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Trans-Himalayan comparative linguistics and the Neogrammarian model*

Guillaume Jacques

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1. Introduction

The application of the comparative method to the Trans-Himalayan (a.k.a. Sino-Tibetan, henceforth TH) family has long been an unusually difficult challenge, due to a combination of factors. First, many languages in this family, in particular Chinese and Burmese, are near-isolating and only preserve only a few alternations (Meillet 1975 [1921]: 98). Second, reliable grammars, dictionaries and text corpora of many TH languages and even entire branches have become available only in the last 20 years (as can be shown by comparing the impressive increase of size between the first and the second editions of the Routledge volume on Sino-Tibetan, published in 2003 and 2017 respectively), so that any earlier attempt at using these languages for comparative grammar would have been premature. Third, a considerable amount of language contact between related languages has taken place, so that distinguishing between cognates and loanwords is not a trivial endeavour.

While useful reconstructions of sub-branches of the family do exist (for instance, VanBik 2009 on proto-Kuki-Chin), the difficulty of finding robust sound correspondences across the family has led some TH researchers to abandon the Neogrammarian notion of exceptionless sound laws, either by adopting the concept of ‘lexical diffusion’ (Wang 1969) or that of ‘allofam’ (Matisoff 2003).

By opposition, the work of Nathan W. Hill (henceforth NWH) on TH champions the Neogrammarian cause, and disputes the usefulness of ‘grammatically conditioned sound changes’ (Hill 2014a), ‘lexical diffusion’ (Hill 2016a) and ‘word families/allofams’ (most prominently in Fellner & Hill 2019b,a; see also the responses by supporters of Matisoff’s approach: Schuessler 2019, Handel 2019, Thurgood 2019).

*A review of *The Historical Phonology of Tibetan, Burmese, and Chinese*. by Nathan W. Hill, (2019), Cambridge University Press.

Hill (2019b), the book under review, is a compendium synthesizing the cumulative knowledge produced either by himself or other scholars on the sound correspondences between the three most widely known literary languages of the family, Tibetan, Burmese and Old Chinese. It follows a long tradition, represented in particular by Bodman (1980), Coblin (1986), Gong (1980) and Gong (1995), who were, like him, primarily interested in finding out regular correspondences between Chinese and Tibetan (and to a lesser extent, Burmese, Tangut and Lepcha).

In this paper, I evaluate the contribution of the book on Tibetan and Chinese (I leave out the Burmese section, due to my unfamiliarity with the data), as well on the core methodological issues.

2. Tibetan

The Tibetan chapter of Hill (2019b) (pages 3–45) summarizes the existing knowledge on Tibetan internal reconstruction and historical phonology, from classical works such as Schiefner (1852), Conrady (1896), Li (1933, 1959), Shefts-Chang (1971), Coblin (1976) and Gong (1977) to the most recent research, and also contributes a certain number of proposals (which have however previously appeared in print in various journal articles, for instance Hill 2005a, 2013, 2016b). The bulk of the sound laws presented in this chapter are either uncontroversial or highly probable. In this section, I first present one example of a particularly interesting sound change discussed by NWH, then address some controversial questions where I disagree with him, and finally come to one of NWH's main contribution: the introduction of the concept of analogy in Tibetan historical linguistics.

2.1. Li Fang-Kuei's law

NWH presents in-depth discussion of interesting phonological problems. For instance, as shown by NWH (p. 23), 'Li Fang-Kuei's law' – the fortition of the palatal glide to g^j when preceded by r -, first proposed by Li (1959) – raises a question of chronology.

While Classical Tibetan lacks the cluster rj (except in transliterations of Sanskrit), there are examples of free variation between rj and rg^j for some loanwords in early Tibetan texts (to the examples cited by NWH, one can add *vaiḍūrya*- rendered as *be.du.rg^ja* in the Gzi.brjid, Snellgrove 1967: 36–37). In addition, at least one modern Tibetan variety (Bayan) appears to have not undergone Li Fang-kuei's law in the numerals 'eight' and 'hundred' (Gong 2016: 349), being thus in this respect more archaic than Old Tibetan.

