bur. 𐰇𐰣 *cap* ‘join, unite’, Chi. 接 *tsjep* < *tsap (35–15e) ‘connect with’

Bur. 𐰇𐰤 *tā* ‘very red, flaming red’, Chi. 丹 *tan* < *t’an (24–20a) ‘cinnabar’

Bur. 𐰇𐰥: *khanh* ‘dried up’, Chi. 乾 *kan* < *k’an (24–02c) ‘dry’

OBur. 𐰇𐰦𐰣 *klay* ‘wide, broad’, Chi. 𠵱 *tsyheX* < *k-lajʔ (18–08t) ‘wide, extend’

§260. The following list, based on Jacques (2006), gives the possible Old Chinese origins of each Middle Chinese rime category (cf. §190).

A: acute initial

L: labial initial

LV: labio-velar

V: velar initial

G: grave initial

§260a. Type A syllables, i.e. where Middle Chinese syllable contains no *-j-* or *y-*:

-a 歌 < *-aj, *-ar 歌

-ae 麻 < *-raj, *-rar 歌, *-ra 魚

-aejH 夬 < *-rats 祭

-aek 陌 < *-rak 职

-aem 銜 < *-ram 談

-aen 刪 < *-ran, *rar 元

-aeng 庚 < *-raŋ 阳

-aep 狎 < *-rap 葉

-aet 鐸 < *-rat 月

-aew 肴 < *-ru 幽, *-riw, *-raw, *-rew 宵

-aewk 覺 < *-rawk, *-rewk 藥, *-riwk, *-ruk 覺, *-ok 屋

-aewng 江 < *-roŋ 東, *-ruŋ 冬

-ajH 泰 < *-ats 祭

-ak 鐸 < *-ak 鐸, *-awk 藥

-am 談 < *-am 談

-an 寒 < *-an, *-ar 元

-ang 唐 < *-aŋ 阳

-ap 盍 < *-ap 葉

-at 曷 < *-at 月

-aw 豪 < *-aw 宵, *-u 幽

-eaj 皆 < *-rij 脂, *-riŋ 微, *-rə 之

-eajH 皆 < *-rits 脂, *-rəts 微, *-rets 祭

- eak* 麦 < *-rik 职, *-rek 錫
 -*eam* 咸 < *-rem, *-rom 談, *-rəm, *-rum, *-rim 侵
 -*ean* 山 < *-ren, *-rer 真, *-rin, *-rir 文, *-rən, *-rər 元
 -*eang* 耕 < *-reŋ 耕, *-rəŋ 蒸
 -*eap* 洽 < *-rep, *-rop 葉, *-rəp, *-rup, *-rip 緝
 -*eat* 黠 < *-ret 月, *-rit 質, *-rət 物
 -*eai* 佳 < *-re 支, *-raj 歌
 -*ej* 齐 < *-e 支, *-ij 脂
 -*ejA* 齐 < *-əj 微
 -*ejH* 齐 < *-its 質, *-ets 祭
 -*ejHA* 齐 < *-əts 物
 -*ek* 錫 < *-ek 錫, *-iwk 覺, *-ewk 藥
 -*em* 添 < *-em 談, *-im 侵
 -*en* 先 < *-en, *-er, *-in, *-ir 元, *-iŋ 真
 -*enA* 先 < *-ən, *-ər 文
 -*eng* 青 < *-eŋ 耕
 -*ep* 帖 < *-ep 葉, *-ip 緝
 -*et* 屑 < *-et 月, *-it 質
 -*ew* 蕭 < *-iw, *-ew 宵
 -*oj* 哈 < *-ə 之
 -*ojV* 哈 < *-əj 微
 -*ojHV* 哈 < *-əts 微
 -*ok* 德 < *-ək 职
 -*om* 覃 < *-om 談, *-əm, *-um 侵
 -*onV* 痕 < *-ən, *-ər 文
 -*ong* 登 < *-əŋ 蒸
 -*op* 合 < *-op 葉, *-əp, *-up 緝
 -*owk* 沃 < *-uk 覺, *-awk 藥
 -*owng* 冬 < *-uŋ 冬
 -*u* 模 < *-a 魚
 -*uw* 侯 < *-o, *-ro 侯
 -*uwL* 侯 < *-u 幽
 -*uwk* 屋 < *-ok 屋, *-awk 藥
 -*uwng* 東 < *-oŋ 東
 -*wa* 歌 < *-oj 歌
 -*wae* 麻 < *-roj 歌
 -*waeLV, L* 麻 < *-ra 魚
 -*waejH* 夬 < *-rots 祭
 -*waejHLV* 夬 < *-rats, *-rets 祭
 -*waet* 鎋 < *-rot 月
 -*waetLV* 鎋 < *-rot, *-rat 月
 -*waen* 刪 < *-ron, *-ror 元
 -*waenLV* 刪 < *-ren, *-rer, *-ran, *-rar, *-ron, *-ror 元

-wajH 泰 < *-ots 祭
 -wan 桓 < *-on, *-or 元
 -wat 末 < *-ot 月
 -weaj 皆 < *-ruj 微
 -weaj LV 皆 < *-rə 之
 -weajH 皆 < *-rots 祭, *-ruts 微
 -wean 山 < *-run, *-rur 文
 -wean LV 山 < *-rən, *-rən 文
 -weat 黠 < *-rot 月, *-rut 物
 -woj 灰 < *-uj, *-ur 微
 -woj L 灰 < *-i, *-əj, *-ər 之
 -wojH 灰 < *-uts 微
 -wojH L 灰 < *-əts 微
 -won 魂 < *-un, *-ur 文
 -won L 魂 < *-ən, *-ər 文
 -wot 沒 < *-ut 物

§260b. Type B syllables, i.e. where Middle Chinese syllable contains -j- or y-:

-i 之 < *-i 之
 -ij 脂 < *-rij 脂, *-rəj, *rər 微
 -ij A 脂 < *-ij 脂, *-əj, *ər 微
 -ij L 脂 < *-ri 之
 -ijH 脂 < *-rits 脂, *-rəts 微
 -ijH A 脂 < *-its 脂, *-əts 微
 -ik 職 < *-ək, *-rək 職
 -im 侵 < *-rim 侵
 -im A 侵 < *-im 侵
 -im A, V 侵 < *-əm, *-um, *-rəm, *-rum 侵
 -in 真臻 < *-rin, *-rir 真, *-rən, *rər 文
 -in A 真臻 < *-in, *-ir 真, *-ən, *-ər 文
 -ing 蒸 < *-əŋ, *-rəŋ 蒸
 -ip 緝 < *-rip 緝
 -ip A 緝 < *-ip 緝
 -ip A, V 緝 < *-əp, *-up, *-rəp, *-rup 緝
 -it 質 < *-rit 質, *-rət 物
 -it A 質 < *-it 質, *-ət 物
 -jae A 麻 < *-aj, *-ar 歌, *-a 魚
 -jaek 陌 < *-rak 鐸
 -jaek G 陌 < *-rek 錫
 -jaem G 嚴 < *-ram 談
 -jaem V 嚴 < *-am, *-om, *-rom 談
 -jaeng G 庚 < *-raŋ 陽, *-reŋ 耕

- jaeng TS 庚 < *-reŋ 耕
 -jaep G 業 < *-rap 葉
 -jaep V 業 < *-ap, *-op, *-rop 業
 -jak 鐸 < *-ak 鐸, *-awk, *-rawk, *-ewk, *-rewk 藥
 -jak A 鐸 < *-rak 鐸
 -jang 阳 < *-aŋ 阳
 -jang A 阳 < *-raŋ 阳
 -je 支 < *-raǵ, *-rar, *-aj, *-ar 歌, *-re 支
 -je A 支 < *-e 支
 -jejH 祭 < *-rats, *-rets 祭
 -jejHA 祭 < *-ats, *-ets 祭
 -jek 昔 < *-ek 錫
 -jek A 昔 < *-ak 鐸, *-rek 錫
 -jem 盐 < *-ram, *-rem 談
 -jem A 盐 < *-am, *-em, *-om, *-rom 談
 -jen 仙 < *-ran, *-rar, *-ren, *-rer 元
 -jen A 仙 < *-an, *-rar, *-en, *-rer 元
 -jeng 清 < *-reŋ 耕
 -jeng A 清 < *-eŋ 耕
 -jep 葉 < *-rap, *-rep 葉
 -jep A 葉 < *-ap, *-ep, *-op, *-rop 葉
 -jet 屑 < *-rat, *-ret 月
 -jet A 屑 < *-at, *-et 月
 -jew 宵 < *-aw, *-raw, *-rew 宵
 -jew A 宵 < *-ew 宵
 -jie G 支 < *-e 支
 -jiejH G 祭 < *-ets 祭
 -jiem G 盐 < *-em 談
 -jien G 仙 < *-en, *-er 元
 -jieng G 清 < *-eŋ 耕
 -jiejp G 葉 < *-ep 葉
 -jiet G 屑 < *-et 月
 -jiew G 宵 < *-ew 宵
 -jij G 脂 < *-ij 脂
 -jijH G 脂 < *-its 脂
 -jim G 侵 < *-im 侵
 -jin G 真臻 < *-in, *-ir 真
 -jip G 緝 < *-ip 緝
 -jit G 質 < *-it 質
 -jiw G 幽 < *-iw, *-riw 幽
 -jo 魚 < *-a, *-ra 魚
 -jojH G 废 < *-ats 祭
 -jom L 凡 < *-am 談

- jom L 凡 < *-om, *-rom 談
 -jon G 元 < *-an, *-ar 元
 -jop L 乏 < *-ap, *-op, *-rop 葉
 -jot G 月 < *-at 月
 -jowk 烛 < *-ok, *-rok 屋
 -jowng 鐘 < *-oŋ, *-roŋ 東
 -ju 虞 < *-o, *-ro 侯
 -ju LV, L 虞 < *-a, *-ra 魚
 -jun G 文 < *-un, *-ur 文
 -jun L 文 < *-ən, *ər 文
 -jut G 物 < *-ut 物
 -jut L 物 < *-ət 物
 -juw 尤 < *-u 幽
 -juw A 尤 < *-ro 侯, *-iw, *-riw 幽
 -juw A, V, L 尤 < *-ru 幽
 -juw L 尤 < *-ə 之
 -juwk 屋 < *-uk, *-ruk, *-iwk, *-riwk 覺
 -juwk L 屋 < *-ək 职
 -juwng 東 < *-uŋ, *-ruŋ 東
 -juwng L 東 < *-əŋ 蒸
 -jwe 支 < *-oj, *-roj 歌
 -jwejH 祭 < *-rots 祭
 -jwejH A 祭 < *-ots 祭
 -jwen 仙 < *-ron, *-ror 元
 -jwen A 仙 < *-on, *-ror 元
 -jwet 薛 < *-rot 月
 -jwet A 薛 < *-ot 月
 -jwiejH LV 祭 < *-ets 祭
 -jwiet 薛 < *-ot, *-et 祭
 -jwojH G 废 < *-ots 祭
 -jwon G 元 < *-on, -or 元
 -jwot G 月 < *-ot 月
 -jwij G 微 < *-uj, *-ur 微
 -jwijH G 微 < *-uts 微
 -jjj G 微 < *-əj, *-ər 微
 -jjjH G 微 < *-əts 微
 -jin V 殷 < *-ən, *-ər 文
 -jit V 迄 < *-ət 物
 -wij 脂 < *-ruj, *-rur 微
 -wij A 脂 < *-uj, *-ur 微
 -wij LV 脂 < *-rə 之, *-ru 幽
 -wijH 脂 < *-ruts 微

- wijH* A 脂 < *-uts 微
 -*win* 真 < *-run, *-rur 文
 -*win* A 真 < *-un, *ur 文
 -*wit* 質 < *-rut 物
 -*wit* A 質 < *-ut 物

§261. The correspondence of Chinese ‘a’ to Tibetan ‘a’ and Burmese ‘a’ (cf. §228):

- Chi. 苦 *khuX* < *k^ha? (01–01u) ‘bitter’, Tib. ཁ་ *kha*, Bur. འི: *khāh*
 Chi. 胡 *hu* < *g^ha (01–01a) ‘how, what?’, Tib. ། ག་ *ga* (an interrogative stem)
 Chi. 遐 *hae* < *g^hra (01–12j) ‘distant’, Bur. ཏ་ *kā* ‘tarry (v.)’
 Chi. 于 *hju* < *g^w(r)a (01–23a) ‘go’, Tib. འོ རྒྱ་ *hgro* < *hg^wa
 Chi. 芋 *hjuH* < *g^w(r)as (01–23o) ‘taro’, Tib. རྩོ རྩོ་ *gro-ma* < *g^wra-ma
 ‘*Potentilla anserina*’, Bur. འ་ *wa* ‘elephant foot yam’
 Chi. 五 *nguX* < *C.ŋ^ha? (01–29a) ‘five’, Tib. ལྔ་ *lña*, Bur. འི: *nāh*
 Chi. 吾 *ngu* < *ŋ^ha (01–29f) ‘I, me’, Tib. ལྔ་ *ña*, Bur. འི: *nā*
 Chi. 魚 *ngjo* < *ŋa (01–31a), Tib. ཧྲོ ཧྲོ་ *ña* < *n^hya (Houghton’s law; cf. §27) ‘fish’, Bur. འི: *nāh*
 Chi. 睹 *tuX* < *t^ha? (01–38c) ‘see’, Tib. ལྟ་ *lta* ‘look at’
 Chi. 膚 *pju* < *pra (01–51g) ‘skin’, Tib. ལྦ་ *lpags* (§196a n. 90)
 Chi. 呂 *ljoX* < *ra? (01–54a) ‘spine; pitch-pipe’, Tib. ལྦ་ *gra-ma* ‘lattice’
 Chi. 旅 *ljoX* < *ra? (01–55a) ‘military unit’, Tib. ལྦ་ *dgra* ‘enemy’
 Chi. 女 *nrjoX* < *nra? (01–56a) ‘woman’, Tib. ཧྲོ ཧྲོ་ *ña-mo* ‘wife, housewife’ (cf. §39b n. 49)
 Chi. 如 *nyo* < *na (01–56g) ‘as, like, if’, Tib. ལྟ་ *na* ‘if, when’
 Chi. 汝 *nyoX* < *na? (01–56j) ‘you’, Bur. ཆོ *nan*
 Chi. 咀 *dzjoX* < *dza? (01–57u) ‘eat’, Tib. ལྟ་ *za* < *dza (Schieffner’s law; cf. §29), Kur. zù, Bur. འ་ *cāh*, Japhug Rgy. *nda*
 Chi. 夫 *bju* < *ba (01–66a) ‘this, that’, Tib. ལྟ་ *pha* ‘yonder’
 Chi. 父 *bjuX* < *N-pa? (01–67a) ‘father’, Tib. ལྟ་ *pha*, Bur. འ་ *pha*
 Chi. 補 *puX* < *Cə-p^ha? (01–67c) ‘patch’, Bur. འ་ *phā* ‘mend, patch’
 Chi. 筍 *pae* < *br^ha (01–68-) ‘bamboo’, Tib. ལྟ་ *spa* ‘a cane’, Bur. འི: *wāh* ‘bamboo’
 Chi. 無 *mju* < *ma (01–69a) ‘not have’, Tib. ལྟ་ *ma*, Bur. འ་ *ma*
 Chi. 攫 *kjwak* < *k^wak (02–07b) ‘snatch away, seize’, Tib. ལྟ་ *kok* (pres. ལྟ་ *hgog*) ‘take away, snatch, rob’
 Chi. 赫 *xaek* < *q^hrak (02–10a) ‘red, fiery’, Tib. ལྟ་ *khrag* ‘blood’, Bur. ལྟ་ ‘ashamed’ (cf. §220f)

