SOURCES OF WRITTEN BURMESE –*AC* AND RELATED QUESTIONS IN BURMESE HISTORICAL PHONOLOGY[1]

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Abstract

This is a response to issues in the article "Proto-Lolo-Burmese and Old Burmese Sources of Written Burmese", a recent English translation of an article by Yoshio Nishi published originally in 1974.

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The impetus for this paper was a publication in JSEALS of an English translation of a lengthy article by Yoshio Nishi on the history of the orthographic rime *-ac* in Burmese.[2] Although the title of the article presupposes analysis of only this one controversial feature of Old Burmese (OB) rimes, Nishi in fact ventures far into practically all basic problems of OB phonology, mainly in his footnotes. It was a surprise to me that Nishi's research coincided with mine although the time lag between the two results is quite considerable — Nishi's article was first published in 1974, while my book on OB phonology appeared in 1990.[3] Since both studies were published in 'exotic' languages (Japanese and Russian respectively), they largely remained unknown to the community of Tibeto-Burman researchers.

In his research, Nishi relies extensively on data from related languages, whereas I concentrate on internal reconstruction. These two divergent approaches lead to largely overlapping results, yet I do differ with Nishi on some points. I begin the discussion with the core problem of his article, i.e., the rime *-ac*.

In OB some words which are spelled in Written Burmese (WB) as *-ac* were spelled with final *-at,* although most WB spellings *-ac* were also spelled *-ac* with some variations in the marking of the preceding vowel (see below). Based on the divergent OB spellings –*ac* and –*at*, corresponding to WB *-ac* and on evidence from related languages, particularly Akha, Nishi infers that WB *-ac* descends from three Proto-Lolo-Burmese rimes, namely, **(y)at*, **it* and **ik* (p. 106). He also proposes that all the three were distinguishable in early OB and merged into *-ac* probably in late OB.[4] It is on this latter point that I disagree.

I shall present the situation in OB (taken as a whole) as to inconsistencies in spellings of the rimes *-at* and *-ac*. There were only a few words in OB spelled with the rime *-at* that later evolved to *-ac*. Nishi cites five of them, and this is probably an exhaustive list: *hyat* or *het* (WB *hrac*) 'eight', *ňhat* (WB *hňac*) 'to squeeze', *cat* (WB *cac*) 'to examine, investigate', *khyat* (WB *khyac*) 'to love', *mryat* (WB *mrac*) 'root'. At the same time, he admits that some words ending with *-at* could also be spelled alternatively with *-ac*: *hrec*

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[1] This paper would never have been written if not Dr. Nathan Hill (SOAS), who first sent me a copy of Nishi's article, and after we discussed some points of it, he encouraged me to write a paper and offered help in writing it. And indeed his participation goes far beyond just editing, but merits authorship, which he unfortunately rejects. In this situation, it is left for me just to express my sincere gratitude to him.

[2] Yoshio Nishi. 2016. Proto-Lolo-Burmese and Old Burmese Sources of Written Burmese — *ac*. *Journal of the Southeast Asian Linguistics Society* 9 (2016): 97–129 http://hdl.handle.net/1885/107171.

[3] For the date of first publication by Nishi, see the footnote of the first page of the translated text. As for my book, it is Yanson R. 1990.

[4] Nishi refers to the term 'Old Burmese' as the form of Burmese of the late 11th to late 13th centuries (Nishi 2016: 113, footnote). This in turn he divides into two periods – early OB and late OB (Ibid:99).

or *hrac* for 'eight', *khyac* for *khyat* 'to love'. Nishi also gives some more examples of interchanging *-at* and *-ac* (Ibid.:97).

My trawling through inscriptions, including the publication by the Ministry of Culture of the Union of Burma and the main source for Nishi – *Selections from the inscriptions of Pagan* by E. Maung, [5] resulted in the following OB spellings pertaining to the problem under discussion.