Thus, it is probable, as pointed out by NWH, that this sound change was not complete in the common ancestor of all Tibetan languages, and that it was still operating in Old Tibetan, perhaps more as a phonotactic constraint

converting the cluster *rj* to *rgʲ* than at a single sound change occurring once in the history of the language.

However, some non-Tibetan languages also have also palatal stops or alveolo-palatal affricates in the numeral ‘eight’, for instance Kurtöp *jat* [dʒat] (p. 24; Hyslop 2017: 134), a fact which would instead suggest that Li Fang-Kuei’s law goes back to the common ancestor of Tibetan and Kurtöp. Alternative possibilities would be borrowing (but the other numerals do not look like they have been borrowed, and ‘eight’ in Kurtöp does not resemble Dzongkha, the main Tibetan language of Bhutan) or parallel sound changes.

2.2. Controversies

I have disagreements with NWH only on two points concerning Tibetan historical phonology: the pronunciation of the letter α and the proposed sound change **-as* → *-os*.

According to Coblin (2002), the letter α had three distinct functions in Classical Tibetan, and also served as a multipurpose diacritic in Old Tibetan. In Coblin’s view, in Classical Tibetan this letter marks a voiced velar fricative γ or a voiced \hbar when occurring as single onset (for instance in α ཏ **[fiɔd]* ‘light’), marks homorganic prenasalization when used as first element of a cluster (as in α ལྷ **[ŋgo]* ‘top, head’), and serves as a syllabic disambiguating marker, to differentiate closed syllables with the (default) vowel *a* such as α ཏག **[dag]* (in the Tibetan abugida, the vowel *a* is implicit) and α ཏགའ **[dga]*.¹ In Old Tibetan texts, it was additionally used according to Coblin as a ‘diacritic’ symbol indicating a special non-native pronunciation in transcriptions of Chinese and Sanskrit in Old Tibetan.

By contrast, NWH argues (p. 5; see also Hill 2005a, 2009) that the letter α represented the same phoneme γ or \hbar (transliterated as *h*) in all positions,² and in particular that its occurrence in syllable final position is not simply an orthographic device, but that it represents a genuine γ segment there. Since NWH further projects this final γ to Proto-Trans-Himalayan (pp. 39–40), a more detailed discussion is necessary.

According to him, there are two independent sources of evidence for the reality of γ as a coda.

First, in Old Tibetan texts, this letter is lacking in instances where it should be present from the point of view of Classical Tibetan orthography (for instance, α མཏ *< m + d + h >* [**mda*] written as α མ *< m + d >* as if it were *mad*, in PT 1043 59 and ITJ739, 16v9). More frequently, a coda α appears on syllables where it is redundant, for instance with the suffixes *-pa* and *-ba*.

¹To these functions, one should add its use as a vowel length markers in transcriptions of Sanskrit.

²I will not discuss here its pronunciation as first element of clusters. Hill (2019a) further argues that γ - changed to *g*- in that position.

However, these variations in my view rather indicate that the orthography was not fully stabilized in the Old Tibetan period, and that the letter α was used inconsistently.

Second, NWH cites a series of sources from the first half of the twentieth century (including works by Bell and Roerich, who had no training in linguistics, and Sedláček, who was a student of Roerich) where syllables with the vowel *a* in syllables written with final α <*hi*> is transcribed as long. For instance མདུའ <*m + d + hi*> ‘arrow’ appears as *da:* in the Lhasa dialect according to one of his sources. It is however striking that vowel length is not reported in those contexts in more recent sources (and absent there, from my personal experience with Lhasa Tibetan). I suspect that the early 20th century transcriptions are spurious and influenced by spelling. Lhasa Tibetan is an accessible language, and if the claims of these authors stood scrutiny, this would be easily verifiable.