- Chi. 渡 *duH* < *dʰak-s (02–16b) ‘ford (v.)’, Tib. རྩམ་ *hdah* ‘pass (v.)’
- Chi. 射 *zyek* < *Cə.lak (02–26a) ‘hit with bow and arrow’, Tib. རྩམ་ *mdah* < *mlah ‘arrow’, OBur. རྩམ་ *mlāḥ*
- Chi. 夜 *yaeH* < *N.raks (02–27j) ‘night’, Tib. རྩམ་ *zag* < *rʰak ‘day, 24hrs’, Bur. རྩམ་ *ryak*
- Chi. 百 *paek* < *pʰrak (02–37a) ‘hundred’, Tib. རྩམ་ < OTib. རྩམ་ *brgyah* (PT 1111, l. 5 *et passim*) < *bryah (Li’s law; cf. §25), OBur. རྩམ་ *ryā*
- Chi. 岡 *kang* < *kʰaŋ (03–02a) ‘hill’, Tib. རྩམ་ *sgaṅ*, Bur. རྩམ་ *khaṅ* ‘ridge’
- Chi. 往 *hwangX* < *Gʷaŋʔ (03–26k) ‘go’, Bur. རྩམ་ *wan* ‘enter’, Tib. རྩམ་ *hoṅ* / རྩམ་ *yoṅ* < *hʷaŋ ‘come’
- Chi. 敞 *tsyhangX* < *tʰaŋʔ (03–32m) ‘open, spacious’, Tib. རྩམ་ *thaṅ* ‘plain (n.)’
- Chi. 張 *trjang* < *C.traŋ (03–35h) ‘draw a bow’, Tib. རྩམ་ *thaṅ-po* ‘tense, tight, firm’, Bur. རྩམ་ *tanḥ* ‘make taut, be tight’
- Chi. 陽 *yang* < *laŋ (03–38e) ‘bright’, Bur. རྩམ་ *lanḥ* ‘be light, not dark’
- Chi. 揚 *yang* < *laŋ (03–38j) ‘raise’, Tib. རྩམ་ *lan* ‘rise’, Bur. རྩམ་ *lanʔ* ‘platform, scaffold, watchtower’
- Chi. 楊 *yang* < *laŋ (03–38q) ‘poplar’, Tib. རྩམ་ *glaṅ-ma*, རྩམ་ *lcaṅ-ma* ‘willow’
- Chi. 攘 *nyang* < *naŋ (03–42e) ‘oppose, disturb’, Bur. རྩམ་ *nhaṅ* ‘drive, drive away’
- Chi. 讓 *nyangH* < *naŋs (03–42i) ‘yield (v.)’, Tib. རྩམ་ *gnaṅ* ‘give’, Bur. རྩམ་ *nhaṅḥ* ‘grant, confer, bestow’
- Chi. 曩 *nanX* < *nʰaŋʔ (03–42k) ‘in past times’, Tib. རྩམ་ *gnaḥ-bo* ‘ancient, in old time’
- Chi. 良 *ljang* < *raŋ (03–43a) ‘good’, Tib. རྩམ་ *draṅ-po* ‘straight’
- Chi. 量 *ljang* < *raŋ (03–45a) ‘measure’, Tib. རྩམ་ *graṅs* ‘number’, Bur. རྩམ་ *khraṅ* ‘measure (v.)’
- Chi. 漿 *tsjang* < *tsaŋ (03–49v) ‘rice-water drink’, Tib. རྩམ་ *chan* ‘barley beer’
- Chi. 臧 *tsang* < *tsʰaŋ (03–49fʰ) ‘good’, Tib. རྩམ་ *bzaṅ* < *bdzaṅ
- Chi. 倉 *tshang* < *tsʰaŋ (03–48a) ‘granary’, Tib. རྩམ་ *gsaṅ* < OTib. རྩམ་ *gstsāṅ* ‘conceal, secret’ (cf. PT 1194, ll. 39–40)
- Chi. 放 *pjangH* < *paŋs (03–57i) ‘release; let go’, Tib. རྩམ་ *spaṅ* (pres. རྩམ་ *spoṅ*) ‘let go, banish’, Bur. རྩམ་ *phaṅʔ* ‘procrastinate, delay’
- Chi. 妨 *phjang* < *pʰaŋ (03–57q) ‘oppose’, Bur. རྩམ་ *panḥ* ‘impede, instruct’

- Chi. 紡 *phjang*X < *p^hañ? (03–57r) ‘spin’, Tib. ༔ཎ *phan* ‘spindle’,
Bur. འཇིག་ *wañ?* ‘spin’
- Chi. 房 *bjang* < *Cə-N-panj (03–57y) ‘side-room’, Tib. ་མ་ *bañ-ba*
‘storehouse’
- Chi. 梗 *kaeng*X < *k^hraŋ? (03–11e) ‘suffering’, Tib. ་མཎ་ *mkhran*
‘hard, solid’, Bur. རྩེ་ *rañ?* ‘mature’
- Chi. 行 *haeng* < *Cə.g^hraŋ (03–14a) ‘walk (v.)’, Tib. ་ཀཎ་ *rkañ-pa*
‘foot, leg, hind-foot’
- Chi. 涼 *ljang* < *C.raŋ (03–10l) ‘cold’, Tib. ་མྱ་ *gran*
- Chi. 永 *hjwaeng*X < *g^wraŋ? (03–27a) ‘long (time)’, Tib. ་མྱ་ *rgyañ-ma* ‘distance’
- Chi. 河 *ha* < *C.g^haj (18–01g) ‘river’, Tib. ་ཀཎ་ *rgal* ‘cross, ford’ (cf.
§33a n. 44)
- Chi. 荷 *ha* < *g^haj (18–01o) ‘carry’, Tib. ་ཀཎ་ *khal* ‘burden, load’,
Bur. འཇིག་ *ka* ‘saddle-frame’
- Chi. 侈 *tsyhe*X < *k-laj? (18–08t) ‘wide, extend’, OBur. འཇིག་ *klay*
‘wide, broad’
- Chi. 羅 *la* < *r^haj (18–10a), Tib. ་ཎ་ *dra* ‘net’
- Chi. 加 *kae* < *k^hraj (18–04a) ‘add’, Tib. ་ཀཎ་ *khral* ‘tax’, Bur. ་ཀྱ་ *krāh* < *grāl^h ‘interval’
- Chi. 籬 *lje* < *raj (18–11g) ‘hedge’, Tib. ་ར་ *ra* ‘courtyard’
- Chi. 披 *phje* < *p^h(r)aj (18–16j) ‘divide’, Tib. ་ཀཎ་ *hbral* ‘be sepa-
rate, to part’, Bur. ་ཀྱ་ *prāh* ‘be diverse, scatter’
- Chi. 波 *pa* < *p^haj (18–16l), Tib. ་ཀཎ་ *dbaḥ* ‘wave’ (cf. §36 n. 47)
- Chi. 罷疲 *bje* < *braj (18–17a, 18–16d) ‘fatigue’, Tib. ་ཀཎ་ *brgyal* <
*bryal (Li’s law; cf. §25) ‘sink down, faint’
- Chi. 末 *mat* < *m^hat (21–37a) ‘end of a branch’, Tib. ་མཎ་ *smad* ‘the
lower part’
- Chi. 殺 *sreat* < *srat (21–29d) ‘kill’, Tib. ་མཎ་ *gsod* (pres. ་མཎ་ *gsod*), Bur.
འཇིག་ *sat*
- Chi. 誚 *dep* < *l^hap (21–23g) ‘garrulous’, Tib. ་ཀཎ་ *lab* ‘speak, talk,
tell (v.)’
- Chi. 糲 *lat* < *(m-)r^hat (21–26g) ‘rice’, Tib. ་ཀཎ་ *hbras* < *ḥmras
(Simon’s law; cf. §30)
- Chi. 肝 *kan* < *s.k^har (24–01l) ‘liver’, Tib. ་ཀཎ་ *mkhal* ‘kidney,
reins’, Bur. ་ཀཎ་ *khāh* ‘loins, waist’
- Chi. 竿 *kan* < *k^har (24–01k) ‘pole, rod’, Tib. ་ཀཎ་ *mkhar* / ་ཀཎ་
ḥkhar ‘staff, stick’
- Chi. 扞 *hanH* < *m-k^hars (24–01q) ‘shield (n.), ward off’, Tib. ་ཀཎ་ *hgal*
‘oppose, contradict’, Bur. ་ཀྱ་ *kā* ‘block, obstruct (v.); shield (n.)’

- Chi. 乾 *kan* < *k^har (24–02c) ‘dry’, Bur. མཚོ་ *khanh* ‘dried up’
 Chi. 獻 *xjonH* < *ŋars (24–17e) ‘offer, present, wise man’, Tib. ལྷོ་ *snar* ‘intelligent, quick of apprehension’
 Chi. 丹 *tan* < *t^han (24–20a) ‘cinnabar’, Bur. ཏོ་ *tā* ‘very red, flaming red’
 Chi. 旂 *tsyen* < *tan (24–20c) ‘a kind of flag’, Tib. དྲ་ *dar* ‘flag’
 Chi. 瘡 *tanX* < *t^har? (24–211) ‘disease, suffering, distress’, Tib. ལྷོ་ *ldar* ‘be weary, tired, faint’
 Chi. 顫 *tsyenH* < *tan (24–23s) ‘shivering, trembling’, Tib. འདྲ་ *hdar* ‘tremble, shudder’
 Chi. 炭 *thanH* < *t^hans (24–24a) ‘charcoal, coal’, Tib. མཚེ་ *thal* ‘dust, ashes’
 Chi. 連 *ljen* < *ran (24–32a) ‘connect, unite in a row’, Tib. གྲུ་ *gral* ‘row’
 Chi. 難 *nan* < *n^har (24–35d) ‘difficult’, Tib. མཚོ་ *mnar* ‘suffer, be tormented’ (cf. §33a n. 43), Bur. ཚོ་ *nā* ‘hurt’
 Chi. 粲 *tshanH* < *t^hars (24–40b) ‘bright and white’, Tib. མཚོ་ *mtshar* ‘fair, beautiful, bright’
 Chi. 餐 *tshan* < *t^har (24–40c) ‘eat, food, meal’, Tib. ཚེ་མ་ *tshalma* ‘breakfast’
 Chi. 殘 *dzan* < *dz^han (24–41c) ‘injure, remnant’, Tib. གཙན་ *gzan* < *gdzan (Schiefner’s law; cf. §29) ‘wear out, hurt, waste’
 Chi. 半 *panH* < *p^hans (24–47a) ‘half’, Tib. བར་ *bar* ‘intermediate space’
 Chi. 板 *paenX* < *C.p^hran? (24–49j) ‘plank, board’, Tib. འཕམ་ *hphar* ‘board, flat board’, Bur. ပြာ်း *prāh* ‘flat, level’
 Chi. 蓋 *kajH* < *k^haps (35–01q) ‘thatch, cover (v.)’, Tib. འཁེབས་ *hgebs* ‘cover (v.)’
 Chi. 甲 *kaep* < *k^hrap (35–02a) ‘shell’, Tib. མཚོ་ *khrab* ‘armour, shield, mail’, Bur. རྩོ་ *khyap* < *^hkyap ‘scales’
 Chi. 藍 *lam* < *N-k.r^ham (35–05k) ‘indigo’, Tib. རམས་ *rams* ‘indigo’
 Chi. 接 *tsjep* < *tsap (35–15e) ‘connect with’, Bur. ཅོ་ *cap* ‘join, unite’

§262. The correspondence of Chinese ‘ə’ to Tibetan ‘a’ and Burmese ‘a’ (cf. §228):

- Chi. 耳 *nyiX* < *nə? (04–40a) ‘ear’, Tib. རྩ་ *rna*, Bur. ཚོ་ *nāh*
 Chi. 子 *tsiX* < *tsə? (04–47a) ‘child’, Tib. ཚོ་ *tsha* ‘grandchild’
 Chi. 慈 *dzi* < *dzə (04–49j) ‘kind (adj.)’, Tib. མཚོ་ *mdzah* ‘love’, Bur. ཅོ་ *cā*

- Chi. 母 *muwX* < *məʔ (04–64a) ‘mother’, Tib. མ་ *ma*, Bur. မာ *ma*
- Chi. 織 *tsyik* < *tak (05–13f) ‘weave’, Tib. √tag (pres. རྩམ་ *hthag*),
Bur. ရက် *rak* < *C-tak (cf. §72)
- Chi. 富 *pjuwH* < *pək-s (05–33r) ‘rich; wealth’, Tib. ཕག་ *phag* ‘pig’,
Bur. ဝက် *wak* < *C-pak (cf. §72)
- Chi. 黑 *xok* < *ŋʰək (05–38a) ‘black’, Tib. མཚན་ *smag* ‘dark, dark-
ness’, Bur. မင်္ဂ *mañ*, *mhañ* ‘ink’
- Chi. 膺 *ing* < *q(r)əŋ (06–08e) ‘breast(plate); oppose’, Tib. བླ་ *brañ*
‘breast’, Bur. ရင် *rañ*
- Chi. 憎 *tsong* < *tsʰəŋ (06–19d) ‘hate’, Tib. སྤང་ *sdañ*
- Chi. 夢 *mjuwngH* < *C.məŋ-s (06–23a) ‘dream’, Tib. མཇལ་ལམ་ *rmañ-*
lam, Bur. မိတ် *mak*
- Chi. 蠅 *ying* < *m.rəŋ (06–24a) ‘fly’, Tib. སྤྲོ་ *sbrañ* < *smrañ
(Simon’s law; cf. §30) ‘fly, bee’
- Chi. 幾 *kijX* < *kəjʔ (27–04a) ‘few; how many’, Tib. རྒྱལ་ *hgah*
‘some’ (cf. §36 n. 47)
- Chi. 婚 *xwon* < *ŋʰəŋ (32–40m) ‘marriage’, Tib. སྦྲུག་ *smyan-ka*
‘marriage, married couple’
- Chi. 焚 *bjun* < *bən (33–34a) ‘burn’, Tib. རྩམ་ *hbar* ‘burn, blaze’,
Bur. ဝပာ *pa* ‘shine’
- Chi. 答 *top* < *tʰəp (37–06a) ‘answer’, Tib. √tab (pres. རྩམ་ *hdebs*)
‘cast, send’
- Chi. 習 *zip* < *s-ləp (37–12a) ‘practice, exercise’, Tib. √slab (pres.
སྦྱོར་ *slob*) ‘teach, learn’
- Chi. 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’, Tib. རྩམ་ *hkhrab* < *hkṛəp
‘strike, stamp, tread heavily’, OBur. ལྟོ *ryap* ‘stand, stop, halt’
- Chi. 泣 *khip* < *k-rəp (37–15h) ‘weep’, Tib. བླ་ལྟོ *khrañ-khrañ* ‘a
person prone to weep’
- Chi. 含 *hom* < *Cə-m-kʰəm (38–03l) ‘hold in the mouth’, Tib. རྩམ་ *hgam*
‘put in the mouth’
- Chi. 箴鍼 *tsyim* < *t.qəm (38–04no) ‘needle’, Tib. ལམ་ *khab*, Bur.
အဝတ် *ap*
- Chi. 熊 *hjuwng* < *Cʷəm (38–06a) ‘bear (n.)’, Tib. རྩམ་ *dom*, Bur. ဝ
wam
- Chi. 恁 *nyimX* < *nəmʔ (38–25q) ‘think’, Tib. སྦྱོར་ *sñam*
- Chi. 心 *sim* < *səm (38–31a) ‘heart’, Tib. √sam (pres. སེམས་ *sems*)
‘think’

§263. The correspondence of Chinese *-k, Tibetan *-g and Burmese *-k (cf. §198a):

- Chi. 攫 *kjwak* < *k^wak (02–07b) ‘snatch away, seize’, Tib. √kok (pres. རྒྱལ་གྱི་ལྷོག་ *hgog*) < *k^wak (Laufer’s law; cf. §21) ‘take away, snatch, rob’
- Chi. 護 *huH* < *C^waks (02–08k) ‘guard, protect’, Tib. √kak (pres. རྒྱལ་གྱི་ལྷོག་ *hgog*) ‘prevent, avert’
- Chi. 赫 *xaek* < *q^hrak (02–10a) ‘red, fiery’, Tib. རྩལ་ *khrag* ‘blood’, Bur. གྲུང་ *‘ashamed’* (cf. §220f)
- Chi. 夜 *yaeH* < *N.raks (02–27j) ‘night’, Tib. རྩལ་ *zag* < *r^hak ‘day, 24hrs’, Bur. གྲུང་ *ryak*
- Chi. 織 *tsyik* < *tək (05–13f) ‘weave’, Tib. √tag (pres. རྩལ་གྱི་ལྷོག་ *hthag*), Bur. གྲུང་ *rak* < *C-tak (cf. §72)
- Chi. 富 *pjuwH* < *pək-s (05–33r) ‘rich; wealth’, Tib. རྩལ་ *phag* ‘pig’, Bur. འོང་ *wak* < *C-pak (cf. §72)
- Chi. 食 *zyik* < *mə-lək (05–19a) ‘eat’, Tib. √ldag (pres. རྩལ་ *ldag*) ‘lick’
- Chi. 黑 *xok* < *m^hək (05–38a) ‘black’, Tib. རྩལ་ *smag* ‘dark, darkness’, Bur. འོང་ *man, mhan* ‘ink’
- Chi. 縊 *ejH* < *q^hik-s (08–05g) ‘strangle’, Tib. རྩལ་གྱི་ལྷོག་ *hkhuyig* ‘tie, fasten, suffocate’, Bur. འོང་ *ac* ‘squeeze, throttle’
- Chi. 隻 *tsyek* < *tek (08–11c) ‘single’, Tib. རྩལ་གྱི་ལྷོག་ *gčig* < *gt^hig ‘one’, Bur. འོང་ *tac* < *dik
- Chi. 曲 *khjowk* < *k^h(r)ok (11–04a) ‘bent, crooked’, WBur. འོང་ *kok* < *guk ‘bend (v.)’
- Chi. 穀 *kuwk* < *k^hok (11–03i) ‘grain’, WBur. འོང་ *kok* < *guk ‘rice plant’
- Chi. 燭 *tsyowk* < *tok (11–12e) ‘torch’, Tib. རྩལ་ *‘kindle, light (v.)*, WBur. འོང་ *tok* < *duk ‘blaze, flame, shine’
- Chi. 觸 *tsyhowk* < *t^hok (11–12g) ‘knock against’, Tib. རྩལ་གྱི་ལྷོག་ *gtug* ‘meet, touch’
- Chi. 椽 *traewk* < *t^hok (11–13c) ‘beat, strike’, Tib. རྩལ་ *rdug* ‘strike against’
- Chi. 鏃 *tsuwk* < *[ts]^hok (11–18d) ‘arrowhead’, Tib. √tsug (pres. རྩལ་གྱི་ལྷོག་ *hdzugs*) insert, plant’
- Chi. 漱 *sraewk* < *s^hrok (11–21o) ‘suck, inhale’, WBur. འོང་ *sok* < *šuk ‘drink’, Lashi *šu.kH*
- Chi. 帽 *mawH* < *m^huk-s (13-74-) ‘hat’, Tib. རྩལ་ *rmog* ‘helmet’
- Chi. 霧 *mjuH* < *kə.m(r)[o]ks (13–76t) ‘fog, mist’, Tib. རྩལ་གྱི་ལྷོག་ *rmugs* ‘dense fog’
- Chi. 覺 *kaewk* < *k^hruk (14–03f) ‘awake’, Tib. རྩལ་གྱི་ལྷོག་ *dkrug* ‘stir, agitate, disturb’