The WB *-ac* was reflected in different ways:

> *mlec* (WB *mrac*) 'river' (EM, 20, 9; 23, 27);
> *hnec* (WB *hnac*) 'two' (SH, vol. 1, 75, 1; 138.1);
> *tic* (WB tac) 'one' (SH, vol 1, 335, 7) and even *tiec~teic* (WB tac) 'one' (SH, vol. 1, 335, 7), also somewhat aberrant *tat* (WB *tac*) 'one', but this spelling appears throughout this particular inscription (SH, vol. 1, 226).

Note also Nishi's example *cat* (WB *cac*) 'to examine'). At the same time, there are cases, not mentioned by Nishi, in which OB *-ac* corresponds to WB *-ut*:

> *thwac* (WB *thut*) 'take out, extract' (SH, vol. 2, 112, 32);
> *chwac* (WB *chut*) 'to tear' (SH, vol. 2, 112, 32; 120, 19);
> *krwac* (WB *krut*) 'container for relics' (SH, vol. 1, 152, 8–9).

Along with this, there were words in OB spelled with *-ut* and retained this spelling in WB: *ut* 'brick', *hut* 'be correct', *chut* 'withdraw, recede'. These are never met with spelled *-ac*. At first glance, the situation appears quite strange. It seems that there are cases when OB *-ac* evolved in WB to *-ut* [oʔ], whereas the overwhelming majority of OB spellings *-ac* retained their graphic form in WB with the pronunciation [iʔ]. Since the words with rime *-ut* are present in OB and WB and did not change spelling throughout their evolution, the three words (OB *-ac* > WB *-ut*) present a problem. I think the explanation of this phenomenon lies in the following peculiarity of the phonological system. E. G. Pulleyblank (1963) was the first to note that the vowel *u* in Burmese can be phonologically realized as *u̧i*. In Modern Burmese (MB), there are cases in which [*u*] is pronounced like [*u̧i*], e.g.: *khywat* [ćʰuʔ] 'to release' is sometimes pronounced [ćʰu̧iʔ]; *pʰwam pʰriu* [pʰuŋ pʰjo] 'developed' can be pronounced alternatively as [pʰu̧iŋ pʰjo]. Suppose a person wanted to inscribe alternative pronunciation of some words ending *-ut*, i.e. sequence *-u̧it* . For *-u̧*, he naturally uses subscript *w*, but cannot use the superscript *i*, because normally the graphic combination of *-w-* and *-i-*, i.e. the sequence *-wi-*, is forbidden, except in onomatopoeia. Thus, a scribe encounters a problem in representing *-it* and instead uses *-ac*.

I suspect that at least one word of the three under discussion, namely, the word *chwac* (MB *chut*) 'to tear', functioned in OB in two forms. This word in MB has very broad semantics. The Burmese-English Dictionary (Myanmar Language Commission 2001) mentions two groups of meanings: (a) withdraw, retreat, recede, wane and (b) tear, rip, skin a dead animal. To my mind, the semantics of both groups are quite close. Almost all inscriptions contain the date of the ceremony of a donation, and so the waning moon is mentioned often, and it is spelled *chut*, the same as in MB. Now, if we accept, that actually the variety of meanings of *chut* stems from the same root (as I am inclined to), we will have to admit that the same word was spelled different ways. I think it is possible to explain such a phenomenon. The two words showing the change OB *-ac* > MB *-ut* are met in the Edict of the king Kya Zwa, which is intended to warn people against theft. So it could have been that pronunciation of *-u-* like [u̧i] was an indication of elevated style. I do not know if the word *thwac* (MB *thut*) 'take out' along with *chwac* had alternative spellings, but it also has broad semantics in MB, and therefore we should admit such a possibility. As for the word *krwac* [MB *krut*] 'container for relics' it is met in a number of inscriptions and only in the form *krwac*. The spelling *-ac* for this word accords well with the theory that this spelling is associated with an elevated style because it actually denotes a sacred object.

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[5] I used only vol. 1–2 of SH, containing inscriptions dated from 1113 (Myazedi Inscription) to appr. 1260. When citing examples, I will mention the first source as SH followed by vol. 1 or 2, the second- as EM. This will be followed by page and line where the example was met, e.g. [SH, vol. 1, 5, 20] means that the example can be found in vol. 1, page 5, line 20. Likewise, [EM. 20.5] indicates the 5th line on page 20.