There is as far as I am aware of no evidence from modern Tibetic languages, among those that have been reliably described, supporting the notion that the letter α <*hi*> in coda position was a genuine segment: the burden of the proof is rather on NWH’s side to show that etyma spelled in Old Tibetan with α <*hi*> coda present a consistent phonological contrast with those spelled without this coda in at least one modern variety. Until then, I think that it is unwise to project this coda to proto-Trans-Himalayan (pp. 39–41).

A second point of disagreement concerns the sound change **-as* → *-os* (pp. 25–26, see also Hill 2016b), proposed in order to account for the irregular past form of a few verbs, in particular *za* ‘eat’ (past *zos*, future *bza*, imperative *zo*). In an earlier article (Jacques 2010), I had proposed that the past *zos* was a remnant of person indexation, the vowel alternation being caused by merger of the stem with the direct third person object *-u* suffix found in Bantawa, which is restricted to Past tense in the open-stem transitive paradigm (Doornenbal 2009: 138). In this hypothesis, the form *zos* presumably arose due to vowel fusion as in Bantawa (from **za-u-s* → **zaws* → *zos*).

This view has been criticized by Zeisler (2015, 2017) and Hill (2016b), who propose alternative explanations. Zeisler argues that the past *zos* comes from a *potentialis* derivation from the verb ‘eat’ meaning ‘be able to eat’, replacing regular past *bzas* in some Tibetan dialects. NWH instead agrees that the past *zos* is an archaism, but he interprets the anomalous *-os* rhyme as resulting from a hypothetical sound change **-as* → *-os*, rather than as a remnant of more complex verbal morphology.

In NWH’s hypothesis, however, all instances of *-as* in the lexicon have to be explained away as either analogical forms, or as originating from a different coda (such as **-ts*), a solution which is not impossible altogether, but hardly economical.

In addition, data supporting the idea of *zos* as a remnant of person mark-

ing has surfaced after the publication of Jacques (2010), unfortunately not taken into account by either Zeisler or Hill.

In a Kiranti language, Khaling, open syllable transitive stems (including the verb ‘eat’ cognate to Tibetan *za*) take the third person object **-u* only in the past singular forms, while this suffix is absent in the corresponding non-past forms (Table 1, Jacques et al. 2012).³

Table 1. The paradigm of |dzA| ‘eat’ in Khaling

Person configuration	Non-Past	Past
1SG→3	<i>dzA-ŋA < *dzá-ŋa</i>	<i>dzûŋ-tA < *dzúŋa-taŋ < *dzá-u-ŋa-ta-ŋ</i>
3SG→3	<i>dze < *dza</i>	<i>dzu-te < *dzú-ta < *dzá-u-ta</i>

This irregularity in Khaling is shared with Bantawa: both languages show that the third person object **-u* suffix is sensitive to both person and tense. Although these two languages both belong to the Kiranti group (Sagart et al. 2019), they are from different branches of Kiranti and the pattern can thus be reconstructed to proto-Kiranti.

Outside of Kiranti, a direct trace of the tense-sensitivity of the third person object suffix is found in the Rgyalrongic language Zbu, where the highly irregular verb *dzé* ‘eat’ has the stem III *dzó* (Gong 2018: 230), resulting from fusion of stem vowel **a* with a suffix **-w* cognate with the *-u* suffix in Kiranti. This stem III (Sun 2000) appears in singular subject forms with a third person object, but only in Non-Past tense (the opposite of the pattern found in Khaling and Bantawa). However, this is not a radical obstacle against comparing the Zbu pattern with the Bantawa/Khaling one: the closest relative of Khaling, Dumi, has undergone inversion between Past and Non-Past tenses (van Driem 1993).