- Chi. 毒 *dowk* < *d'uk (14–05a) 'poison', Tib. དུག *dug*, WBur.
 ཇོ་ཇོ་ཇོ་ཇོ *tok* < *duk 'be toxic'
 Chi. 六 *ljuwk* < *k.ruk (14–16a) 'six', Tib. ལྷུག *drug*, WBur. རྒྱུ་ཇོ་ཇོ
khrok < *kruk, Lashi *khjukH*
 Chi. 目 *mjuwk* < *C.muk (14–24a) 'eye', OTib. རྩིག་གི་ལྗོངས་ *dmyig*, Bur.
 ལྷོ་ལྷོ་ལྷོ་ལྷོ *myak*
 Chi. 節 *tset* < *ts'ik (29–30e) 'joint of bamboo', Tib. ཚླུག་ལྗོངས་ *tshigs*
 'joint', Bur. ཇོ་ཇོ་ཇོ་ཇོ *chac*

§264. Reflexes of *-ŋ (cf. §234):

- Chi. 岡 *kang* < *k'ŋ (03–02a) 'hill', Tib. སྐང་ *sgaŋ*, Bur. ཅེང་ *khaŋ*
 'ridge'
 Chi. 涼 *ljang* < *C.raŋ (03–10l) 'cold', Tib. སྐང་ *graŋ*
 Chi. 梗 *kaengX* < *k'raŋ? (03–11e) 'suffering', Tib. མཁྲུང་ *mkhraŋ*
 'hard, solid', Bur. རྩེ་ *raŋ?* 'mature'
 Chi. 行 *haeng* < *Cə.g'raŋ (03–14a) 'walk (v.)', Tib. རྩེ་ལྗོངས་ *rkaŋ-pa*
 'foot, leg, hind-foot'
 Chi. 往 *hwangX* < *g'raŋ? (03–26k) 'go', Bur. འོང་ *waŋ* 'enter', Tib.
 རྩེ་ རྩེ་ *hoŋ* / རྩེ་ རྩེ་ *yoŋ* < *h'raŋ 'come'
 Chi. 敞 *tsyhangX* < *t'raŋ? (03–32m) 'open, spacious', Tib. ཐང་ *thaŋ*
 'plain (n.)'
 Chi. 張 *trjang* < *C.traj (03–35h) 'draw a bow', Tib. ཐང་ཐོ་ *thaŋ-po*
 'tense, tight, firm', Bur. འོང་: *taŋh* 'make taut, be tight'
 Chi. 陽 *yang* < *laŋ (03–38e) 'bright', Bur. འོང་: *laŋh* 'be light, not
 dark'
 Chi. 揚 *yang* < *laŋ (03–38j) 'raise', Tib. ལང་ *laŋ* 'rise', Bur. འོང་ *laŋ?*
 'platform, scaffold, watchtower'
 Chi. 楊 *yang* < *laŋ (03–38q) 'poplar', Tib. གླུང་མ་ *glaŋ-ma*, ལྷང་མ་ *lcaŋ-*
ma 'willow'
 Chi. 攘 *nyang* < *naŋ (03–42e) 'oppose, disturb', Bur. སྐྱོང་ *nhaŋ*
 'drive, drive away'
 Chi. 讓 *nyangH* < *naŋs (03–42i) 'yield (v.)', Tib. ལྷོ་ལྷོ་ *gnaŋ* 'give',
 Bur. སྐྱོང་: *nhaŋh* 'grant, confer, bestow'
 Chi. 良 *ljang* < *raŋ (03–43a) 'good', Tib. རྩེ་ལྷོ་ *draŋ-po* 'straight'
 Chi. 量 *ljang* < *raŋ (03–45a) 'measure', Tib. ལྷོ་ལྷོ་ *graŋs* 'number',
 Bur. རྩེ་ *khraŋ* 'measure (v.)'
 Chi. 漿 *tsjang* < *tsaŋ (03–49v) 'rice-water drink', Tib. ཇོ་ཇོ་ *chaŋ*
 'barley beer'
 Chi. 臧 *tsang* < *ts'ŋ (03–49f') 'good', Tib. རྩེ་ལྷོ་ *bzaŋ* < *bdzaŋ
 Chi. 倉 *tshang* < *ts'ŋ (03–48a) 'granary', Tib. ལྷོ་ལྷོ་ *gsaŋ* < OTib.
 ལྷོ་ལྷོ་ *gstsan* 'conceal, secret' (cf. PT 1194, ll. 39–40)

- Chi. 放 *pjangH* < *paŋs (03–57i) ‘release; let go’, Tib. $\sqrt{\text{span}}$ (pres. སྤོ *spoñ*) ‘let go, banish’, Bur. འཕྲ *phañ?* ‘procrastinate, delay’
- Chi. 妨 *phjang* < *pʰaŋ (03–57q) ‘oppose’, Bur. འཕྲ : *pañh* ‘impede, instruct’
- Chi. 紡 *phjangX* < *pʰaŋʔ (03–57r) ‘spin’, Tib. ཕུ *phan* ‘spindle’, Bur. འཕྲ *wañ?* ‘spin’
- Chi. 房 *bjang* < *Cə-N-paŋ (03–57y) ‘side-room’, Tib. བའ་བ *bañ-ba* ‘storehouse’
- Chi. 憎 *tsong* < *tsʰəŋ (06–19d) ‘hate’, Tib. སྤོ *sdan*
- Chi. 夢 *mjuwngH* < *C.məŋ-s (06–23a) ‘dream’, Tib. རྩོ *rmañ-lam*, Bur. འཕྲ *mak*
- Chi. 蠅 *ying* < *m.rəŋ (06–24a) ‘fly’, Tib. སྤོ *sbrañ* < *smrañ (Simon’s law; cf. §30) ‘fly, bee’
- Chi. 領 *ljengX* < *reŋʔ (09–19f) ‘neck’, Tib. མཛིན *mjin* < *mlʷiñ (Bodman’s law; cf. §18) < *mlʷeñ (Dempsey’s law), Bur. འཕྲ *laññ-* < *liñ (Wolfenden’s law) < *leñ (Dempsey’s law)
- Chi. 井 *tsjengX* < *C.tseŋʔ (09–22a) ‘well (n.)’, Tib. རྩོ *rdziñ* < *rdzeñ (Dempsey’s law) ‘pond’
- Chi. 爭 *tsreang* < *[ts]ʰreŋ (09–23a) ‘strife, quarrel’, Tib. འཛིན *hdziñ* < *hdzeñ (Dempsey’s law) ‘quarrel, fight (v.)’, Tib. མིན *ziñ-cha* < *zeñ (Dempsey’s law) ‘quarrel, dispute (n.)’, Bur. འཕྲ *cac* < *dzek (Dempsey’s law) ‘conflict’
- Chi. 甥 *sraeng* < *s.reŋ (09–25g) ‘sister’s child’, Tib. སྤོ *sriñ-mo* < *sreñ (Dempsey’s law) ‘sister of a man’
- Chi. 名 *mjieng* < *C.meŋ (09–31a) ‘name’, OTib. མྱི *myiñ* < *mʷeñ (Dempsey’s law), Bur. འཕྲ *maññ* < *meñ (Dempsey’s law)
- Chi. 蔥 *tshuwng* < *[ts]ʰsəŋ (12–19g) ‘onion’, Tib. བཅོམ *btsoñ*
- Tib. ལྷོ *thuñ* ‘short’, WBur. འཕྲ : *tonh* < *duñh (Maung Wun’s law)
- Chi. 田 *den* < *lʷiŋ (32–19a) ‘field’, Tib. ཞིན *ziñ* < *lʷiñ (Benedict’s law; cf. §15)

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Index Verborum

Achang (Ngochang, Maingtha):

khzəŋH ‘throat’, 62
ku? ‘pick up’, 62
məŋ ‘gong’, 62
mzəŋ ‘make a sound’, 60
ŋap ‘mucus’, 67
ŋeŋX ‘ripe’, 60
ñu? ‘monkey’, 62
ɔŋ ‘win’, 62
pək ‘shoot’, 60
-puŋH ‘steamer’, 62
pzəŋ ‘pus’, 60
pzəŋX ‘be full’, 60
gam ‘iron’, 58
ganH ‘louse’, 67
saŋH ‘tree’, 58n7, 60, 247
-sɔ? ‘life, breath’, 58
gɔ? ‘drink’, 58, 62
gəH ‘fruit’, 58
gek ‘new’, 60, 67
səŋ ‘long’, 60, 67
gī ‘die’, 58
guaH ‘flesh’, 58
sut ‘wipe’, 58
təɔŋX ‘guard, defend’, 62
-tehot ‘lungs’, 67
teu?H ‘vagina’, 62
thu:H ‘answer’, 67
thuŋH ‘pound’, 62
-tshuk ‘joint’, 222, 238
-tuŋ ‘wing’, 62
xzə? ‘frighten, scare’, 62, 67

Atsi (Zaiwa):

čī¹¹ ‘ride’, 57
čhi¹¹ ‘wash’, 58, 64
-čhi⁵¹ ‘(barking) deer’, 275
čhinH ‘weigh’, 63, 276
-čī³⁵ ‘pit, stone’, 57
?čī⁶ ‘love’, 63
?čop⁵⁵ ‘ring’, 58
čur²¹ ‘vagina’, 371–2

heŋ³¹ ‘long’, 60
?kan¹¹ ‘dried up’, 222
k¹ju⁶ ‘undress’, 276
?kja⁵ ‘scales’, 221, 229
?kju²⁶ ‘dry’, 63
?ku⁵⁵ ‘bark (n.)’, 63, 197, 228
?lam³¹ ‘spear’, 66
mij³¹ ‘name’, 60
?mij⁵⁵ ‘ripe’, 60, 249
?mjup⁵⁵ ‘bury’, 66, 67
?mo²⁶⁵ ‘order, instruct’, 66
mut¹ ‘ladle’, and Bur. *mhut*, 68
?nik⁶ ‘heart’, 238, 246
?nik⁶ ‘year’, 60, 238, 246
?nje⁵⁵ ‘ignite’, 66, 213, 217, 244, 256
?nu²⁶ ‘brain’, 61, 240
phaŋ³¹ ‘escape, avoid’, 224
phi⁵ ‘snap in two’, 65
phjo²⁶ ‘destroy’, 65
-phyi ‘grandmother’, 223–4, 238
sai⁵⁵ ‘redo, repair’, 235
śamH ‘iron’, 57, 58
sɔ¹¹ ‘walk’, 59n8
se¹ ‘sand’, 235
sek⁶ ‘tree’, 60, 238, 246
seŋ¹¹ ‘liver’, 60, 70
-sún ‘onion’, 56
t¹⁰o²⁶ ‘take out; pull out’, 64
to²¹-kaŋ³⁵ ‘main roof’, 221, 243
to³¹ ‘span’, 65, 223, 239
?to⁶ ‘short (length)’, 68
tsɔ¹¹ ‘child’, 59, 222
ts¹hu³¹ ‘fat’, 370
tshu³¹ ‘grease’, 222, 238
tshum³¹ ‘mortar’, 57, 64
?tsu²⁶ ‘boil’, 64, 229, 370
?tsu²⁶ ‘build, erect’, 64, 229
?tsup²⁶ ‘clench’, 64
tsu²¹ ‘back up’, 68
?ŋŋ- or /ong⁵⁵/ [ʔŋŋ⁵⁵] ‘win’, 68
?ut⁵⁵ ‘mouth’, 66
-wa ‘father’, 226

Bailang:

仍 *nəŋ > *nij* 心 ‘heart’, 247
 息 *sək > *sik* 木 ‘wood’, 247

Bola (Pola, Bela):

*au³⁵ ‘pot’, 68

Bumthap:

grok ‘six’, 227
grut ‘warm’, 227
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- and Chi. 芋 *hjuH* < **gʷs(r)as* 'taro', 79, 220, 260, 267, 277, 283
- and Tib. *gro-ma* 'Potentilla anserina', 220, 260, 267, 283

wā 'cotton', 68*wāh* 'bamboo', 80, 227, 229, 276, 283*wak* 'pig', 223, 287, 288, 371*wan* 'enter', 34, 79, 236, 261, 277, 284, 289*wan*² 'spin':

- and Chi. 紡 *phjangX* < **pʰajŋ*² 'spin', 230, 277, 285, 290
- and Tib. *phañ* 'spindle', 80, 230, 285, 290

wanh 'round, be circular':

- and Chi. 圍 *hwjw* < **[g]ʷə[j]* 'surround', 255
- and Chi. 回 *hwan* < **gʷs*'ar 'turn around', 79, 229, 268
- and diachronic mysteries, 82
- and Tib. *sgor-mo* 'round', 72, 79, 220, 229, 260, 268

wap 'hatch', 68*wam* 'bear':

- and Chi. 熊 *hjuwng* < **gʷəm* 'bear', 20, 34, 79, 236, 248, 261, 277, 287
- and Kur. *wam*, 34, 261
- and Mon. *won*³⁵, 20, 34, 236, 248, 261, 287
- and Tib. *dom*, 20, 34, 236, 248, 261, 287

yā 'right', 20, 216*yok* 'person':

- and Lashi *ju*^{2H}, 61
- and Xiandao *ju*^{2H}, 61

yhak 'entwine', 67n14*yhañh* 'compete', 67n14*a-kui* 'elder brother', 77, 239*a-cā* 'food', 57. See also Bur. *cāh* 'eat'*a-nhac* 'kernel':

- and Atsi *nik*^s 'heart', 60
- and WBur. *nha-lumh* 'heart', 60n10

a-nhac 'year', 70, 217, 238, 246*a-phuih* 'value, worth', 67*a-maññ* 'name':

- and Atsi *mij*³¹, 60
- and Chi. 名 *mijeng* < **C. meŋ* 'name', 71
- and Tib. *myin*, 70

See also Bur. *maññ* 'name'*a-re-prāh* 'skin', 198n90*a-rip* 'shadow', 79, 243, 255*a-sak* 'life, breath':

- and Achang -*sə*², 58
- and Chi. 息 *sik* < **sək* 'breathe', 43, 56, 66, 234

and Lashi *ṣakH*, 66, 234and Lashi *sə*^{2H}, 56, 58, 66, 234and Tib. *srog* 'life', 43, 66, 234and Xiandao -*sə*², 58*a-saññh* 'liver':

- and Achang -*ṣəŋH*, Xiandao -*ṣuŋH*, 56, 60

and Atsi *seŋ*¹¹, 60, 70and Chi. 辛 *sin* < **sin* 'pungent: painful', 17–18, 234, 249and Lashi *səŋH* 'liver', 56, 65, 234