Now let us consider one further revealing example. The Pali word *ucca* 'above, high' is met with spelling *ut ca* (1, 135, 12; 1, 239, 31). The script does not allow the correct representation of the word, but since it is a Pali word, the original spelling of it is retained in MB, where it is spelled *uc ca*. The reason for the ancient scribe to have chosen final *-t* instead of *-c* is quite clear: the sequence *uc* is not met with Burmese words. Since final *-c* is used to represent *-t,* naturally *-t* can represent *–c*. So if I write *uc ca*, apart from it being a strange spelling, it could be understood as *–ut ca*, which is wrong. If one wrote *ut ca*, Burmese readers of the period were accustomed to interchanging in graphic *-c-* and *-t*, so they are free to interpret *ut* in both ways- either as *uc* or as *ut*. Since the Pali word was of frequent use in inscriptions in combination with another Pali loan *paccayo* 'cause, requisite' (OB *utca paccaň* 'wealth') readers would readily recognize the word *utca* in any spelling, so the scribe chose the way with *-t*. It is worth noting that in the Edict of King Kya Zwa, this word is once spelled *-uc ca* (2, 127, 47), but in other places *-ut ca* (2, 135, 6).

Two conclusions can be drawn from the above speculations. First, the ancient scribes encountered difficulties in representing the vowel in question, and hence there appear different spellings of the vowel (the first four examples). Second, as Nishi also mentions, the spellings *–ac* and *-at* used to be used interchangeably. This means that both spellings actually reflected one and the same rime, represented differently for some reason (e.g. different attempts to spell the preceding vowel).

Now I proceed to some details.

I shall start with an excursus into Modern Burmese (MB). Here the spelling *-ac* is phonetically realized as [-iʔ]. But what is interesting is that when the Burmese are asked to pronounce distinctly words spelled with *-ac*, they pronounce [-it]. When words spelled with *-ac* are transcribed in practical English, they are written with final *-t*. Thus, *mrac* [mjiʔ] 'river' is transcribed *myit*; *cac* [siʔ] 'war' — as *sit*; *pac* [pjiʔ] 'to throw'— as *pyit*. There is no phonetic explanation for this phenomenon. With intentional pronunciation, words spelled *-ac* in MB theoretically could be pronounced with final *-p* because words spelled with finals *-t* and *-p* are pronounced absolutely alike. One would even expect a reading of *-k* because all three are realized as glottal stop. Yet the spoken language chooses *-t*. Ch. Duroiselle mentioned in 1919 that for several words spelled with *-ac*, the pronunciation norm was [it].[6] So at this point we can note some genetic phonological memory, which also hints that the final *-c* in OB actually represented *-t*.[7]

Before we come to a definitive conclusion as to the value of the final in the rimes under discussion, it is necessary to analyze the problem of the value of the preceding vowel. What can be stated at this stage is that it was not a plain vowel, but a complex one. The grounds for such a conclusion are as follows. We have the spellings *hyat* and *het* for '8', *tac*, *tic*, *tec*, *tat* and even *tiec~teic* for 'one'. First let us analyze the spellings of 'eight'. As a rule, the symbol for *e* is not used in native Burmese words closed syllables, whereas the sequence *ya* is quite common. Since they are used alternatively, their phonetic value should be close. Certainly, the value of the symbol for *e* could not contain a consonant, so the correct interpretation of the spelling *ya* should be *ia* — a complex vowel. It is impossible to represent such a vowel graphically in the Burmese script, if the final is *-t*, because the only way to represent it would be *it*, but in this case the rime would coincide with the commonly met inherited rime *it*. In such a situation, it is logical to choose *-c* instead of *-t* since the place of articulation of both is quite close. Thus, the spelling *-c* does not reflect the actual phonetic value of the final, but is just a conventional means to represent *-t*. Also final *-c* does not combine with any vowel except *a*, and therefore there is no need to represent the vowel *-i* — before *-c* because the reader will be accustomed to understanding that *-c* is a conventional spelling for *-t* preceded by *ie*-like vowel. We met above several spelling variants *-ac*: *-ic, ec, iec~eic*. All of them reflect attempts to represent the complex vowel /ia/, but gradually scribes realized the redundancy of the additional symbols before *-c* and arrived at the more parsimonious spelling *-ac*, which is retained today. The two (what may be called)