If the Khaling/Bantawa pattern is cognate with that preserved in Zbu, namely that the direct third person object suffix was restricted to singular subject and specific tenses (whose exact semantic use can have changed several time during the individual history of each of these languages), since Tibetan is phylogenetically closer to Rgyalrong languages than either is to Kiranti (Sagart et al. 2019), it is possible to deduce by phylogenetic inference that pre-Tibetan had a similar polyfunctional suffix, fusing with the stem of the verb as *o* as in Zbu and Bantawa.

In Kurtöp, a language closely related to Tibetan, four transitive verbs including *zù* ‘eat’ have *-u* corresponding to *-a* in their Tibetan cognate, instead of the regular *-a* to *-a* correspondence (Jacques 2013: 296, fn. 9, Hill 2019b: 26, on the basis of data from Hyslop 2017). These irregularities

³Note the regular fronting of **a* and **u* in contexts where these vowels are not adjacent to velars in Table 1.

are explainable by the hypothesis of a generalization of the third person object past stem. They could be also accounted for by NWH's hypothesis (by projecting this sound change to the common ancestor of Tibetan and Kurtöp), but raise problems for Zeisler's, since the existence of *potentialis* derivation in languages other than Tibetan remains to be independently demonstrated, whereas that of person indexation is unproblematic.

On a more anecdotal note, [van Driem \(2011\)](#) reveals that an idea identical to that presented in [Jacques \(2010\)](#) (based on comparison with Limbu) had been proposed by Sprigg twenty years earlier, though never published. The fact that two researchers independently came to the same conclusion (on the basis of similar but not identical data) should play a role in evaluating the plausibility of that idea.

2.3. Analogy

NWH has convincingly shown the usefulness of Neogrammarian notion of analogy to analyse Tibetan verbal morphology, in particular concerning the *r-* stem initial verbs ([Hill 2005b](#)) and *-iŋ* stem verbs ([Hill 2014b](#)), and by extension to account for irregular correspondences ([Fellner & Hill 2019b](#)). However, this aspect of NWH's work is not prominently featured in the book under review: in the sections discussing the sound change **-eŋ* → *-iŋ* (p. 12) and the epenthesis **nr-* → *^hdr-* (p. 17), there is barely any mention of his own work on analogy. Moreover, the term 'analogy' is not even included in the index.

NWH's decision to limit the discussion on analogy was probably to focus on phonology proper, and leave an exhaustive study of morphology for future publication. However, treatises on the historical phonology of Indo-European languages, for instance [Lejeune \(1987\)](#), discuss analogy on almost every page: in historical linguistics, it is not practical to draw a strict boundary between historical phonology, historical morphology and etymology. These three domains are intimately interconnected, and in particular it is not always obvious, even in Greek, which correspondence is analogical, and which is phonetic. The situation is even more dire in Tibetan and other Trans-Himalayan languages, so that I believe that historical phonology and morphology should not be segregated from each other.

3. Chinese

The section on Chinese presents an exegesis of the reconstruction method employed by specialists of Old Chinese historical phonology, mainly focusing on [Baxter & Sagart \(2014\)](#). NWH's choice of this reconstruction scheme was motivated by the fact that it is more complex uses a broader range of sources than its predecessors (p. 126), and in particular because while it is

nearly always possible to mechanically derive Starostin's (1989) and Baxter's (1992) systems from Baxter and Sagart's (2014), the opposite is not true.

One of this chapter's main contribution to Old Chinese phonology is that it works out the chronology of the sound changes in the new reconstruction, which was left implicit in Baxter and Sagart's book.

In addition, the bottom-up approach followed in this chapter is particularly useful: rather than listing the sound changes from Old Chinese to Middle Chinese, NWH offers a detailed account of how to work out by oneself the Baxter & Sagart (2014)-style reconstruction of a particular character. In particular, he lists (pp. 190–191) all the possible origins of the initial consonants of Middle Chinese, a handy reference not available in other works using the Baxter and Sagart system.