- and Tib. *mčhin*, 17–18, 56, 65, 70, 234, 249
 and Xiandao *-suyH*, Lashi *səŋH*, 56
a-wa ‘opening’, 33, 79, 220, 260, 267
ac ‘squeeze, throttle’:
 and Chi. 縊 *‘ejH* < *q^hik-s ‘strangle’.,
 16, 32, 78, 222, 237, 267, 288
 and Tib. *hkhvig* ‘tie, fasten, suffocate’,
 16, 32, 70, 222, 232, 237, 267, 288
ap ‘needle’, 32, 74, 78, 222, 255, 267, 287
ip ‘sleep’, 67
im ‘house; home’:
 and Chi. 窠 *‘imH* < *q(r)[ə]ms
 ‘subterranean room’, 32, 78, 222,
 243, 267
 and Lashi *‘jom*, 67
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 and Tib. *khym* ‘home’, 32, 222, 243, 267
u ‘egg’, 67
ū ‘intestine’, 67
ūh ‘head’, 67
uih ‘pot’, 68
 and Lashi *-ouH*, 68
oñ ‘win’, 68:
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- Büyāng 布央:
 /ma 0 lok 8/ ‘deer’, 149, 172
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yoh ‘yesterday’, 14n12
yo ‘rainbow’, 14n12
yu- ‘dissolve, melt’, 14n12
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 Roman order):
 鸞 *‘aewk* < *q^hrūk (14–03h) (‘a kind of
 bird’), 149
 白 *baek* < *b^hrak (02–38a) ‘white’, 108f, 159
 步 *buH* < *mā-b^ha-s (01–65a) ‘step’, 169
 抱 *bawX* < *[m-p]‘u? (13–72j) ‘carry in the
 arms’, 148, 152
 貧 *bin* < *(Cə)[b]rə[n] (33–30v) ‘poor’, 39,
 196–206, 207, 241, 253
 平 *bjæŋ* < *m.breŋ (09–26a) ‘make
 even’, 149, 152
 縛 *bjak* < *bak (01–67m) ‘bind (v.)’, 159
 房 *bjang* < *Cə-N-paŋ (03–57γ) ‘side-
 room’, 224–5, 263, 285, 290
 罷疲 *bje* < *[b]raj (18–17a, 18–16d)
 ‘fatigue’, 23, 205, 215, 220, 221, 252,
 255, 262, 266, 285
 別 *bjet* < *N-pret (20–15a) ‘divide, separate’:
 Bur. *prat* ‘be cut in two, cut off’, 31, 73,
 237, 248
 and Tib. *√rad* (pres. *hṛad*) ‘scratch (v.)’,
 31, 237, 248
 庫 *bjieX* < *N-pe? (08–4m) ‘low, short’,
 162
 吠 *bjojH* < *Cə.bo[t]-s (21–36a) ‘bark (v.)’,
 164
 躡 *bjon* < *bar (24–54l) ‘paw’, 38, 207,
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 蕃 *bjon* < *[b]ar (24–54m) ‘ample,
 flourish’, 38, 207, 253
 縫 *bjowŋH* < *C.[b](r)oŋ-s (12–25x)
 ‘seam’, 152
 夫 *bju* < *ba (01–66a) ‘this, that’, 227, 263,
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 焚 *bjun* < *bən (33–34a) ‘burn’:
 and Bur. *pa* ‘shine’, 74, 221, 254, 287
 and Tib. *hbar* ‘burn, blaze’, 221, 254,
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 步 *bjuwH* < *mā-b^ha-s (01–65a) ‘step,
 stride’, 169
 婦 *bjuwX* < *mā.bə (04–63a) ‘woman,
 wife’, 41, 169, 203, 245
 父 *bjuX* < *N-pa? (01–67a) ‘father’, 226,
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 戡 *khom* < *k^hum (38–11q) ‘vanquish,
 kill’, 35, 231, 241, 248, 271
 彈 *dan* < *Cə.d^har (24–21n) ‘shoot pellets’,
 165, 168–9
 毒 **dawH* < *m-[d]‘uk-s (14–05a) ‘to
 poison (v.)’, 152
 道 *dawX* < *[kə.l]‘u? (13–39/1048a) ‘way’,
 170–1
 甜 *dem* < *l^hem (36–16-) ‘sweet’, 14,
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 田 *den* < *l^hiŋ (32–19a) ‘field’, 13, 14, 216,
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 讎 *dep* < *l^hap (21–23g) ‘garrulous’, 216,
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 牒 *dep* < *l^hep (35–10g) ‘records’, 237
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 地 *dijH* < *l^hej-s (18–09b) ‘earth, ground’:
 possible reconstruction as *l^his, 14n15
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 and OBur. *mliy* ‘earth, ground’, 14n14,
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 袋 *dojH* < *Cə.l^hək-s (05–16-) ‘bag’, 165, 169
 毒 *dowk* < *d^huk (14–05a) ‘poison’:
 and Chi. 毒 **dawH* < *m-[d]‘uk-s
 (14–05a) ‘to poison (v.)’, 149, 152
 and Tib. *dug* ‘poison’, 35, 41, 61, 201,
 203, 220, 240, 271, 289
 and WBur. *tok* ‘be toxic’, 61, 81, 201,
 203, 220, 240, 289

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- 澤 *draek* < *fʳak (02–25o) ‘marsh, moisture’, 14, 39, 202
- 撞 *draewng* < *[N-tʰ]roŋ (12–08f) ‘strike’, 36, 197, 210, 225, 273
- 直 *drik* < *N-trək (05–12a) ‘straight’, 146, 163
- 塵 *drin* < *[d]rə[n] (33–17a) ‘dust’, 39, 197,
- 袋 *drje* < *Cə.lraj (18–09t) ‘pool (n.)’, 116, 165
- 纏 *drjen* < *[d]ra[n] (24–28c) ‘bind, wind’, 206, 249, 262, 266
- 紵 *drjoX* < *mə-draʔ (01–39e) ‘ramie; flax’, 170
- 住 *drjuH* < *dro(?)s (10–19g) ‘stop (v.)’: and Tib. *hdug* ‘remain, stay’, 220, 245, 272 and VN *dō*, 159
- 柱 *drjuX* < *m-troʔ (10–19h) ‘pillar’, 152, 163,
- 椎 *drwij* < *k.dzruj (28–11r) ‘hammer’, 156
- 渡 *duH* < *dʰak-s (02–16b) ‘ford (v.)’, 39, 202, 220, 245, 263, 284
- 頭 *duw* < *[m-tʰ]o (10–12a) ‘head (body part)’, 148, 152
- 脰 *duwH* < *kə.dʰok-s (10–16d) ‘neck’, 156, 171
- 讀 *duwk* < *C.fok (14–14m) ‘say, read aloud’, 212n23, 43
- 肚 *duX* < *m.tʰaʔ (01–36-) ‘belly’, 148, 161
- 團 *dwan* < *C[dʰ]on (25–25n) ‘round, plenty’, 152
- 斷 *dwanX* < *N-fʰo[n]ʔ (25–22a) ‘be cut in two’, 145, 146
- 奪 *dwat* < *Cə.lʰot (22–09a) ‘seize’, 165
- 隕 *dwoj* < *N-rʰuj (28–13a) ‘exhausted’, 146
- 純 *dwon* < *dʰun (34–17n) ‘cover, wrap’, 227, 254
- 鈍 *dwonH* < *dʰuns (34–17i) ‘dull’: and Chi. 蠢 *tsyhwinX* < *tʰunʔ (34–19c) ‘stupid’, 223n7, 35, 241, 254, 271 and Chi. 頓 *twonH* < *tʰun-s (34–17j) ‘dull’, 241, 254 and Tib. *rtul* ‘blunt, dull, stupid’, 35, 241, 254, 271
- 殘 *dzan* < *[dz]ʰa[n] (24–41c) ‘injure, remnant’, 27, 31, 221, 249, 264, 265, 286
- 慈 *dzi* < *dzə (04–49j) ‘kind’: and Bur. *cā* ‘love’, 40, 75, 221, 242, 286 and Tangut. *dzuʼ*, 242n17 and OTib. *mdzah*, 30, 40, 221, 242, 265, 286
- 字 *dziH* < *mə-dzə(?)s (04–47n) ‘breed, love (v.); character’, 170
- 尽 *dzinX* < *Cə.dzinʔ (32–32a) ‘exhaust (v.)’, 27, 221, 238
- 晴 *dzjeng* < *N-tsʰeŋ (09–25-) ‘to clear (of weather)’, 146, 163
- 咀 *dzoX* < *dzaʔ (01–57u) ‘eat’: and Bur. *cāh*, 27, 57, 74, 204, 221, 242, 244, 276 and Japhug Rgy. *ndza*, 27, 242, 283 and Kur. *zu*, 283 and Lashi *tsə*, 57, 204, 221, 244 and Tan. 嘴 *dzjiʼ*, 242n17 and Tib. *√za* (pres. *za*), 27, 57, 242, 264, 283
- 絕 *dzjwet* < *[dz]ot (22–16a) ‘cut off, break off’: and Tib. *čhod* ‘be sharp’, 35, 78, 209, 226, 239, 248 and WBur. *chwai* ‘pluck’, 78, 209, 226, 239, 248
- 賊 *dzok* < *k.dzʰək (05–23a) ‘bandit’: and Lakkia /kjak 8/, 163 and pMīn *dzh-, 163 and Rục *kəcak*, 109, 157, 162 and Tib. *byag/jag* ‘robbery’, 28n35
- 蠶 *dzom* < *C.[dz]ʰ[ə]m (38–28i) ‘silkworm’, 152
- 牀 *dzrjang* < *k.dzran (03–49r) ‘bed’, 156, 157,
- 社 *dzyaeX* < *m-tʰAʔ (01–36j) ‘sacrifice to the spirit of the soil’, 148, 163
- 碩 *dzyek*, and Ode 209, 183, 184
- 繕 *dzyenH* < *genʔs (24–25f) ‘repair’, 31, 237, 249
- 單于 *dzyen hju* < *dar-gʷ(r)a (24–21a, 01–23a) (title for foreigner dignitaries), 119
- 折 *dzyet* < *N-tet (21–19a) ‘bend’ (v.i.), 145, 146
- 視 *dzyijX* < *gijʔ (26–07h) ‘look, see’: and the *xiěshēng* series based on 示 *zyijH*, 132 and 示 *zyijH* < *s.g- (26–07a) ‘show’, 144n58, 142, 144
- 腎 *dzyinX* < *Cə.[g]i[n]ʔ (32–01h) ‘kidney’, 165
- 市 *dzyiX* < *C.[d]əʔ ‘market (n.)’, 152
- 樹 *dzyuH* < *m-toʔ-s (10–22j) ‘tree’, 152
- 樹 *dzyuX* < *m-toʔ (10–22j) ‘plant (v.); place upright (volitional)’, 148
- 垂 *dzywe* < *[d]oj (19–17a) ‘hang down’: and Bur. *twai* ‘(be) hanging, (be) attached’, 250, 270 and Tib. *hjol* ‘hang down’, 36, 209, 227, 239 and WBur. *chwai* ‘hang down’, 78, 209, 239
- 縊 *ejH* < *qʰik-s (08–05g) ‘strangle’:

- and Bur. *ac* ‘squeeze, throttle’, 16, 32, 78, 222, 237, 267, 288
 and Tib. *hkhvig* ‘tie, fasten, suffocate’, 13, 16, 32, 195, 222, 237, 267, 288
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- 忌 *giH* < *m-k(r)ək-s (04–05d) ‘warn, avoid’, 148, 152
- 極 *gik* < *[g](r)ək (05–04e) ‘ridge of roof, highest point, centre’, 39, 196, 202, 246
- 競 *gjaengH* < *m-kraŋʔ-s (03-09a) ‘strive, compete’, 123, 161
- 騎 *gie* < *C.g(r)aj (18–01u) ‘straddle; ride’, 152
- 橋 *gjew* < *[g](r)aw (16–03) ‘bridge’, 158
 芹 *gjin* < *C.[g]ær, (33–02f) ‘cress’, 152
 近 *gjinH* < *s.gʷrut ‘be near to (v.t.)’, 157, 161, 162
- 局 *gjowk* < *N-kʰ(r)ok ‘bent, curved’, 173
 郡 *gjunH* < *gurs (34–12g) ‘district’, 35, 38, 207, 226, 241, 253, 271
- 舅 *gjwX* < *[g](r)uʔ (04–16b) ‘maternal uncle’:
 and Tib. *khu* ‘paternal uncle’, 77n20, 34, 77, 196, 208, 226, 239, 270
 and VN *câu*, 158
 and WBur. *akui* ‘elder brother’, 77, 239
- 掘 *gjwot* < *[g]ot (31–16s) ‘dig out (earth)’, 36, 209, 226, 239, 256
- 荷 *ha* < *[g]ʷaj (18–01a) ‘carry’:
 and Bur. *ka* ‘saddle-frame’, 32, 33, 75, 226, 266, 268, 277, 285
 and Tib. *khal* ‘burden, load’, 32
- 荷 *ha* < *[g]ʷaj (18–01o) ‘carry’:
 and Bur. *ka* ‘saddle-frame’, 72, 205, 251
 and Chi. 甜 *kaeH* < *kraɣ-s (18–04e) ‘yoke (v.)’, 72, 205, 251
 and Tib. *khal* ‘burden, load (n.)’, 33, 72, 75, 205, 226, 251, 266, 268, 285
- 河 *ha* < *C.[g]ʷaj (18–01g) ‘river’, 32, 33, 205, 219, 251, 262, 266, 269, 285
 and a word meaning ‘adze’, 32n44
- 下 *haeH* < *m.gʷraʔ-s (01–14a) ‘descend’, 149, 152, 163
- 行 *haeng* < *Ca.gʷraŋ (03-14a) ‘walk (v.)’, 33, 226, 268, 285, 289
- 狹 *heap* < *N-kʰrep (35–03e) ‘narrow’, 146
- 鸞 *ʷhaewk* < *m-qʷruk (14–03h) (‘a kind of bird’), 149
- 巷 *haewngH* < *C.[g]ʷroŋ-s ‘lane, street’, 153, 209
- 夏 *haeX* < *[g]ʷraʔ (01–15a) ‘great’, 147
 遐 *hae* < *gʷra (01–12j) ‘distant’, 219, 273, 277, 283
- 捍 *hanH* < *m-kʰars (24–01i) ‘shield (n.), ward off’, 38, 72, 207, 252–3, 266
- 扞 *hanH* < *m-kʰars (24–01q) ‘fend off’, 38,
- 旱 *hanX* < *[g]ʷa[r]ʔ (24–01s) ‘drought’, 222n5, 255
- 號 *haw* < *C.gʷaw (16–08q) ‘call out’, 21
 嗥 *haw* < *gʷu (13–01d) ‘roar, wail’:
 and Tib. *nu* ‘weep’, 35, 76, 208, 235, 239, 271
 and WBur. *nui* ‘weep’, 76, 239
- 狹 *heap* < *N-kʰrep (35–03e) ‘narrow’, 146, 163
- 洽 *heap* < *[g]ʷr[o]p (37–01m) ‘accord with’:
 and the correspondence of Tib. *-u-* to Chi. *-o-*, 34, 208, 273
 and Tib. *hgrub* ‘accomplish, achieve’, 36, 210, 220
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- 蟹 *heaX* < *m.kʰreʔ (07–07d) ‘crab’, 152
 見 *henH* < *N-[k]ʷen-s (23–02) ‘appear’, 145, 146
- 于 *hju* < *Gʷ(r)a (01–23a) ‘go’, 20, 33, 220, 260, 267, 283
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 See also Chinese, 護于 *huH hju* < *[g]ʷak-s Gʷ(r)a (02–08k, 01–23a) ‘great ruler’
- 芋 *hjuH* < *Gʷ(r)aʷ (01–23o) ‘taro’:
 and Bur. *wa* ‘elephant foot yam’, 79, 220, 260, 267, 277, 283
 and Tib. *gro-ma* ‘Potentilla anserina’, 20, 220, 260, 267, 283
- 運 *hjunH* < *[g]ʷər-s (23–13d) ‘move’, 38, 195, 207, 240, 252
- 友 *hjuwX* < *Gʷəʔ (04–17e) ‘friend’, 41, 203, 220, 245, 260, 267
- 右 *hjuwH* < *m-qʷəʔ-s ~ *m-qʷəʔ, and *hjuwX* < *Gʷəʔ (04–17i) ‘right hand’, 20, 216
- 熊 *hjuwng* < *Gʷəʷm (38–06a) ‘bear’:
 and Bur. *wam* ‘bear’, 20, 34, 79, 236, 248, 261, 277, 287
 and Kur. *wam*, Mon. *won*⁸⁵ ‘bear’, 20, 34, 261
 and Tib. *dom* ‘bear’, 20, 34, 236, 248, 261, 287
- 雨 *hjuX* < *C.Gʷ(r)aʔ (01–26a) ‘rain’, 79
 羽 *hjuX* < *Gʷ(r)aʔ (01–24a) ‘feather’, 20, 196, 203, 220, 244, 260, 268, 371
- 瑩 *hjaewng* < *[g]ʷreŋ (09-09k) ‘luster’, 175n82
- 永 *hjaewngX* < *Gʷraŋʔ (03–27a) ‘long (time)’, 262, 285
- 往 *hjangX* < *Gʷaŋʔ (03–26k) ‘go’:

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- and Bur. *wan* 'enter', 34, 79, 236, 261, 277, 284, 289
 and Tib. *hoñ/yoñ* 'come', 20, 34, 79, 236, 261, 284, 289
 違 *hwij* < **[g]^wə[j]* (28–05d) 'go against', 206, 220, 252, 260, 268
 圍 *hwij* < **[g]^wə[j]* (28–05g) 'surround', 255
 胃 *hwijH* < **g^wət-s* (31–05a) 'stomach', 20, 33, 220, 260, 267
 園 *hwon* < **C.g^wa[n]* (25–15b) 'garden', 153
 援 *hwon* < **g^wa[n]* (25–14e) 'pull up', 38, 207, 253, 260, 268
 越 *hwot* < **g^wat* (22–05e) 'pass over', 20, 261, 268
 含 *hom* < **Cə-m-k^oəm* (38–031) 'hold in the mouth', 195, 225, 248, 264, 269, 287
 合 *hop* < **m-k^oop* (37–01a) 'come together; bring together', 43, 148, 151, 152
 迨 *hop* < **k^oop* (37–01e) 'reach, attain, go to', 43
 胡 *hu* < **g^ha* (01–01a) 'how, what', 219, 261, 269, 283
 蝴蝶 *hu-dep* < **g^ha-l^oep* (35–10h) 'butterfly', 237
 護 *huH* < **g^waks* (02–08k) 'guard, protect', 33, 260, 288
 護于 *huH hju* < **[g]^wak-s *g^w(r)a* (02–08k, 01–23a) 'great ruler', 119
 後 *huwX* < **[g]^h(r)o?* (10–08a) 'behind', 41, 196, 203, 245
 候 *huwH* < **[g]^h(r)os* (10-06e) 'wait upon', 219, 256, 272
 厚 *huX* < **Cə.[g]^h(r)o?* (10-07a) 'thick', 165
 廡 *huX* < **m-q^wa?* (01–06e) ('a bird resembling a quail'), 80
 禾 *hwa* < **[g]^hoj* (19–07a) 'growing grain', 37, 250, 260
 樺 *hwaeH* < **C.[g]^wras* (01–27-) 'birch', 220, 267, 270
 話 *hwaejH* < **g^wr^hat-s* (22–01o) 'speak; words', 185, 260
 亘 *hwan* < **g^war* (25–12a) 'turn around': Bur. *wanḥ* 'round, be circular', 79, 229, 268 and Tib. *sgor-mo* 'round', 229, 268
 皇 *hwang* < **g^wəŋ* (03–24a) 'sovereign', 20, 33, 260, 267
 緩 *hwanX* < **[g]^wə[ŋ]*? (25–14i) 'slack; slow', 206, 250, 260, 268
 活 *hwat* < **g^wat* (22–01m), 185
 畫 *hweaH* < **C.g^wrek-s* (08–09a) 'drawing (n.)', 153
 壞 *hweajH* < **N-[k]^hruj-s* (28–06d) 'be destroyed', 145, 146
 壞 *hweajH* < **N-[k]^hruj-s* (28–06d) 'destroy, ruin', 206, 252
 滑 *hwat* < **Nə-g^hrut* (31–01e) 'slippery', 169
 蔭 *imH* < **q(r)əm-s* (38–03b) 'shade', 79, 170, 243, 255
 窰 *imH* < **q(r)[ə]ms* (38–07-) 'subterranean room': and Bur. *im* 'house; home', 32, 78, 222, 243, 267 and Tib. *khyim* 'home', 222, 243, 267
 膺 *ing* < **q(r)əŋ* 'breast(plate); oppose', 74, 79, 215, 264, 287
 椅 *jeX* < **Cə.q(r)aj?* 'chair', 172
 歌 *ka* < **k^haj* (18–01q) 'sing, song', 72, 75, 205, 251
 加 *kae* < **k^hraj* (18-04a) 'add', 71n15 and Bur. *krāh* 'interval', 32, 72, 75, 205, 251, 268, 285 and Tib. *bkral* 'appoint', 205, 251 and Tib. *khral* 'tax (n.)', 32, 71, 72, 205, 251, 261, 266, 268, 285
 嘉 *kae* < **k^hraj* (18–04g) 'excellent', 75, 204, 250, 269
 甜 *kaeH* < **kraj-s* (18–04e) 'yoke (v)': and Bur. *ka* 'saddle-frame', 72, 75, 205 and Chi. 荷 *ha* < **[g]^haj* (18–01o) 'carry', 72, 75, 205
 佳 *kaeH* < **kraj-s* (18–04c) 'stand, support', 72, 75, 205, 251
 嫁 *kaeH* < **s.k^hra-s* (01–11e) 'marry', 160,
 梗 *kaengX* < **k^hraŋ?* (03–11e) 'suffering', 80, 214, 261, 268–85, 289
 加 *kaep* < **C.k^hrep* (35–03f) 'chopsticks', 157
 甲 *kaep* < **k^hrap* (35–02a) 'shell': and Atsi **k^hap^s* 'scales', 63, 221, 229 and Bur. *khyap* 'scales', 63, 221, 229, 247, 286 and Tib. *kh^hrab* 'armor, shield, mail', 30, 63, 221, 229, 247, 261, 268, 286
 教 *kaew* < **s.[k]^hraw* (16–07i) 'teach', 155
 攪 *kaewX* < **k^hru?* (14–03i) 'disturb', 35, 221, 240
 角 *kaewk* < **C.k^hrok* (11–02a) 'horn, corner', 77, 81, 202, 236, 246, 272
 覺 *kaewk* < **k^hruk* (14–03f) 'awake': and Chi. 攪 *kaewX* < **k^hru?* (14–03i) 'disturb', 35, 221, 240 and Tib. *dkrug* 'stir, agitate, disturb', 35, 209, 221, 240, 271, 288

- as type A syllable *-aewk*, 278
 江 *kaewng* < *k^hroŋ (12–01v) ‘(Yangzi) river’, 77n21
 攪 *kaewX* < *k^hruʔ (14–03i) ‘disturb’, 35, 221, 240
 假 *kaeX* < *Cə.k^hraʔ (01–12c) ‘borrow; false’, 165
 該 *kajH* < *k^haps (35–01q) ‘thatch, cover (v.)’, 33, 221, 247, 262, 269, 286
 胳 *kak* < *[C.q]ʔak ‘armpit’, 122
 干 *kan* < *k^har (24–01a) ‘protect, guard’, 266n3, 38, 72, 207, 252–3
 竿 *kan* < *k^har (24–01k) ‘pole, rod’, 31, 33, 206, 221, 248, 261, 266, 268, 285
 乾 *kan* < *k^har (24–02c) ‘dry’:
 and Atsi *ʔkan*¹¹, 222
 and Bur. *khanh* ‘dried up’, 222, 255, 278, 286
 and Chi. 旱 *hanX* < *[g]ʔa[r]ʔ (24–01s) ‘drought’, 222n5, 255
 肝 *kan* < *s.k^har (24–01i) ‘liver’:
 Bur. *khāh* ‘loins, waist’, 33, 38, 72, 207, 221, 253, 266, 268, 277, 285
 and dialect forms suggesting pre-initial *s-, 155
 and Ruc *təka:n*, 109, 157, 160
 and Tib. *mخال* ‘kidney, reins’, 33, 72, 207, 221, 253, 266, 268, 285
 and VN *gan*, 160
 岡 *kang* < *k^haŋ (03–02a) ‘hill’, 30, 33, 74, 228, 262, 269, 277, 284, 289
 膏 *kaw* < *Cə.k^haw (16–01i) ‘lard (n.)’, 164
 芥 *keajH* < *k^hr[e]ʔi-s (20–02j) ‘mustard plant’, 151, 158
 誡 *keajH* < *k^hrə (04–03c) ‘warn’, 148
 夾 *keap* < *C.k^hrəp (35–03a) ‘press between’, 146
 見 *kenH* < *k^hen-s (23–01a) ‘see’, 43
 耀 *ket* < *k^hik (29–01p) ‘tie, knot’, 32n46, 78n23, 222n6, 267n4
 殼 *khaewk* < *k^hʔrok (11–03s) ‘hollow shell, hollow’, 36, 63, 197, 200, 209, 228, 230, 238
 渴 *khat* < *Nə-[k]ʔat ‘thirsty’ (21–01j), 170, 172
 可 *khaX* < *k^hʔa[j]ʔ (18–01a) ‘be able’:
 and Tib. *khel* ‘be loaded, ’, 205
 and Tib. *ʔkal* (pres. *hgel*) ‘load’, 205, 251
 輕 *kheang* < *k^hrəŋ (09–01q) ‘shank bone’, 138, 148
 契 *kejH* < *k^hʔet-s (20–01b) ‘script notches’, 129
 泣 *khip* < *k-rəp (37–15h) ‘weep’, 219, 247, 264, 268, 287
 遣 *khjenX* < *k^hʔe[n]ʔ (23–04b) ‘send away’, 38, 207, 252
 气 *khjijH* < *C.q^həp-s (30–01a) ‘(inhaled thing:) breath, air, vapours’, 151
 貴 *khjijH* < *kuj-s (31–02b) ‘precious; expensive’, 158
 曲 *khjowk* < *k^h(r)ok (11–04a) ‘bent, crooked’, 36, 77, 209, 231, 272, 288
 軀 *khju* < *k^ho (10–10g) ‘body’, 229, 230, 272
 開 *khøj* < *Nə-[k]ʔəj ‘to open (v.i.)’, 170, 172
 寇 *khuwH* < *k^hʔ(r)os (10–04a) ‘steal’, 36, 63, 76, 77, 209, 230, 272, 276
 空 *khuwng* < *k^hʔrok (12–01h) ‘hollow, empty, hole’, 78n22, 36, 210, 230, 273
 孔 *khuwngX* < *k^hoŋʔ (12–02a) ‘empty’, 78n22, 36, 78, 210, 230, 273
 苦 *khux* < *k^hʔaʔ (01–02u) ‘bitter’:
 and Bur. *khāh*, 33, 203, 230, 244, 268, 275, 276, 283
 and Lashi *kho:H*, 275
 and pMin **kh-*, 151
 and Tib. *kha*, 33, 203, 230, 244, 261, 268, 275, 283
 曠 *khwangH* < *k^h-ŋʔəŋ-s (03–23o) ‘desolate, waste’, 150
 犬 *khwenX* < *q^hʔenʔ (32–04a) ‘dog’, 19, 63, 230, 276
 缺 *khwet* < *Nə-[k]ʔʔet ‘to break; defective’, 170, 172
 金 *kim* (38–03a) ‘metal, bronze’, 104, 158
 劍 *kjaemh* < *skr[aj]ms (36–06i) ‘sword’, 109, 157, 161
 鏡 *kjaengH* < *C-qraŋʔ-s ‘mirror’, 161
 敲 *kje* < *kraj (18–01d) ‘slanting’, 75, 204, 250, 269
 掎 *kjeX* < *krajʔ (18–01y) ‘pull aside’, 75, 204, 250, 269
 幾 *kjijX* < *kəjʔ (27–04a) ‘few; how many’, 30, 37, 40, 224, 247, 251, 264, 270
 筋 *kjin* < *C-[k]ə[n] (33–03a) ‘sinew’, 151, 161
 吉 *kjit* < *C.qit (29–01a) ‘auspicious’, 63, 79, 228, 267
 鞬 *kjon* < *ka[r]ʔ (24–08c) ‘quiver’, 38, 207, 253
 軍 *kjun* < *k^hʔər (34–13a) ‘army’, 38, 196, 208, 241, 254
 鳩 *kjuw* < *k^h(r)uk (14–12n) ‘(a kind of bird)’, 34, 208, 235, 239, 271
 九 *kjuwX* < *k^hjuʔ (04–12a) ‘nine’, 34, 76, 208, 224, 239, 270
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- 攫 *kjwak* < *Cəq^wak (02–07b) ‘snatch away, seize’:
and Tib. \sqrt{kag} (pres. *hgog*) ‘block’, 235
and Tib. \sqrt{kog} (pres. *hgog*) ‘take forcibly’, 20, 33, 222, 260, 262, 268, 283, 288
- 歸 *kjwɨj* < *[k]^wəj (28–02a) ‘return (v.)’, 222, 260, 268
- 蕨 *kjwot* < *Cə.kot (22–02d) ‘bracken’, 165n77, 107, 165
- 根 *kon* < *[k]^wə[n] (33–01b) ‘root, trunk’, 38, 196, 207, 241, 253
- 頤 *konX* < *[k]^wə[n]ʔ (33–01-) ‘neck’, 39, 208, 255
- 菇 *ku* < *mə.k^ʰa (01–01-) ‘mushroom’, 170
- 谷 *kuwk* < *C.q^ʰok (11–14a) ‘valley’, 77, 221, 272
- 穀 *kuwk* < *k^ʰok (11–03i) ‘grain’, 77, 272, 288
- 狗 *kuwX* < *Cə.k^ʰroʔ (10–0ld) ‘dog’, 165
- 牯 *kuX* < *Cə.k^wəʔ (01–0l-) ‘male (bovine)’, 165
- 蝸 *kwaē* < *k^ʰroj (19–04c) ‘snail’, 73, 205, 252
- 信 *kwaenH* < *kr^ʰons (25–011) ‘servant, groom’:
and OBur. *kjo,n* ‘slave’, 78, 209, 224, 239, 255
and Tib. *khol* ‘servant’, 36, 209, 224, 255
- 涓 *kwanH* < *k^ʰons (25–01f) ‘bubble’, 36, 209, 221, 239, 255
- 裹 *kwaX* < *s.^w[k]^ʰor[r]ʔ (19–02d) ‘wrap (v.)’, 36, 206, 209, 221, 229, 249
- 壞 *kweajH* < *[k]^ʰruj-s (28–06d) ‘destroy, ruin’, 145, 146
- 昆 *kwon* < *k^ʰu[n] (04–17a) ‘elder brother’, 77n20
- 羅 *la* < *r^ʰaj (18–10a) ‘kind of net’, 37, 204, 250, 262, 266, 269, 285
- 落 *lak* < *kə.r^ʰak (02–01q^ʰ) ‘fall (v.)’, 94f, 166
- 藍 *lam* < *N-k.r^ʰam (35–05k) ‘indigo’, 215, 247, 264, 286
- 朗 *langX* < *k.r^ʰanʔ (03–43h) ‘bright’, 156, 157
- 伶 *lanH* < *[r]^ʰan-s (23–07l) ‘tear (v.)’, 215, 254
- 糲 *lat* < *(mə-Jr^ʰat (21–26g) ‘rice’, 28, 167, 214, 256, 263, 265, 285
- 謠 *law* < *m^ʰaws (16–21j) ‘sing, song’, 21
- 伶 *len* < *r^ʰiŋ (32–261) ‘love, pity’:
and Bur. *raññh* ‘love’, 215
Tib. *drin* ‘kindness’, 195, 215
- 力 *lik* < *k.rə (05–21a) ‘strength’, 156
- and *fānqié* onset speller chain *l*₂-, 94f, 93, 95
- 立 *lip* < *k.rəp (37–15a) ‘stand (v.)’, 15n18, 74, 80, 82, 195, 214, 221, 247, 264, 269, 287
- 涼 *ljang* < *C.raŋ (03–101) ‘cold’, 214, 261, 285, 289
- 量 *ljang* < *raŋ (03–45a):
and Bur. *khrāñ* ‘measure (v.)’, 214, 277, 284, 289
and Tib. *grāis* ‘number’, 214, 261, 284, 289
- 梁 *ljang* < *raŋ (03–46a) ‘beam; bridge’, 160
- 良 *ljang* < *raŋ (03–43a) ‘good’, 215, 263, 284, 289
- and *fānqié* onset speller chain *l*₂-, 94f, 93
- 籬 *lje* < *raŋ (18–11g) ‘hedge’, 37, 204, 215, 250, 260, 283
- 離 *ljeH* < *raŋ-s (18–11f) ‘reject’:
and *fānqié* onset speller chain *l*₂-, 93, 94f
and *lje* < *[r]aj (18–11f) ‘leave, distribute’, and Tib *ral* ‘rent, rift’, 205, 251
and VN *rây* ‘repudiate (one’s wife)’, 160
- 螻 *ljeH* < *mər- (21–26/0340f) ‘stinging insect’, 167
- 簾 *ljem* < *rem (36–07-) ‘bamboo curtain’, 160
- 連 *ljen* < *ran (24–32a) ‘connect, unite in a row’, 215, 254, 261, 265, 286
- 連 *ljen* < *renʔ (23–32a) ‘cohere’, 215, 243, 254
- 領 *ljengX* < *renʔ (09–19f) ‘neck’:
and Bur. *laññ-* ‘neck’, 18, 71, 216, 232, 236, 290
and Kur. *mikpa*, 232
and Tib. *mjin*, 12, 18, 232, 290
- 旅 *ljoX* < *raʔ (01–55a) ‘military unity’, 204, 215, 261, 283
- 呂 *ljoX* < *raʔ (01–54a) ‘spine; pitch-pipe’, 214, 261, 283
and *fānqié* onset speller chain *l*₂-, 94f, 93
- 流 *ljuw* < *[r]ju (13–46a) ‘flow’:
and Tib. *rgyu* ‘flow’, 23, 35, 208, 215, 240, 248, 271
and Chi. 游 *yuw* < *[N]-ru (13–33f) ‘float, swim’, 146
- 旒 *ljuw* < *[r]ju (13–46c) ‘pendants of a banner or cap’, 146
- 六 *ljuwk* < *k.ruk (14–16a) ‘six’, 35, 41, 61, 81, 202, 203, 227, 240, 271, 276, 289, 372
- 婪 *lom* < *[r]^ʰ[ə]m (38–18i) ‘covet’, 146