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[6]   *Epigraphia Birmanica* (Rangoon), vol. 1, part 1, 1919 (Reprint 1972):34.
[7]   As to genetic phonological memory, I would like to present one more piece of evidence that should not be ignored. At the very beginning of the Pagan period, i.e. the early 12th century, the phonological system contained only three plain vowels: *i, u, a*. The front vowels *e* and *ε* of MB appeared later. So up to now, the phonological system treats *i* with priority over the other two. This becomes apparent from the fact that some words of which the spelling allows pronunciation with any of the three mentioned vowels (*i, e, ε*) in formal style are pronounced with *i*, but in colloquial style the same word will be pronounced with *e* or *ε*. Such a situation has even led to the respelling of the common word 'also': its original spelling is *laň* which can be realized as [*li*], [*le*] and [*lε*]. So for colloquial style, the spelling *lai* (pronounced [*lε*]) was introduced and the spelling *laň* is retained for formal style with the pronunciation [*li*].

aberrant spellings *tat* 'one' (WB *tac*) and *cat* 'to examine' (WB *cac*) reflect the confusion of the scribes in trying to reflect the vowel, which is *i~e-* like, and the only way to represent it would be with the symbol *i*, but that would lead to a conflation of this rime with inherited *it*. So they decided the final was more important to spell correctly and ignored the vowel. These two examples convincingly show that the final spelled *-ac* was pronounced as *-t*.

Since the spelling *het* 'eight' is the earliest variant for '8' (Myazedi inscription, 1113), we can speculate the other way. When Burmese was committed to writing, there existed some complex vowel difficult to represent by means of a borrowed script. At that time, the spelling *e*, although it was quite common in Pali loans, was of a very restricted use in open syllables in Burmese words. There are several style with the pronunciation [li] approaches to the problem of the value of *e* in the early Pagan period.[8] Based just on the two spellings for 'eight', we can conclude that the value of *e* was *ia*. We see that against the prevailing tendency, the scribe of the earliest inscription uses *e* in a closed syllable. Later scribes substitute this spelling with *ya*. One may conclude that the spelling *e* more or less correctly reflected the value of the vowel, but that this vowel was phonotactically prohibited in closed syllables, and since the vowel of 'eight' later came to be written *ya* we can be sure the symbol *e* used in 'eight' contained *i* followed by some vowel, which we must represent as *a*, but keep in mind that if it were some other vowel, it would have been impossible to represent graphically. At this point, we must appeal to the Burmese-Chinese Dictionaries of the Ming dynasty.[9] Unfortunately, Chinese transcriptions of the spelling *ac* do not contain any final because at that time, stop finals were not present in the Chinese phonological system. As to the vowel reflected by the spelling *ac*, Miller transcribes it as [ie], which actually coincides with my reconstruction [iə]. Nishida's reconstruction of [iʔ] looks a bit odd. He actually transcribes the MB pronunciation of the rime. Certainly, the sequence *ie~iə* could not be represented in Burmese script, which led to attempts to represent the whole rime symbolically, and hence the spelling *ac* for phonetic [iet~iət].

Now I return to Nishi's reconstructions of OB *-ac*. He reconstructs three sources for this rime, **(y)at, *ik, *it*, claiming that all three were distinguishable in early OB. It merits mentioning that Jakob Dempsey, relying on data from related languages, derives *-ac* from *-ek* and *et* (2001: 216) without mentioning *(y)at*. This example shows to what extent the reconstructions based on external reconstruction can differ. To my mind, it is only the proto rime **(y)at* that is plausible as a source for OB *-ac*. In the Pagan period, I find no evidence for *ik* or *it* being distinguishable. Therefore, it is left to stress that in OB spelling, *–ac* was pronounced [iet].