In this process, NWH points out a limitation of Baxter & Sagart (2014) in its present state (p. 191): the availability of Baxter and Sagart's non-conventional sources (Min, Hmong-Mien, Old Vietnamese and Lakkia) of only a small fraction of the words reconstructed in the book and its online appendix. While it is indeed unfortunate that Baxter and Sagart have not made their database freely accessible at the moment of writing, I do not share NWH's assessment that "if one wants to incorporate these sources of evidence the only option is to credulously use the reconstructions that Baxter and Sagart (2014) offer." In fact, it is possible in most cases to reverse-engineer Baxter and Sagart's reconstructions.

For instance, the reconstruction **mǝ-[tsʰ] <r> op* for 插 *tʂʰɛp* 'insert' is not explained in Baxter & Sagart (2014). However, the **mǝ-* lost in Middle Chinese implies prenasalization in Hmong-Mien. The user of Baxter & Sagart (2014) who wants to convince him-/herself of the validity of this particular aspect of the reconstruction can thus search through references on comparative Hmong-Mien such as Wang & Mao (1995) and Ratliff (2010) (Baxter and Sagart's main sources on these languages). The search is generally successful: for instance, Wang & Mao (1995: 138) contains a Mien cognate set (glossed with 插 'insert' in Chinese) including forms going back to a proto-form with prenasalized initials, such as Xiangjiang Mien *dzje*⁷, presumably the reason why Baxter and Sagart reconstructed **mǝ-* here.⁴

One can even actually correct reconstructions in Baxter and Sagart's work which are erroneous due to the overlooking of some non-conventional sources. For instance, beside 稱 *tʂʰiŋH* 'steelyard' as **mǝ-tʰŋ-s* with a **mǝ-* prefix based on Hmong-Mien (Baxter & Sagart 2014: 55), they reconstruct the related verb 稱 *tʂʰiŋ* 'weigh; evaluate; call' as **tʰŋ* without any nasal prefix, and use this pair to support the existence of a nominalizing nasal prefix in Old Chinese. However, the verb has been borrowed in some Hmong-

⁴This paragraph was written without personal communication from either W.H. Baxter or L. Sagart.

Mien languages alongside the noun, and shows a trace a prenasalization too. For instance Jiangdi Mien we find both *dzjan*⁵ ‘steelyard’ (Mao 1992: 68) and *dzjan*¹ ‘weigh’ (Mao 1992: 167).

The correct reconstruction of the verb ‘weigh’ in Baxter and Sagart’s system is thus **mə-t^həŋ*, and whatever the function (or absence of function) of this nasal element, tonal alternation (from **-s*) is the only exponent of nominalization in this case.

This example shows that it is easy to productively use non-conventional sources and apply Baxter and Sagart’s system to them.

4. Trans-Himalayan comparison

The last chapter of the book presents some robust correspondences between Chinese, Tibetan and Burmese, and also discusses a series of unsolved problems.

The three languages treated in this chapter are too divergent from each other to be subjected to semi-automatic reconstruction methods such as that pioneered by Hill & List (2017) and Bodt & List (2019). The result of direct comparison is very frustrating in that the correspondences are quite irregular, and many problems remain in etymology (which etyma are cognate and which are not), morphology (are the etyma bare roots, or do they bear fossilized affixes/non-concatenative morphology) and phonology (which correspondences are phonetic, and which are analogical).