- 路 *luH* < *C₀r^hak-s (02-011) 'road', 167, 168, 184
- 漏 *luwH* < *[N₀r^h]ok-s (10-27a) 'leak (v.)', 171
- 鹿 *luwk* < *m₀r^hok (11-16a) 'deer', 149, 172
- 隴 *luwng*, and the 'dimidiated clusters' 隴
隴 *muwng luwng* 'indistinct' < *mr^h-, 197
- 卵 *lwanX* < *k.r^hor? (25-32a) 'egg', 36, 209, 236, 239
- 絛率 *lwit* < *rut (31-23a) 'rope', 23, 35, 215, 240, 248, 271
See also Chi. 率 *srwijH* < *s-rut-s (31-23a) 'lead (v.); commander'
- 律 *lwit* < *[r]ut (31-18c) 'pitch pipe':
and OBur. *ruiwĥ* 'bone', 76, 215, 240, 256
and Tib. *rus* 'bone', 76, 215, 240, 256
and Tib. *srid* 'government', 198n91
- 儻 *lwojH* < *[r]^huj-s (28-15p) 'exhausted', 146
- 莫 *maek/mak*:
and Ode 2.2, 175
and Ode 209, 183, 184
- 犛 *maew* < *mr^hu (04-36j) 'yak', 28
- 末 *mat* < *m^hat (21-37a) 'end of a branch', 30, 31, 214, 248, 263, 265, 285
as type A syllable -*wat*, 280
- 耄 *maew* < *m^haws (16-41h) 'very old', 21
- 買 *meaX* < *m^hraj? (07-33c) 'buy', 29n40
- 麇 *mej* < *m-ŋ^he (07-11o) 'fawn', 139, 149
- 眉 *mij* < *mr^hr (27-14a) 'eyebrow', 73, 195, 197, 207, 240, 253
- 名 *mijeng* < *C. meŋ (09-31a) 'name':
and Bur. *maññ* 'name', 16, 71, 214, 232, 237, 290
and Kur. *mej* 'name', 13
and Kur. *ngomeng*, 232
and OTib. *myiñ* 'name', 12, 16, 214, 232, 237, 290
- 明 *mjaeng* < *mraŋ (03-68a) 'bright', 150
See also Middle Chinese initials, 明 *m-mjaeng* (*ming*) in the Index Rerum
- 亡 *mjang* < *maŋ (03-65a) 'flee; disappear; die', 105, 127, 142
- 靡 *mje* < *maj? (18-18h) 'not', 37, 232, 243, 256, 270
- 尾 *mjiX* < *[m]aj? (27-17a) 'tail', 76, 214, 242, 251
- 無 *mju* < *ma (01-69a) 'not have':
and Bur. *ma* 'not', 242, 263, 276, 283
and Tib. *ma* 'not', 214, 242, 263, 283
as a loose prefix, 122, 123
- 霧 *mjuH* < *k₀m(r)[o]ks (13-76t) 'fog, mist', 36, 210, 214, 273, 288
- 牧 *mjuwk* < *m₀m^hak (05-39a) 'herdsman', 29, 373
- 夢 *mjuwngH* < *C.m₀m^hŋ-s (06-23a) 'dream':
and Bur. *mak'imrañ-mak* 'dream (v.)', 74, 214, 259, 287, 290
and Tib. *mrañ-lam* 'dream', 214, 259, 265, 287, 290
- 舞 *mjuX* < *k.m(r)a? (01-69g) 'dance', 156, 157, 162
- 武 *mjuX* < *ma? (01-71a) 'military', 41, 203, 245
- 隴 *muwng*, and the 'dimidiated clusters' 隴
隴 *muwng luwng* 'indistinct', 197
- 母 *muwX* < *m₀a? (04-64a) 'mother', 30, 74, 214, 242, 265, 287
- 難 *nan* < *n^har (24-35d) 'difficult':
and Bur. *nā* 'hurt', 30, 31, 206, 213, 249, 286
and Tib. *mnaŋ* 'suffer, be tormented', 31n43, 30, 31, 206, 213, 249, 263, 266, 286
and VN *nàn* 'difficulty', 159
and the *xiéshēng* series built on 嘆 *than* (24-35), 117
- 曩 *naŋX* < *n^haŋ? (02-42k) 'in past times', 214, 256, 263, 284
- 腦 *nawX* < *n^hu? (16-28f) 'brain', 61, 81, 203, 240, 245
- 年 *nen* < *C.n^hiŋ (32-28a) 'harvest, year':
and Atsi. *nik^h*, 238, 246
and Bur. *ñhac* 'year', 70, 217, 238
and Kur. *ney* 'year', 13
and Tib. *na-niñ* 'last year', 13, 194, 217
- 溺 *newH* < *k₀n^hewk-s (17-09d) 'urine':
and Lakkia /kji w/ 5/, 110f
and Lakkia /kji B1/ 'urine', 172
- 俄 *nga* < *ŋ^haj (18-05h) 'slanting', 75, 204, 242, 250, 269
- 鵞 *nga* < *ŋ^ha[r] (18-05p) 'goose', 213, 256
- 雅 *ngaeX* < *N-c^hra? (01-34g) 'proper, refined', 147
- 譟 *ngak* < *ŋ^hak (02-14k) 'speak frankly', 142
- 愕 *ngak* < *N-q^hak (02-14h) 'scared', 147
- 罟 *ngak* < *ŋ^hak (02-14g) 'beat a drum', 40, 269
- 我 *ngaX* < *ŋ^haj? (18-05a) 'I, we':
and Tib. *ned* 'we', 37, 243, 256, 270
and Foochow /ŋuai3/, 187
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- 印 *ngek* < *m-c^hek (08-05f) ('a kind of aquatic bird'), 80
- 銀 *ngin* < *ŋra[n] (33-01k) 'silver', 39, 73, 196, 197, 207, 241, 253
- 莛 *ngjaek* < *ŋrak (02-14a) 'go against, reverse', 130n43, 130, 142

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- 儀 *ngje* < *ŋaj (18–05u) ‘proper demeanour; model’, 72, 117, 205, 251
- 義 *ngjeH* < *ŋaj-s (18–05r) ‘duty, justice’: and Bur. *nha* ‘distribute equally’, 72, 205, 251
and Chi. 儀 *ngje* < *ŋaj (18–05u) ‘proper demeanour; model’, 72, 205, 251
and Chi. 獻 *xjonH* < *ŋars (24–173) ‘offer, present, wise man’, 206, 251
and Tib. *snar* ‘intelligent, quick of apprehension’, 249n19, 206, 251
- 齧 *ngjin* < *ŋə[n] (33–01-) ‘gums’, 25, 196, 207, 232, 241, 243, 253
- 魚 *ngjo* < *ŋa (01–31a) ‘fish’:
and Bur. *nāh* ‘fish’, 25, 74, 213, 231, 276, 283
and Kur. *ŋa* ‘fish’, 231
and Tib. *ña* ‘fish’, 25, 213, 231, 262, 283
- 語 *ngjoX* < *ŋaʔ (01–29t) ‘speak’, 264, 41, 203, 244
- 臥 *ngwaH* < *ŋ[ʷ][o]j-s (19–11a) ‘lie down’, 43
- 偽 *ngjweH* < *ŋʷajs (19–06k) ‘false’, 20, 38, 213, 256, 261, 265, 269, 270, 371
- 吾 *ngu* < *ŋʷa (01–29f) ‘I, me’, 33, 213, 262, 269, 276, 283
- 五 *nguX* < *C.ŋʷaʔ (01–29a) ‘five’, 30, 203, 213, 244, 262, 269, 276, 283
- 無 *nemH* < *nʷim-s ‘think of’, 122, 123
- 內 *nop* < *nʷ[u]p (37–16e) ‘bring or send in’, 143n38
- 女 *nrjoX* < *nraʔ (01–56a) ‘woman’:
and Tib. *ñag-mo* ‘woman’, 41, 203, 245
and Tib. *ña-mo* ‘wife, housewife’, 213, 262, 283
- 內 *nwojH* < *nʷups (37–16e), 185
- 弱 *nyak* < *newk (17–09a) ‘soft, tender’, 21, 233
- 攘 *nyang* < *naŋ (03–42e) ‘oppose, disturb’, ‘drive, drive away’, 218, 277, 284, 289
- 讓 *nyangH* < *naŋs (03–42i) ‘yield’, 74, 218, 263, 277, 284, 289
- 邇 *nyeX* < *nəjʔ (07–20c) ‘near, draw near to’:
and Bur. *nīh* ‘near’, 76, 213, 242, 250, 270
and Tib. *ñe* ‘near’, 37, 76, 213, 250, 270
- 二 *nyiH* < *ni[j]s (29–28a) ‘two’:
and Bur. *nhac*, 16, 70, 218, 232, 238
and Dakpa *ñei*, 232
and Tib. ‘two’, 12, 16, 218, 232, 238
- 仁 *nyin* < *niŋ (32–28f) ‘kindness’:
and Atsi *ʔnik*⁵ ‘heart’, 238, 246
- and Bur. *nhac* ‘kernel’, 217, 232, 238, 246
and Kur. *ney* ‘heart’, 13
and 身 *syin* < *ŋiŋ (32–23a) ‘body; self’, 217, 238, 246
and Tib. *snīn* ‘heart’, 13, 16, 194, 217, 232, 238, 246
- 入 *nyip* < *nup (37–16a) ‘enter’:
and alterations between type A and type B words, 143n56
and Tib. *nub* ‘sink, set’, 35, 195, 213, 241, 247, 271
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- 日 *nyit* < *C.ni[k] (29–26a) ‘sun’:
and OBur. *niy* ‘sun’, 40, 81, 202, 213, 246
and Tib. *ñi-ma* ‘sun’, 40, 202, 213, 246
- 耳 *nyitX* < *nəʔ (04–40a) ‘ear’:
and Bur. *nāh* ‘ear’, 74, 214, 242, 286
and the correspondence of Chinese *a to Tangut -u, 242n31, 286
and Tib. *rna* ‘ear’, 30, 214, 242, 264, 286
xiéshēng series built on, 117
- 如 *nyo* < *na (01–56g) ‘as, like, if’, 117
Tib. *na* ‘if, when’, 213, 242, 263, 283
- 汝 *nyox* < *naʔ (01–56j) ‘you’, 204, 210, 214, 256, 277, 283
- 孺 *nyuH* < *nos (10–31d) ‘child, mild’, 36, 209, 213, 272
- 肉 *nyuwk* < *k.dzraŋ (14–17a) ‘meat, flesh’, 156
- 乳 *nyuX* < *noʔ (10–32a) ‘milk, nipple’, 36, 77, 209, 213, 272
- 訖 *pa* < *p(r)aj (18–16h) ‘one-sided, insincere words’, 37, 196, 205, 250, 270
- 波 *pa* < *pʷaj (18–16l) ‘wave’, 37, 40, 204, 225, 250, 263, 266, 270,
- 筍 *pae* < *brʷa (01–68-) ‘bamboo’, 227, 263, 276, 283
- 敗 *paejH* < *pʷra[t]s (21–35f) ‘defeat’, 145, 146
- 柏 *paek* < *pʷrak (02–37a) ‘hundred’:
and Li Fang-kuei’s law (Tibetan), 22, 371
and OBur. *ryā* ‘hundred’, 23, 39, 74, 81, 202, 215, 246, 262, 276, 284
and Tangut 𐵓 *jiw*², 242n17
and Tib. *brgya* ‘hundred’, 23, 39, 202, 246, 262, 284
- 板 *paenX* < *C.pʷranʔ (24–49j) ‘plank, board’:
and Bur. *phāh* ‘flat, level’, 224, 254, 266, 277, 286
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mjukV 'monkey', 61
-moH 'matter, affair', 68
mouV- 'mushroom', 68
mu:tV 'blow away', 68
ʔnapH 'mucus', 66, 67
ʔɲɔ:H 'branch, twig', 63
ɲja:uV 'green, blue, brown', 213, 229
ʔɲɔ:H 'borrow', 66
ʔɲoʔH 'bird', 66, 67, 80
ʔno 'nose', 66
ɔ:n 'win', 68
ʔpāH 'frog', 228, 252
ʔpɔ:H 'thin', 68
ʔpɔtH 'knee', 229
pə:kV 'shoot', 55
pha:ɲX 'open, clear (a blockage)', 65
pha:uH 'value, worth', 67
phɔ: 'mend, patch', 65
-phəH 'chaff, bran', 65
phjɔ:ʔH 'destroy, pull down', 55
phju: 'white', 65
-phoH 'male', 65, 223
pji:ʔV 'disappear, vanish', 55, 61
pji:tV 'be cut (off)', 55
-ʔpju 'procupine', 65
ʔsakH, 66, 234
ʔsam 'otter', 66, 199, 229, 235
ʔsa:tH 'kill', 66, 198, 234, 265
ʔsɔ:ʔH 'be bashful', 66
ʔsɔ:H 'walk', 66
sɔʔH, 'life, breath', 56, 58, 66, 234
ʂɔH 'flesh', 57, 58
ʂɔH 'fruit', 57, 58
sɔmH 'three', 56, 198, 199, 234, 241, 248
ʔsɔ 'search', 66
ʂe:i 'die', 57, 58
sə:kH 'tree', 56, 58, 65, 234
ʔse:ɲ 'long', 66, 67
ʔse:X 'know', 66, 234
səɲH '(finger)nail', 56, 249
səɲH 'liver', 56, 234
ʔsenH 'louse', 66
ʔsetH 'eight', 66
ʔso 'hundred', 68
ʂu:kH 'drink', 57, 58, 78, 199, 235, 239, 273, 288
su:tH 'wipe', 56, 58, 65, 233, 241, 248
ʔta:pH 'stick down', 68
ta:tV 'know (how to)', 56
ʔtɔ:H 'put in order', 65
ʔtɔ:X 'rise, stand up', 65
tɔ:ʔV 'go up, climb', 56

ʔtə:ɲH 'make taut, be tight', 68
tha:uH 'jab, poke, stab', 64
thu:kH 'lean on, support', 55, 61, 64
thu:ɲH 'pound', 61, 64
tʰu: 'thick', 64
thuʔH 'come out', 55, 65
ʔtsa:uH 'cough', 57, 64
tsɔ, 57, 204, 221, 244
tsɔmH 'pair', 57, 198n91, 273
ʔtsɔtH 'lungs', 57, 64, 67
tsəɲV 'drum', 57
tsha:pH 'repay', 57
tsha:uH 'dye', 57, 64, 222
tsha:uX 'block up, plug', 64
tsham 'hair', 64, 83, 236
tshatH 'deer', 55, 57, 64
tshɔ:ʔH 'connect, join', 55, 64
-tshə 'ten', 64, 83
tshoH 'salt', 64, 223
tshouʔs 'rule(r)', 57
tshu: 'be fat', 57, 64, 223, 255
tsu:ɲH 'guard, defend', 57, 61
ʔtu:H 'answer', 65, 67
ʔtu:n 'crow', 68
ʔu 'cotton', 68
ʔu 'intestine', 67
ʔwɔH 'head', 67
wɔ 'bamboo', 229
ʔwu:pH 'hatch', 68

Latin:

octō 'eight', 257
quīnque 'five', 12n10
septingentī 'seven hundred', 12n10
tingō 'moisten', 12n10

Maleng Brô:

kacienʔ 'bed', 156

Maleng Kha Pong:

kəcienʔ 2 'bed', 157
kəkəp 7 'spits for grilling', 157

Máonán 毛難:

/ndaŋ 5/ 'to weigh', 172

Maru (Lhaovo, Langsu):

man 'name', 373
tsə³¹ 'food', 57
ʔuk⁵⁵ 'pot', 68

Mien:

dzéʔ 'be cracked', 146
/goi l/ 'to open, as a flower, the heart', 170, 172

Mizo:

pariat 'eight', 258

Mtsho-sna Monpa, Wenlang dialect:

bij⁵⁵ma⁵⁵ 'fly, bee', 29

- gei*³⁵ ‘eight’, 24
*glam*³⁵ ‘fathom’, 18–19
*jo*³⁵ ‘milk’, 233n16
*mīa*³⁵ ‘arrow’, 18–19
*mū*³⁵ *ri*⁵⁵ ‘snake’, 29
*ple*⁵⁵ ‘exchange’, 29
*wom*³⁵ ‘bear’, 20, 34, 261
*zej*³⁵ ‘copper’, 28
- Old English:
dranc ‘drank’, 257n21
eahta ‘eight’, 257–8
- Old Turkic:
tarqan (a noble title), 119
- Pāli:
kāya ‘body’, 229
niraya ‘hell’, 48
- Pong:
knuk 7 ‘meat, flesh’, 156
ktu:j ‘mallet’, 156
- Proto-Hmong-Mien (pHM):
 *ʔglom ‘shade’, 170
 *kləux ‘roadway’, 171
 *mblət ‘tongue’, 170
 *mbljə C ‘to have food with rice’, 170
 *mblɕei C ‘shed leaves/drop’, 163
 *mblut ‘glutinous/sticky’, 163
 *mpū, 170
 *mpū ‘boil’, 170
 *mpwə:n B ‘flour’, 170
 *nduH ‘ramie; flax’, 170
 *ndzjəw C ‘straight’, 163
 *nga B ‘descend’, 163
 *ngɛp ‘narrow’, 163
 *ngro C ‘leak’, 171
 *ngwat ‘smooth/slipperiness’, 169
 *njəu A ‘pillar’, 163
 *NKhat ‘thirsty’, 170, 172
 *ŋkh- ‘to open, as a flower, the heart’, 170, 172
 *NK*et- ‘have a gap’, 170, 172
 *ntam ‘carry on the shoulder’, 170
 *ntfʷjəwə:ŋ A ‘sing’, 173
 *nthjəwəŋH ‘balance’, 170, 173
 *ntjəwəH ‘tree’, 163
 *ntjəwəŋ ‘tree’, 163
 *ntshjien ‘to clear (of weather)’, 163
 *ntsjoX ‘early’, 170
 *ŋkjəw ‘mushroom’, 170
- Proto-Kra:
 *m-tʂu A ‘pillar’, 163

- Proto-Mien (pMien):
 *ndzan C ‘to disperse’, 170, 171
 *ndzəŋ C ‘word, character’, 170
 *mbɕeŋ ‘woman, wife’, 169
 *xja B ‘to write’, 134

- Proto-Min (pMin):
 *lhəp D ‘grain of rice’, 125

- Proto-Tai:
 *m.lec D ‘grain’, 165n78

- Proto-Yeniseian:
 *qaʔ-gā ‘great ruler’, 119

- Rgyalrong, Japhug Rgyalrong:
klu ‘nāga’, 24
ku-mɲax ‘eye’, 24
ku-ngut ‘nine’, 226
ku-rtɕɣ ‘leopard’, 24
ɣsla ‘wet’, 14
mɲɲm ‘emit a smell’, 11
ndza ‘eat’, 27, 57, 242
qa-ju ‘worm’, 24
qa-ljəx ‘eagle’, 24
qapar ‘cuon alpinus’, 11
qazo ‘sheep’, 24, 216
gro ‘ant’, 24
ryza ‘itch’, 216, 256
ts-lu ‘milk’, 14, 18n23, 233
tu-mke ‘neck’, 24–5
tu-mɲax ‘eye’, 24
tu-mtshi ‘liver’, 24–5
tu-xpyi ‘thigh’, 24
tu-rna ‘ear’, 11
tu-rni ‘gums’, 11
ts-ndɕy ‘poison’, 226
ts-zrax ‘shame’, 199, 235
ts-zrɲm ‘rhizome’, 199
zruɣ ‘louse’, 201

—Situ Rgyalrong, *təwám* ‘bear’, 21

- Zbu Rgyalrong:
qhrôx ‘ant’, 24, 79
ɖliɛx ‘eagle’, 24
ɖ-iəʔ ‘sheep’, 24

- Ruc:
kadɔ:k ‘nape of the neck’, 156, 171
kàranj ‘bright sunshine’, 156, 156n68, 157
kco:ŋ 3 ‘seed’, 157
kəcáy ‘paper’, 110f, 156, 157, 161
kəci:ŋ ‘bed’, 157
kəcək ‘bandit’, 109, 157, 162
kʰrikŋ 7 ‘strength’, 157
kumúa ‘dance’, 156, 157, 162

Ruc: (cont.)

- məlaŋ* ‘big fly’, 157
təka:n ‘liver’, 109, 157
təkiam ‘sword’, 109, 157, 161
təpa: 3 ‘mend’, 171
ɲjəkəŋ ‘be near to (v.t.)’, 157, 161

Sách:

- kəcij* ‘bed’, 156
kəten ‘lamp’, 156

Sanskrit:

- aṣṭāu* ‘eight’, 257
kārpāsa ‘cotton’, 185n85
pāñcan ‘five’, 12n10
sādāyati ‘set’, 112n29
sīdati ‘sit’, 112n29
 √yuj ‘join’, 111

Tamang:

- ²*mlet-pa* ‘forget’, 29, 232
⁵⁵*kle* ‘king’, 29

Tangut:

- 𐞗 *dow* (L1099) ‘bear’, 20–1, 34
 𐞗 *dzji*¹ (L4517) ‘eat’, 242n17
 𐞗 *dzu*¹ (L1338) ‘love’, 242n17
 𐞗 *jir*² (L2798) ‘hundred’, 242n17
 𐞗 *lhji*² (L1036) ‘humid’, 14
 𐞗 *mə* (L3513) ‘sky’, 76, 240
 𐞗 *nju*¹ (L4681) ‘ear’, 242n17

Thangmi:

- ca* ‘son’, 59
camāi ‘daughter’, 59
cawah ‘walk’, 59n8

Tibetan (Tibetan alphabetical order; verbs listed by present stem; Written Tibetan unmarked):

- kun* ‘all’, 224
 √lag (pres. *klog*) ‘read’, 43, 212n23
rkañ-pa ‘foot, leg, hind-foot’, 33, 226, 268, 285, 289
 √rkam (pres. *rkam*) ‘long for’, 10
 √rku (pres. *rku*) ‘steal’, 36, 63, 76, 209, 230, 240, 272, 276
rko ‘dig’, 36, 209, 226, 239, 256
rkyal-pa ‘sack, bag’, 38, 207, 253
skam ‘dry’, 14
 √skañ (pres. *skañ*) ‘fulfil’, 10, 11
skar (or *khri*) ‘star’, 72, 229
sku ‘body’, 229, 230, 272
skog-pa ‘shell, peel’:
 and WBur. *khok* ‘bark (n.)’, Atsi ⁷*ku*⁵⁵, 63, 197, 228
 and Chi. 殼 *khaewk* < *[k^b]rok ‘hollow shell, hollow’, 36, 63, 197, 200, 209, 228, 230, 238

- skor* ‘go around’, 36, 206, 209, 221, 229, 249
skrag ‘be scared’, 43, 63n12, 79, 228, 243, 267
skyi ‘borrow’, 63, 228, 238
skyiid ‘love, be happy’, 53, 63, 79, 228, 267
skyug ‘vomit’, 41, 203, 245
skyem ‘be thirsty’ (hon.), 14
 √skyal (pres. *skyel*) ‘send’, 38, 207, 252
skyogs ‘ladle (n.)’, 21, 222, 233, 267
kha ‘bitter’:
 and Bur. *khāh*, 33, 203, 244, 268, 275, 283
 and Chi. 苦 *khux* < *k^haʔ, 33, 203, 230, 244, 261, 268, 275, 283
 and Lashi *kho*:H, 203, 230, 268, 275
 and Peiros and Starostin’s law, 372
khañ ‘house’:
 and Atsi *to*²-*kaŋ*³⁵ ‘main roof’, 221, 243
 and Bur. *khoñ* ‘roof’, 221, 243
khab ‘needle’, 32, 222, 255, 264, 267, 287
khal ‘burden, load (n.)’:
 and Bur. *ka* ‘saddle-frame’, 32, 33, 71, 72, 205, 226, 251, 266, 268, 285
 and Chi. 荷 *ha* < *[g]ʔaj ‘carry’, 32, 33, 72, 205, 226, 251, 266, 268, 285
 and Chi. 甜 *kaeH* < *kraj-s ‘yoke (v.)’, 72, 205, 251
khu ‘paternal uncle’, 34, 77, 77n20, 196, 208, 226, 239, 270
khui ‘hole, pit, hollow, cavity’, 36, 210, 230, 273
khul ‘district, province’, 35, 38, 207, 226, 241, 253, 271
khul-ma ‘bottom or side of sth.’, 38, 196, 207, 241, 253
khul-zo ‘crib’, 27
khol ‘servant’, 36, 209, 224, 255
khyi ‘dog’, 19, 63, 230, 276
khyim ‘home’:
 and Bur. *im* ‘house; home’, 32, 222, 243, 267
 and Chi. 窖 *imH* < *q(r)[ə]ms ‘subterranean room’, 222, 243, 267
 and Peiros and Starostin’s law, 372
khrag ‘blood’:
 and Bur. *rhak* ‘ashamed’, 33, 79, 230, 235, 283, 288
 and Chi. 赫 *xaeK* < *q^hrak ‘red, fiery’, 33, 79, 230, 235, 267, 283, 288
khraB ‘armor, shield, mail’, 63, 221, 229, 247, 261, 268, 286
khral ‘tax (n.)’:
 and Bur. *krāh* ‘interval’, 32, 71, 72, 205, 251, 268, 285
 and Chi. 加 *kae* < *k^hraj ‘add’, 32, 71, 72, 205, 251, 261, 266, 268, 285

- khrol-khrol* 'bright, shining, sparkling, glistening', 39, 208, 230, 254, 260
kluñ 'river', 221, 272
dkrug 'stir, agitate, disturb':
 and Chi. 覺 *kaewk* < *k^hruk (14–03f) 'awake', 35, 209, 221, 240, 271, 288
 and Chi. 攪 *kaewX* < *k^hru? (14–03i) 'disturb', 35, 221, 240
bkaḥ 'order'/'speech', 6n4, 7
bkral 'appoint', 205, 251
mkhaḥ 'sky', 39, 196, 202, 246
mkhan 'know', 43
mkhar/hkhar 'staff, stick', 31, 33, 206, 221, 248, 261, 266, 268, 285
mkhal 'kidney, reins':
 and Bur. *khāh* 'loins, waist', 33, 38, 71, 72, 207, 221, 253, 266, 268, 286
 and Chi. 肝 *kan* < *s.k^har 'liver', 33, 38, 72, 207, 221, 253, 266, 268, 285
mkhrañ 'hard, solid', 80, 214, 261, 268–85, 289
hkhor 'circle', 222, 260, 268
hkhoh 'boil', 36, 209, 221, 239, 255
hkhuyig 'tie, fasten, suffocate':
 and Bur. *ac* 'squeeze, throttle', 16, 32, 70, 222, 232, 237, 267, 288
 and Chi. 縊 *ejH* < *q^hik-s 'strangle', 13, 16, 32, 78, 195, 222, 237, 267, 288
hkhrab 'strike, stamp', 15n18, 80, 195, 214, 221, 247, 264, 269, 287
 √kru (pres. *hkhrud*) 'bathe', 10
hkhrul 'mad, insane', 79
 √krol (pres. *hkhröl*) 'unravel', 41, 273
ga (an interrogative stem), 219, 261, 269, 283
go 'space', 33, 79, 220, 260, 267
goñ-ma 'higher one, superior', 20, 33, 260, 267
grwa 'corner', 19
gra-ma 'lattice', 'spine; pitch-pipe', 214, 261, 283
gran 'cold', 214, 261, 285, 289
gral 'row', 215, 254, 261, 265, 286
gri 'knife', 219
grib-ma 'shade', 79, 243, 255
gro 'wheat', 37, 250, 260
gro-ga 'birch bark', 220, 267, 270
gro-ma 'Potentilla anserina':
 and Bur. *wa* 'elephant foot yam', 220, 260, 267, 283
 Chi. 芋 *hjuH* < *g^w(r)as 'taro', 20, 220, 260, 267, 283
grog-mo 'ant', 24, 41, 79, 196, 203, 245
*grog*s 'friend', 41, 203, 220, 245, 260, 267
gron 'village', 209
grod 'stomach', 20, 33, 220, 260, 267
gros 'speech, talk', 260
gru 'corner', 40, 76, 202, 236, 272
glag 'eagle', 24
glan-ma, lcañ-ma 'willow', 215, 261, 284, 289
glan 'patch, mend (v.)', 31, 237, 249
gliñ 'flute', 15
gliñ 'island', 15
glod 'loose, relaxed', 35, 209, 218, 239, 248
glog 'lightning', 21
mgul 'neck', 39, 208, 255
mgur 'neck', 39, 208, 255
hgah 'some', 'few; how many', 30, 37, 40, 45, 224, 247, 251, 264, 270
hgal 'oppose, contradict', 38,
hgam 'put in the mouth', 195, 225, 248, 264, 269, 287
hgugs 'bend', 36, 231, 272
 √kum (pres. *hgums*) 'kill', 35, 231, 241, 248, 271
 √gum (pres. *hgum*) 'die', 274
hgul 'move', 38, 195, 207, 240, 252
 √kab (pres. *hgebs*) 'cover (v.)', 33, 221, 247, 262, 269, 286
 √kal (pres. *hgel*) 'load', 205, 251
 √kag (pres. *hgog*) 'block', 235
 √kok (pres. *hgog*) 'take forcibly', 20, 33, 222, 260, 262, 268, 283, 288
 √kak (pres. *hgog*) 'prevent, avert', 33, 260, 288
hgor 'tarry, linger', 206, 250, 260, 268
hgoł 'part, deviate', 206, 220, 252, 260, 268
hgran 'compete, vie with', 79
hgrub 'accomplish, achieve', 36, 210, 220
hgrus 'zeal, diligence', 76, 219, 240
hgro 'go':
 and Chi. 于 *hju* < *g^w(r)a 'go', 20, 33, 220, 260, 267, 283
 and Kur. *ra* 'come', 21
 √grod (pres. *hgrod*) 'go, walk', 20, 261, 268
 √grol (pres. *hgrol*) 'be free', 38, 207, 253, 260, 268
 and voicing alternation, 41, 273
 √grol (pres. *hgrol*, past. *bkrolđ*) 'liberate', and voicing alternation, 41, 273
dgah 'be happy', and *-as > -os, 6n4, 25, 26
dgu 'nine':
 and Chi. 九 *kjuwX* < *[k]u?, 34, 76, 208, 224, 239, 270
 and Japhug Rgy. *ku-ngut* 'nine', 226
 and WBur. *kuih*, 76, 224, 239
dgun 'sky', 219
dgos 'need, want', 26
bgre 'grow old', 219

Tibetan (cont.)