The next problem I will discuss is entitled in Nishi's paper "The interpretation of palatal initials as palatalized velars" (pp. 110–11). Here Nishi tries to reconstruct the value of the OB initial spelled alternatively *ňi~ŋi*. He offers the following examples of this alternation:

OB *ňi~ŋi*: WB *ňi* (CB /ňi/) 'younger brother',
OB *ňi-ma~ŋi-ma*: WB *ňi-ma* (CB /ňima/) 'younger sister',
OB *ŋi, ŋi-ňwat*:WB *ňi, ňi-ňwat* (CB /ňiňuʔ/) 'to accord',
OB *ŋhi*: WB *hňi* (CB /hňi/)[10] 'to kindle'.

Nishi mentions that there are no examples of *–ň* appearing in front of *–iC* or e < OB *–iy*.

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8   In fact, all attempts to reconstruct the value of the vowel *e* look more like attempts to avoid the conclusion about the value of the symbol than suggestions as to its value. Thus, E. G. Pulleyblank writes, 'The significance of *e* in the Myazedi orthography, which has nothing to do with WB *e* is not clear' (1963:217); Robert B. Jones writes, 'The few remaining words with the spelling *e* are difficult to identify conclusively with modern forms' (1976:48).

9   There are several variants of Burmese-Chinese Dictionaries in different parts of the world compiled somewhere in the sixteenth century. One of the variants was studied by Miller (1954); several different copies were studied by Nishida (1972). I myself studied a copy from the Library of the St. Petersburg Institute of Oriental Manuscripts 緬甸館來文 *Miandian guan lai wen* 'Burmese documents sent to the Royal Court of the Ming dynasty' (cf. 907 (1953): 224).

10   It remains unclear why Nishi transliterates OB and WB aspirated sonorants differently: for OB, he transliterates them as postaspirated, and for WB as preaspirated. But it is a well-known fact that sonorants cannot be postaspirated, only preaspirated. Of course in inscriptions, we can meet spellings which can be understood as representing postaspiration with some sonorants, mostly in Pali loans, but even in such cases one must present them as preaspirated, and confusing spellings must be attributed to orthographic instability.

He follows this remark with two citations of *ŋ(y)* ~~ *ň* before other OB finals:

OB *ŋhyap*: WB *hňap* (CB /hňaʔ/) 'to pinch, compress between two',
OB *ŋhan – chay* ~ *ňhan chay*: WB *hňaň – chay* (CB /hňiň – she/) 'to oppress'.
This last example is met also with the following spellings:
OB *hŋyan chay* (2,208,22) and *hňyan chay* (2.224.13) 'to oppress'.

There exist several more examples in inscriptions of interchange between *ň* and *ŋ*, but citing them would add little to what is here already presented.

Nishi's conclusion that the OB interchange of *ňi~ŋi* and *hŋi* reflects /ŋi/ and /hŋi/ respectively (pp. 110–11) relies on some suspect assumptions. First, let us consider Nishi's analysis of the OB word *ŋrim* : WB *ŋrim*, (CB /ňein/) 'to extinguish'. This is the only Burmese word containing *ŋr-* in OB , which Nishi equates with OB *tr-* in other OB spellings (*trya~tra~tarya*: CB /təya/, 'law') and a couple of other spellings. He excludes such cases from further analysis on the grounds that it is possible to treat them as 'a secondary/marginal system for a borrowed language or a few forms of obscure derivations, from a monosystemic perspective, we may interpret these as rather /TəC-/' (p. 110). Certainly, the OB form with *ŋr-* (*ŋrim*: WB *ŋrim* (CB *ňein*) 'to extinguish' is important for the reconstruction of the initial under question, and it is a mistake to equate it with Pali loans spelled in inscriptions variously as *tarya~tara~trya*. If we compare these with another Pali loans, such as *acariyo* 'teacher', which is spelled in inscriptions like *chrya*, but evolved in MB to *cha-ra; ŋray* 'purgatory' which evolved to *ŋaray; ŋrut* 'pepper'(origin unknown) which evolved to *ŋarut*, we find that sequence *ŋr-* was alien to the Burmese phonological system and was thus reinterpreted into bisyllabic sequences. But this development did not occur with *ŋrim* and other Burmese words containing *ŋr-*. Actually none of the few Burmese words in WB spelled with *ŋr-* underwent such a split of the initial across two syllables. Here are some examples: *ŋraŋ* 'argue, reject', *ŋru* 'envy', *ŋram* 'scaffolding', *ŋriu* 'ill-will toward someone'. Judging by the meaning of these words, they could have been in use in OB, but are so far unattested due to the restricted size of the epigraphic corpus. Yet, I have met one old word preserved in MB in its original form: *ŋra* 'particle suffixed to a verb as an emphasis' (2,182,21; 192,5). So the above situation in general looks like following. In the words about which we are sure they contained -*r*- (Pali loans), the phonological system treated sequences with it as alien. In other words, apparently Burmese, the spelling *ŋr-* is quite stable. All words spelled *ŋr-* are pronounced in MB with *ň-*. It is clear that phonetically /ŋr/ cannot evolve to /ň/, whereas such evolution would be natural for *ŋy*. At this point, we may state that the symbol for –*r-* in spellings *ŋr-* did not represent its alphabetical meaning. If we take into account that in a course of time the *r* and *y* merged and both started to be pronounced /j/, the assumption that spelling *ŋr-* was in fact intended to represent *ŋy-* looks quite plausible. Of course the question arises as to why the Burmese did not use spelling *ŋy-,* but used *ŋr-*. I have no convincing answer to this problem, but what is worth mentioning is that in Mon—the donor of the script—the sequence *ŋy-* is not used.