In the case of some comparisons, more philological and morphological analysis would have been useful to the reader. For instance, on p. 213, NWH compares Tibetan ནད་ *nad* ‘disease’ to Burmese *nat* ‘god, spirit’. This comparison, while phonetically attractive, raise a series of problems, which perhaps not insurmountable, but in need of being addressed. First, the Tibetan noun is derived by the suffix *-d* from the stative verb *na* ‘be ill’ (Hill 2014c: 625), cognate to Burmese *na*² ‘hurt’ (p. 31, fn. 43). If indeed Tibetan *nad* ‘disease’ and Burmese *nat* ‘god, spirit’ are related, are they parallel developments from the same root, or did the derivation occur in their common ancestor? Second, the semantic difference between the two etyma calls for an explanation. In view of the fact that Tibetan *nad* is still semantically close to the verb from which it was derived in Tibetan, the meaning ‘disease’ is original. The derivation of ‘spirit’ from ‘disease’ is presumably possible, but a parallel case from an unrelated language would be necessary to put forth such a hypothesis. In addition, NWH (p. 31) compares Burmese *na*² to Tibetan མན་ *mnar* ‘suffer’ and Chinese 難 *nan* ‘be difficult’ < **n^far*, which also seems a possibility. A more in-depth evaluation of alternative etymological hypotheses could have been useful here.

As NWH points out himself (p. 212): ‘the phonetic influence of defunct morphology will one day explain these complicated correspondences, but

Table 2. Evidence for presyllables in Old Chinese from borrowings into Lakkia and Viet-Muong (Baxter & Sagart 2014: 97)

Chinese	Lakkia	Vietnamese	Rục	proto-Min
箴 <i>tɕim</i> < *t.[k]əm ‘needle’	<i>them</i> ¹	găm		*tʃ
紙 <i>tɕeX</i> < *k.teʔ ‘paper’	<i>khjei</i> ³	giấy	<i>kəcáy</i>	*tʃ
賊 <i>dzək</i> < *k.dzək ‘bandit’	<i>kjak</i> ⁸	giặc	<i>kəcák</i>	*dzh
牀 <i>dzjaŋ</i> < *k.dzraŋ ‘bed’			<i>kəciŋ</i>	*dzh

this possibility will manifest only when more languages, particularly archaic languages such as those of the Rgyalrong and Kiranti branches, are brought within purview.’

I fully agree with this evaluation of Trans-Himalayan comparisons, and propose an example showing precisely how morphologically richer languages can help explaining opaque correspondences. NWH (p. 226) notes that ‘there is at least one counterexample in which Chinese prenasalization corresponds to Tibetan voiceless initials’, namely Chinese 父 *bjuX* < *N-paʔ ‘father’ corresponding to Tibetan བཤེན་ *p^ha* ‘father’. However, the incompatibility of the Tibetan and Chinese forms brings to mind a morphological irregularity of Limbu: in this language, kinship terms have an intrusive nasal when bearing a possessive prefix, including the noun *pa* ‘father’ (possessed *a-m-ba* ‘my father’, *kε-m-ba* ‘your father’, Michailovsky 2002), presumably cognate of the Chinese and Tibetan etyma mentioned above. Assuming that the Limbu alternation is a preservation, the apparently irregular correspondence observed between Tibetan and Chinese receives a trivial explanation: the former represents the bare root (the absolute form, without any possessive prefix), while the latter represents the generalization of the possessed alternant.

Another issue with the comparison of Chinese, Tibetan and Burmese is that although they do preserve some traces of presyllables, they are not among the phonetically conservative languages.

In Old Chinese, Baxter & Sagart (2014: 97) convincingly demonstrate not only the existence of presyllables in Old Chinese, but also their maintenance at least in some varieties up to the Han dynasty, as shown by combining evidence from Lakkia, Viet-Muong and Min (Table 2). The congruence between Lakkia and Ruc in particular, both indicating the presence of a velar stop, cannot be due to native development postdating borrowing (since in addition these languages are notoriously isolating), and the only logical conclusion is that the presyllables already existed in the donor language.

The consequences of this observation for the reconstruction of Old Chinese are mind-boggling; however, the layer of Old Chinese borrowings in Lakkia and Viet-Muong is too limited to be systematically used in Old Chi-

nese reconstruction. Thus, we are left with the tantalizing idea that presyllables leaving no trace in Middle Chinese and Chinese characters (and only a very indirect and ambiguous trace in Min) have been irretrievably lost in most of the Chinese lexicon.