- rgal* 'cross, ford', 32, 33, 205, 219, 251, 262, 266, 269, 285
rgyu 'flow', 23, 35, 208, 215, 240, 248, 271
rgyud 'continuum', 23, 35, 215, 240, 248, 271
sgaṅ 'hill, mound', 30, 33, 228, 262, 284, 289
sgug 'wait', 219, 256, 272
sgo 'say', 21
sgor-mo 'round', 72, 220, 229, 260, 268
sgro 'feather', 20, 196, 203, 220, 244, 260, 268, 371
brgya 'hundred':
 and Li Fang-kuei's law (Tibetan), 22–3, 371
 and OTib. *brgyaḥ* 'hundred', 22, 23, 39, 202, 246, 262, 284
brgyaḥ 'hundred' (OTib.), 22, 23, 39, 202, 215, 246, 262, 284
 and Amdo Ba-yan *hbia* 'hundred', 23
brgyad 'eight', 23, 31,
 and Kur. *jàt* 'eight' and Mon. *get* 'eight', 24
 and Li Fang-kuei's law (Tibetan), 22, 23, 371
brgyal 'sink down, faint', 23, 205, 215, 220, 252, 262, 266, 285
ṅa 'I, me':
 and Bur. *nā*, 33, 213, 269, 283
 and Chi. 吾 *ngu* < *ŋ⁵a (01–29f) 'I, me', 33, 213, 262, 269, 283
 and MChi., 吾 *ngu* 'I, me', 106n24
ṅag 'speech', 41, 203, 244
ṅan 'goose', 213, 256
ṅal 'rest', 43
ṅu 'weep', 35, 76, 208, 235, 239, 271
ṅur-smrig 'saffron', 29, 45
ṅed 'we', 37, 243, 256, 270
ḍñul 'silver', 39, 73, 196, 197, 200, 207, 241, 253
rṅa 'drum':
 and Chi. 罍 *ngak* < ŋ⁵ak 'beat a drum', 40, 269
 as an exception to Tibetan sound laws, 40, 45
 √*rṅa* (pres. *rṅa*) 'mow', 10
rñod 'deceive', 20, 38, 213, 256, 261, 265, 269, 270, 371
rñod 'roast, parch', 213, 217, 244, 256
lṅa 'five', 30, 203, 213, 244, 262, 267, 283
sṅar 'intelligent, quick of apprehension':
 and Chi. 義 *ngjeH* < *ŋaj-s 'duty, justice', 249n19, 206, 251
 and Chi. 獻 *xjonH* < *ŋars 'offer, present, wise man', 33, 206, 213, 249, 262, 269, 286
sṅo 'green', 213, 229
gčig 'one':
 and Bur. *tac* 'one', 16, 201, 203, 224, 232, 236, 288, 371
 and Chi. 隻 *tsyek* < *tek 'one of a pair'/'single', 12, 16, 41, 201, 203, 223, 224, 232, 236, 288, 371
 and Kur. *thē*, 17, 232
bčwa 'ten', 19
čhe 'great', 37, 243, 251, 270
čhod 'be sharp', 35, 78, 209, 226, 239, 248
 √*hča* (pres. *hčah*) 'chew', 25
 √*šad* (pres. *hčhad*) 'explain', 7
 √*ši* (pres. *hčhi*) 'die', 57, 258n22
mčhin 'liver':
 and Atsi *sey*¹¹ 'liver', 70
 and Bur. *asaññh* 'liver', 17–18, 56, 65, 70, 234, 249
 and Chi. 辛 *sin* < *sin 'pungent: painful', 17–18, 195, 234, 249
 and Lashi *səŋH* 'liver', 234
lči 'dung', 63, 227, 230, 276
jag 'robbery':
 and Chi. 賊 *dzok* < *k.dz⁵ək, 28n35
 as an exception to Schiefner's law, 45
jo-bo 'lord', 26
mje 'penis', 18, 232
mjin 'neck', 18n25
 and Bur. *laññ-*, 18, 70, 216, 232, 236, 290
 and Chi. 領 *ljengX* < *reŋ? 'neck', 12, 18, 216, 232, 290
 and Kur. *mikpa*, 232
 √*jib* (pres. *hjub*) 'suck', 28
 √*čug* (pres. *hjug*) 'insert', 28
 √*zag* (pres. *hjog*) 'insert, place', 11
 √*jog* (pres. *hjog*) 'cut, hew', 27
hjol 'hang down', 36, 209, 227, 239
rjo-bo 'lord' (OTib.), 26
lji-ba 'flea', 18, 218
rje 'exchange':
 and Bur. *lai* 'exchange', 29, 40, 202, 246
 and Chi. 易 *yek* < *lek (08–12a) 'exchange', 40, 202, 246
 and Mon. *ple*⁵⁵, 29
rje 'lord', 29
ljid-po 'heavy', 215, 238
brjed 'forget', 29, 232
ṅa 'fish':
 and Bur. *nāḥ* 'fish', 25, 213, 231, 283
 and Chi. 魚 *ngjo* < *ŋa (01–31a), 25, 213, 231, 262, 283

- and Kur. *na*, 25, 231
ña-mo ‘wife, housewife’, 41n49, 213, 262, 283
ñag-mo ‘woman’, 41, 41n49, 203, 245
ñi-ma ‘sun’, 40, 202, 213, 246
ñe ‘near’, 37, 76, 213, 250, 270
 $\sqrt{\text{ñan}}$ (pres. *ñan*) ‘listen’, 9, 370
ñog-ñoñ ‘soft, tender’, 21, 233
gñan-po ‘pestilence’, 25, 213, 231
gñis ‘two’:
 and Bur. *nhac* ‘two’, 16, 218, 232, 238
 and Chi. 二 *nyiH* < *ni[j]s, 12, 16, 218, 232, 238
 and Dakpa *nèi*, 17, 232
rñil/sñil ‘gums’:
 and Chi. 齧 *ngjin* < *ŋə[n], 25, 196, 207, 232, 241, 243, 253
 and Kur. ‘*nē*, 17, 232
 and Japhug Rgy. *tu-rni*, 11
sñam ‘think’, 30, 213, 233, 248, 264, 287
sñiñ ‘heart’:
 and Atsi ‘*nik*’ ‘heart’, 238, 246
 and Bur. *nhac* ‘kernel’, 217, 232, 238, 246
 and Chi. 仁 *nyin* < *niŋ ‘kindness’, 13, 16, 194, 217, 232, 238, 246
 and Chi. 身 *syin* < *ŋiŋ ‘body; self’, 217, 238, 246
 and Kur. ‘*neng*, 17, 232
sñil ‘gums’. See Tib. *rñil/sñil* ‘gums’
brña ‘borrow’:
 and Bur. *nhāh* ‘borrow’, 25, 66, 217, 232, 371
 and Kur. *nü*, 25, 26, 232
gtug ‘meet, touch’, 36, 209, 230, 272, 288
 $\sqrt{\text{rtod}}$ (pres. *rtod*) ‘tether, fasten, secure’:
 and Chi. 綴 *trjwet* < *trot (22–10b) ‘bind’, 36, 197, 209, 223, 239, 248
 and Chi. 贅 *tsywejH* < *tots (22–11a) ‘unite, together’, 36, 209, 223, 239, 248
rtul ‘blunt, dull, stupid’, 35, 223, 241, 254, 271
 $\sqrt{\text{lta}}$ (pres. *lta*) ‘look at’:
 and *-as > -os, 25
 and Chi. 睹 *tuX* < *tʰaʔ ‘see’, 30, 203, 223, 244, 262, 283
 $\sqrt{\text{luñ}}$ (pres. *luñ*) ‘fall’, 17
ltos ‘look to, attend to’, and *-as > -os, 25
stag ‘tiger’:
 and Chi. *xuX* < *qʰra2, 198, 200, 204
 and Japanese *tora*, 204
star ‘tie fast, fasten to’, 206, 249, 262, 266
ston ‘thousand’, 228
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Benedict's law (Tibetan) *l̥ > ʒ: Benedict suggests a Tibetan sound change *l̥- > ʒ- (1939: 215), comparing Burmese လီယ် *liy* 'four' with Tibetan བཞི *bzi* 'four', which he reconstructs *bli (cf. §15).

Bodman's law (Tibetan) *ml- > md-: Bodman suggests a Tibetan sound change *ml- > md- (1980: 170), comparing Old Burmese မ္လော *mlāh* 'arrow' with Tibetan མཚལ་ *mdah* 'arrow' (cf. §18).

Burling's law (Burmese), loss of pre-glottalization consonants: Burling suggests that Burmese merges plain voiceless and pre-glottalized voiceless obstruents (1967: 6, 31–40), comparing, for example, Burmese ခူ *chū* 'boil' and Atsi *ʔtsu³¹* 'boil' versus Burmese ခူ *chū* 'fat' and Atsi *ts^hu³¹* 'fat' (cf. §56).

Chang's law (Tibetan), assimilation of b- before nasals: Chang suggests that in Tibetan cluster initial *b-* assimilates to *m-* before nasals (1971: 738). The *m-* of past stem verbal roots beginning with nasals thereby becomes a sub-case of the usual *b-* past stem prefix. For example, *√ñan* 'listen' has the past stem *མཉམ་པོ་* *mñand* < *bñans, to which compare *√sad* 'kill', past *བསམ་པོ་* *bsad* (cf. §12).

Coblin's conjecture (Chinese), *Tr- < *rT-: Coblin suggests that the correspondence of Chinese *Tr with Tibetan *Tr-* be reconstructed *rT in the proto-language (1986: 21–2), comparing Chinese 槌 *traewk* < *tʰok < *rʰok (11-13c) 'beat, strike' and Tibetan རྩལ་ *rdug* 'conquer' (cf. §196).

Coblin's law (Tibetan), loss of prefixes: Coblin suggests that in the history of Tibetan prefixes are lost when the resulting cluster is not phonotactically possible (1976). I treat three unrelated changes as falling under this rubric, viz. (1) *bb- > *b-*, *bp- > *p-*, (2) *hCC- > *CC-*, and (3) *sNC > *sC* (cf. §13).

Conrady's law (Tibetan), dental exrescence after h-: Conrady suggests that in Tibetan when an *h-* precedes a fricative a dental stop is inserted between *h* and the following consonant (1896: 59). He compares the past *མོས་* *sos* and

present རྩོམ་ *htsho* (< *hso) of the root $\sqrt{\text{so}}$ ‘nourish’. Later researchers added lateral and rhotic initials to the conditioning environment (cf. §17).

Dempsey’s law (Tibetan and Burmese), merger of *e and *i before velars:

Dempsey suggests that both Tibetan and Burmese merge original *-i- and *-e- before velars (2001: 217, 2003: 90). In Chinese the original value is retained (cf. §14 for Tibetan and §62 for Burmese).

Chi. 隻 *tsyek* < *tek (08-11c) ‘one of a pair’, Tib. གཅིག་ *gčig* < *gč'ek ‘one’,
Bur. တစ် *tac*

Chi. 節 *tset* < *ts'ik (29-30e) ‘joint of bamboo’, Tib. ཚྲིག་ལ་ *tshigs* ‘joint’,
Bur. ဆစ် *chac*

Houghton’s law (Tibetan), *ñʷ- > ñ-: Houghton suggests a Tibetan sound change *ñʷ- > ñ- (1898: 52), by comparing Burmese ငှာ: *nhāh* ‘borrow’ and Tibetan བཏོག་ *brña* ‘borrow’ (cf. §27).

Labial neutralization (Chinese): Rounded vowels before labial consonants unrounded early in the history of Chinese; thus, it is difficult to distinguish among *-up, *-op, *-əp or among *-um, *-om, and *-əm (cf. §193).

Laufer’s law (Tibetan), *wa > o: Laufer noted this sound change as the correspondence of Burmese *wa* and Tibetan *o* (1898/1899: part III, 224; 1976: 120), but it is more accurately stated as a change of -a- to -o- following inherited labio-velars or labio-uvulars, which are still maintained in Chinese (cf. §21). Here it suffices to offer two examples only:

Tib. སྒོ་ *sgro* < *sgʷra ‘feather’, Chi. 羽 *hjuX* < *gʷ(r)aʔ (01-24a)

Tib. རྩོད་ *rnod* < *rñʷat ‘deceive’, Chi. 偽 *ngjweH* < *ŋʷajs (19-06k) ‘false, cheat’

Lenition of stops (Burmese), *C-p > w-, *C-t > r-: In some words Burmese liquids correspond to Tibetan stops. Benedict (1972: 23) suggests that lost prefixed elements have weakened the Burmese initials (cf. §72).

Bur. ဝက် *wak* < *C-pak ‘pig’, Tib. ཕག་ *phag*

Bur. ရက် *rak* < *C-tak ‘weave (v.)’, Tib. $\sqrt{\text{tag}}$ (འཐག་ *hthag*)

Li Fang-kuei’s law (Tibetan), *ry- > rgy-: Li Fang-kuei suggests the Tibetan change *ry- > rgy- (1959: 59), comparing Chinese 百 *paek* < *pʳak (02-37a) ‘hundred’ and 八 *peat* < *pʳet (20-14a) ‘eight’ to Tibetan ལྔ་ *rhgyad* ‘hundred’ and ལྔ་ *brgyad* ‘eight’ (cf. §25).

Matisoff’s law (Burmese), *ś- > s- and *č- > ts-: Matisoff suggests the Burmese change *č- > ts- (1968: 889), comparing Burmese စား *cāh* ‘eat’ with Atsi *tso*¹¹ ‘eat’ and Written Burmese စေတင် *cok* ‘vagina’ with Atsi *ču*¹

‘vagina’. If one analyses ‘č’ as ‘tš’ [tʃ] then the change *č- > ts- automatically implies *ś- > s-, a change Maung Wun (1975: 83) earlier suggested (cf. §53).

Maung Wun’s law (Burmese), *u > o₂ before velars: Maung Wun suggests the Burmese change *u > o₂ before velars (1975: 88), offering such comparisons as Written Burmese တောငါး: *tonh* ‘short’ with Tibetan ཐུན་ *thuñ* ‘short’ (cf. §55).

Nishida’s conjecture (Tibetan), Tibetan dr- corresponding to Burmese khr-: Nishida (1977: 4) notes that Tibetan *dr-* sometimes corresponds to Written Burmese *khr-* (e.g. WBur. རྒྱུ་ཁོར་ *khrok* < *kruk ‘six’, Lashi *khjukH*, Tib. ལྷོག་ *drug*, Chi. 六 *ljuwk* < *k.ruk (14-16a)). He proposed *dr > *khr-* in Burmese, but *kr- > *dr-* in Tibetan appears more likely (cf. §215).

Peiros and Starostin’s law (Tibetan and Burmese), loss of uvulars: Noting the two initial correspondences, seen in such comparisons as Tibetan མེས་ *khylim* ‘home’ and Burmese အိမ် *im* ‘house’ on the one hand versus Tibetan ལ་ *kha* ‘bitter’ and Burmese ခါး *khāh* ‘bitter’ on the other hand, Peiros and Starostin (1996: Vol. 5, iii) suggest that the reconstruction of a velar versus uvular distinction in the proto-language. This proposal entails the merger of velars and uvulars in Tibetan (cf. §34) and the loss of uvulars in Burmese (cf. §71).

Pulleyblank’s conjecture (Chinese), *RC- > *Cr-: Pulleyblank suggests *ks- as an origin of Middle Chinese 生 *sr-* (1965: 206–7), particularly based on the comparison of Tibetan གསོད་ *gsod* ‘kill’ with Chinese 殺 *sreat* < *srat (21-29d) ‘kill’. I take a more abstract approach, proposing *RC- > *Cr-, in which *R- means ‘an indeterminate initial of a complex onset which bears the same effects as *-r-’. Pulleyblank’s conjecture extends Coblin’s conjecture (cf. §196) to environments beyond the dental stops (cf. §197).

Sa-skya Paṇḍita’s law (Tibetan), *g- > d- before graves, *d-> g- before acutes: Synchronically in Old Tibetan *d-* and *g-* are in complementary distribution as the initial of a cluster with an obstruent. This situation is likely to have arisen by the changes *g- > *d-* before graves and *d-> *g-* before acutes (cf. §26).

Schiefner’s conjecture (Burmese), origins of proto-Burmish pre-glottalized obstruents: Schiefner suggests that Burmese aspirate obstruents, more precisely Burmish pre-glottalized obstruents, correspond to Tibetan onset clusters beginning with *s-* (1852: 340), offering such comparisons as Burmese နှဲ *nhā* ‘nose’ compared to Tibetan ས་ *sna* ‘nose’ (cf. §209 and §216).

Schiefner’s law (Tibetan), softening of voiced affricates: Schiefner proposes *dz- > *z-* to explain alternations within Tibetan verb paradigms such as the future of འཕུང་ *ʼtsug* ‘plant’ (འཕྲུག་ *hdzugs*, འབྲུག་ *btsugs*, འཕྲུག་ *gzug* < *gdzug,

ཚུགས་ *tshugs*) (1852: 364). More recent scholarship confirms the parallel change *j- > ź- (cf. §29).

Simon's law (Tibetan), *mr- > br-: Simon suggests the Tibetan sound change *mr- > br- (1929: 187, 197, §86), offering such comparisons as Tibetan རྩོག་ *hbrog* 'nomad' to Chinese 牧 *mjuwk* < *mæk (05-39a) 'herdsman' (cf. §30).

Wolfenden's law (Burmese), *-ik > -ac, *-iŋ > -aňň. Wolfenden suggests a velar origin of Burmese final palatals (1938: 167), comparing Burmese အမည် *amaňň* 'name', with Maru *man* 'name' and Old Tibetan མྱིང་ *myin* 'name'. The evidence of the Burmish languages unambiguously confirms that Burmese changed proto-Burmish *-ik and *iŋ into -ac and -aňň respectively (cf. §54).

The discovery of sound laws by comparing attested languages is the method which has unlocked the history of European languages stretching back thousands of years before the appearance of written records, e.g. Latin *p*-corresponds to English *f*- (*pes*, foot; *primus*, first; *plenus*, full). Although Burmese, Chinese, and Tibetan have long been regarded as related, the systematic exploration of their shared history has never before been attempted. Tracing the history of these three languages using just such sound laws, this book sheds light on the prehistoric language from which they descend. Written for readers with little linguistic knowledge of these languages, but fully explicit and copiously indexed for the specialist, this work will serve as the bedrock for future progress in the study of these languages.

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