A purely phonological analysis of the problem under discussion proves decisive. In OB, there were velar initials /k /– /kʰ/ – /ŋ/ and palatal /ć/ – /ćʰ/ (in MB spelled *s – hs*) and /ɲ / – /ʰɲ/ (spelled *ň-hň*). There were also complex initials spelled *ky, khy* and *ŋr*. In the course of time, *ky* and *khy* evolved to /ć/ – /ćʰ/ and former /ć/ – /ćʰ/ became /s/ – /sʰ/. After the disappearance of the old palatals and the innovation of the new ones, a distributional gap existed. There was no nasal corresponding to the newly created /ć/ – /ćʰ/. In principle, this gap could have been filled by *ŋy*, but graphically there was no sequence *ŋy* utilized for whatever idiosyncratic historical reason; at first, it was spelled *ŋi~ňi*, but after *r* and *y* merged, the Burmese started to use symbol for *r* with the meaning /j/. Former *ň* could not be used as a correlate of the new /ć/ – /ćʰ/ (although its phonetic shape allows such interpretation) because that would make the *varga* of the new /s/ –/sʰ/ incoherent, so it was retained with its former palatal correlates.

Thus, we may conclude that OB alternation *ňi~ŋi* did not represent /ŋi/ as Nishi infers (p. 110), but rather /ŋy/. [11]

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[11] P. K. Benedict (1972:44, 47) reconstructs Proto-Tibeto-Burman initials *ŋr* and *ŋy.* Initial *ŋr* is reconstructed basing on the following etymons: 'meet'– Burm. *ŋra,* Kachin *nya,* (Tibeto-Burm. *ŋra)*; 'object, deny': Burm. *ŋraŋ,* Nung *ŋyeŋ* (TibetoBurman *ŋraŋ*); 'dark colour': Burm. *ŋrui,* Kachin *nyui,* Nung *ŋyo* (Tibeto-Burm.*ŋruw*); initial *ŋy* is reconstructed as follows: 'fish': Tibet. *nya,* Chepang *ŋa~nya,* Kachin *ŋa,* Burm. *ŋa,* Nung *ŋa* (Tibeto-Burman *nya*); 'to let, borrow' – Tibet. *brnya-ba,* Nung *ŋa*, Burm. *hŋa* (Tibeto-Burman *r-ŋya*). As can be seen, initial *ŋr* is

There are two more points which Nishi dwells upon in relation to the topic just discussed and which may seem not to pertain to the problem. Nishi writes, "…OB/WB *sy~shy* may be interpreted as /hr-/ in OB owing to the existence of the spelling variants *rh-* and *yh*" [p.110]. He provides the following data:

OB (*ʔa-)rhaŋ~(ʔa-)syaŋ~(ʔa-)shyaŋ*: WB (*ʔa-)hraŋ~(ʔa-)hsyaŋ*: CB / (ʔə)šin/ 'Lord';
OB *ʔo-ryat-si* WB *ʔup-rhac-si~ʔu-hsyac-si* : CB /ʔouʔ šiʔθi/ 'bael fruit';
OB *rhec~het~hyat~shyac* (found in non-original inscriptions): WB *rhac*: CB /šiʔ/ 'eight'.