In Tibetan, evidence from ancient loanwords shows that presyllables must have existed, and have either been lost without trace or undergone syllabic compression. In particular, in the names of the constellations *bra,ne* from Sanskrit *Bharaṇī-* or *nabs.so* from Sanskrit *Punarvasu-* (or a middle Indic language like Pali *punabbasu-*), the first syllable either lose its vowel, or is dropped altogether (Jacques 2007). The first elements of consonant clusters, which are in many cases analyzable as fossilized prefixes, may have originated in part from reduced presyllables (Jacques 2014).

As an example of how the inclusion of languages other than the three investigated by NWH can bring us closer to a solution of some phonological problems, note the case of the numeral ‘eight’: Tibetan བཞུན་ *brgʻad* ‘eight’, Old Burmese *rhyat* and Chinese 八 *pət* < **pʻret*.

NWH proposes the reconstructions **bryet* and **ʻryet* for the immediate ancestor of the Tibetan and Old Burmese forms (in particular, the *g* in Tibetan is due to Li Fang-Kuei’s law, section 2.1.), and concludes that no single proto-form accounting for all three languages can be posited. I do not dispute the fact that proto-Trans-Himalayan reconstruction is impossible at the present moment, and believe that NWH should be commended for going only as far as the reliable sound laws allow us to go. However, the inclusion of other languages presents a quite different picture from that obtained from the three literary languages chosen by NWH. In the following, I only focus on Kuki-Chin and Rgyalrongic.

Among Rgyalrong languages, numerals are difficult to reconstruct due to analogical levelling (Jacques 2004: 161). However, Zbu *vərjêt* ‘eight’ (Gong 2018: 130) and Cogtse Situ *wurjat* ‘eight’ (Lin 2016) point to the same proto-Rgyalrong form, preliminarily⁵ reconstructible as **wərjât*.

In Kuki-Chin, VanBik (2009: 235) reconstructs a proto-form **riat* for ‘eight’, based (among other languages) on Hakha Lai *pa-riat*, Mizo *pà-rîat* Tedim *giat*¹ and Thado *gîet* (in the latter two languages **r-* regularly changes to *g-*). Some languages here have a presyllable *pa-*, which is not projected back to proto-Kuki-Chin.

The comparison of Rgyalrong to Kuki-Chin leads to the inescapable conclusion that the numeral ‘eight’ was disyllabic in their common ancestor. Even the apparently anomalous correspondence of Rgyalrong **w-* to Kuki-Chin **p-* in the presyllable is independently attested in the labial causative prefix (Jacques 2019). In Rgyalrong, both nominal and verbal prefixes (with the exception of orientation preverbs, which have been re-

⁵Partial Rgyalrong sound laws are discussed in Jacques (2004) and Gong (2018), but we still lack a complete system.

cently grammaticalized) obey very strong phonotactic constraints, and in particular no derivational prefix has any labial stop, and it can be safely assumed that all oral labial stops in presyllables had been converted to *w- in proto-Rgyalrongic.

The loss of the presyllables in some Kuki-Chin languages, and elsewhere in Trans-Himalayan, is not surprising; as pointed out by [Michaud \(2012\)](#), before complete monosyllabicization occurs, loss of presyllables tends to be sporadic. The reason for the unpredictability of presyllable loss may have to do with the fact that they can disappear in compounds (in the case of ‘eight’ for instance in complex numerals such as ‘18’ or ‘80’) or due to sandhi phenomena, and thus that prefixed and non-prefixed alternating forms of the same etymon may synchronically co-exist in the same language.

The data from Kuki-Chin and Rgyalrongic imply that Chinese and Tibetan have monosyllabicized a disyllabic word. As we show below, this idea explains three puzzling observations noted by NWH: (i) the divergence of voicing between Chinese and Tibetan, (ii) the absence of palatalization in Chinese, and (iii) the vowel divergence between Chinese and the other languages.

Question (i) receives a trivial explanation under the assumption of a merged presyllable. In Tibetan, stop presyllables (when they are preserved as first elements of clusters) are always written with voiced stops (thus a form *prgʷad would be phonotactically impossible). In Chinese, the presyllable remains unvoiced after merging.

The questions (ii) and (iii) can be accounted for by assuming that pre-Chinese *-ja- (with primary *j, a consonant not adopted by Baxter and Sagart but supported by other scholars, in particular [Jacques 2013](#), [Schuessler 2015](#)) undergoes fusion to *e when preceded by a cluster and followed by a dental consonant, in other words $**^a pərjət \rightarrow **^a prjət \rightarrow *p^r et$.⁶ This idea removes the need for assuming that *-et changes to *-at in Burmese and Tibetan (p. 31), a problematic notion since, if true, it would have to be assumed for all languages other than Chinese.

However, while Rgyalrong and Kuki-Chin data offer decisive solutions to some of the problems, they still provide no answer to questions such as the origin of the unvoiced hr- initial in Burmese and the A/B distinction in Chinese, and raise a series of additional problems, such the reason why the Japhug numeral is *kurcat* ‘eight’ instead of expected †γurzat, and the fact that ‘eight’ and ‘hundred’ do not behave in a completely parallel way in all languages.

In this chapter, NWH shows the extent of our knowledge of Trans-Himalayan comparison, and also the limits of how much further an ap-

⁶In the numeral ‘hundred’, a similar fusion has to be assumed in Tibetan འཇུག་ *brgʷa* < *pərja and Chinese 百 *pæk* < *pʷrak < **^a pə-rjak, as shown by the Rgyalrong etymon *wərjâ attested by Zbu *vərjɪ* and Japhug *γurza*. Here, *-ja- changed to *-a- instead of *-e-, possibly due to the final velar.

proach exclusively based on the literary languages can bring us.

5. Conclusion

Hill (2019b) is an excellent introduction to the historical phonology of Tibetan and Chinese and the methodology of historical linguistics. It not only focuses on possible solutions, but also highlights unexplained problems, and should thus be seen as a step-stone for further research rather than as a dogmatic doctrine. Wisely, NWH refrains from formulating monolithic proto-Trans-Himalayan reconstructions: he methodically explains how prototypes of the attested forms of the three target languages can be obtained by applying known sound laws backwards. These prototypes converge in some cases to identical forms which are plausibly as close as one can get to proto-Trans-Himalayan on the basis of these languages, and sometimes do not converge, in which case unsolved problems remain.

The study of the three literary languages chosen by NWH in this monograph is necessary for any further research on Trans-Himalayan. Chinese, Tibetan and Burmese are not only important by their own contribution to Trans-Himalayan reconstruction but also because, as major state languages, they have deeply influenced neighbouring languages. A prerequisite to use non-literary languages under their influence (in particular Rgyalrongic, Nungish and Jinghpo) is to distinguish loanwords from cognates, an operation which can only be successfully undertaken with a good knowledge of historical phonology. The knowledge collected in NWH is thus a necessary preliminary to further research on Trans-Himalayan.

However, as NWH himself indicates (p. 212, see the quotation in section 4.), the three literary languages are not as informative to reconstruct proto-Trans-Himalayan as Greek and Sanskrit are for Indo-European. The most important insight of Neogrammarian linguistics, the distinction between regular phonetic correspondences on the one hand, and spurious correspondences due to analogy on the other hand, can only be successfully investigated in languages with rich and productive morphology; this excludes the three literary languages chosen by NWH. A study of similar methodology, based instead on Rgyalrongic, Kiranti and Nungish, might yield more robust sound results (Jacques 2016, Gong 2017). However, many internal problems remains in each of these branches (Jacques 2017), and a considerable amount of work is necessary before they can be systematically included in Trans-Himalayan comparison (Zhang et al. 2019).

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