I begin with the analysis of the first example, 'Lord'. The variants present a mixture of spellings from different epochs and styles of texts, all reflecting attempts to spell the Sanskrit word *arhant* originally 'monk', or 'the enlightened one' in the Burmese interpretation. Since the sequence *rh* contradicts Burmese phonological rules, which do not tolerate postaspirated sonants, but only preaspirated ones, the scribesencountered difficulties in spelling this word, hence the spelling *hraŋ.* The spellings *syaŋ* and *shyaŋ* present a problem. Obviously, such spellings could have only appeared after –*r*- and –*y*- merged as –*y*-. In many words, this merger was followed by the respelling of those words, which originally contained –*y*- into –*r*-[12]. The reason was orthographic: inscriptions show numerous examples of how the scribes tried to save space because of the difficulties of writing on stone or the cost of palm leaves. The letter *y* is much more complicated than *r*: the letter *r* used to be inscribed by just one vertical line, whereas *y* contained three vertical lines connected horizontally. Thus, *hyaŋ* and *hraŋ* present no problem. As to the mixing of *s* and *h,* I remind the reader of my mentioning above of the genetic phonological memory in Burmese. Burmese aspiration is cognate with the Tibetan prefix *s-*. With stops, the *s-* evolved in Burmese to postaspiration, with sonorants , to preaspiration: Tib. *sba* > Burm. *bʰa* 'frog'; Tib. *sna*> Burm. *ʰna* 'nose'. It is possible that the scribes intended to present the word *arhant*, very important for Buddists, in an elevated manner, and here the phonological memory starts to work — instead of already standard aspiration, its etymon is used, i.e., *s*. So the sequence of the variety of spellings for 'Lord' is as follows: first, the scribes changed original *rh* to *hr*, after which they substituted *h* with *s*, but the sequence *sr* is alien to the Burmese phonological system, so the scribes substituted *r* with *y* in spite of the fact that doing so led to a complication of the overall spelling of the word. Thus, the spelling *shyaŋ* is a mixture of all possible ways to represent *rh*: *s* is a spelling influenced by an inherited prefix *s-*, *h* is a part of original *rh* respelled as *hr*, and finally *y* substitutes *r*, because *sr* does not exist in phonological system[13].

The same analysis accounts for the next two examples, except for explaining the interchange of *-c* and *t,* which was explained earlier, but merits further comment. In the above example, I explained mixing of *h* and *s* as possible intention to present the word in an elevated style. Certainly, the name of the fruit in the second example does not deserve any special stylistic presentation, but it is a borrowed word, the original pronunciation of which may have been alien to Burmese. Thus, different spellings represent attempts of the scribes to spell the word, which had an unusual phonetic form.

The spelling *shyac* in the third example is entirely parallel to the spelling *shyaŋ* in the first example. The instability in the representation of the vowel was explained above. It may seem strange that in an ordinary Burmese word, such a complicated spelling of the initial was used. The presence of *-s-* cannot be explained as in the first example since the Tibetan word for 'eight' (*brgyad*) contains no *s*. Nishi mentions that this spelling is found in non-original inscriptions. My desultory consultation of the inscriptions confirms his observation, but this fact does not help us understand what is behind the complication of the initial of the word.

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reconstructed based only on Burmese examples. Since it is clear now that the value of the spelling *ŋr* was *ŋy*, initial *ŋr* should be excluded from Proto-Tibeto- Burman whereas *ŋy* appears to be well substantiated.

[12] For example, the word 'suffer defeat' was spelled in inscriptions *hyum*, in WB it is *hrum*, OB *syam* is spelled in WB *hram* 'Siam> Shan', 'to have' in OB was spelled *hi* and later *hyi*, in MB it is *hri*.

[13] The relationship between *s* and *h* in Burmese needs further investigation. Quite interesting is the following example. The word *hro~hraw* 'when, time' is quite common in inscriptions. In MB, it is spelled *saro,* pronounced /θəjo/. The question arises why the Burmese changed the old spelling of the word, which led to complication of the simple old form: substitution of the original *h-* by *s-* caused the appearance of the sequence *sr-*, which the phonological system does not tolerate. Thus, the word had to undergo resyllabification and function in the form, containing presyllable, which feature is the peculiarity of Mon. So maybe it is possible to trace the origin of this tricky spelling via Mon, and also make our speculations above about the reason for changing *h* to *s* more plausible.

In any case, I do not see how the different forms of the spellings in Nishi's examples above are related to the problem of reconstructing the initial spelled alternatively *ŋi – ňi*.

The last point on which I would like to offer a perspective differing from that of Nishi is the value of the spelling *ki* in OB. Nishi writes, "…it is highly likely that OB lacked the distinction *Ki* (-): *Kyi* (-). WB *Kyi* (-) and Kye (< OB-*iy*) may be thought to be either a secondary palatalization (although it is unclear whether it was distinctive) or to originate from the transition –*l*- >-*y*- in the medial" (p. 110). This is followed by several examples of correspondence of OB *ki – khi* with WB *kyi – khyi*. Nishi further argues saying, "…we can presume that there was typically no distinction between –*i* versus –*yi*" (p. 110).

First, I do not understand how the initials under discussion could be related with the process of evolution of those containing medial *l > y*. Words spelled with *ki*- and *khi*- unlike others never contained any medial. Therefore, the assumption, that a medial –*y*- in such words, which appeared later, can be somehow connected to the process of evolution of medials is untenable.

Another point is Nishi's assumption that there was no distinction between –*i*- versus –*yi*-. If it were so, why did medial –*y*- start to be used with velars, but not also with other initials? Why did such words as *mi* 'fire', *pi* 'be distinct', *li* 'penis' never acquire medial –*y*-whereas velars did? My reasoning as to this problem is as follows. In MB, words spelled in OB with *ki*- or *khi*- are spelled with medial –*y*-, e.g.: OB *ki* 'crow': MB *kyi* /ći/; OB *kin* 'to swear': MB *kyin* /ćein/. There were also words in OB which contained medial –*y*- even with velars, but not before –*i,e*, e.g.: *kyan* 'left behind', *kyon* 'slave'. In the course of their evolution, the complex initials *ky*- and *khy*- became /ć/ and / ćʰ/ respectively. At some point (circa 15th century), words formerly spelled with initials *ki, khi* acquired medial –*y*. Thus, the word *ki* 'crow' became spelled *kyi; khi* 'lift' became *khyi*. I interpret this situation as follows. The respelling of former *ki, khi* signals that former *ky, khy* had become /ć/, /ćʰ/. Due to natural palatalization before front high vowels, former *ki, khi* appeared to be involved in the process, which *ky, khy* underwent. As a result, the initials spelled *ky, khy* and *ki, khi* appeared to be pronounced alike, which led to the respelling of former *ki, khi*, because it appeared that one and the same initial was spelled differently — as *ki, khi* or as *kyi, khyi*. If such an explanation is accepted, we can fix the time of the evolution of *ky, khy* to /ć/, /ćʰ/: as soon as we meet in inscriptional spellings of erstwhile *ki, khi* with medial –*y*-, we can infer, that *kyi, khyi* had evolved to /ć/, /ćʰ/. It is worth mentioning that the only pharingeal in the system *h* followed the evolution of velars, and OB *hi∼hiy* 'to have' started to be spelled *hyi* (WB *hri*).[14]

Abbreviations
EM = E. Maung (1958), ဦးအေးမောင်, ပုဂံ ကျောက်စာ လက်ရွေးစင်, ရန်ကုန် တက္ကသိုလ်, ၁၉၅၈ *Pagan kyauk sa lek ywe zin* (Selections from the inscriptions of Pagan), Rangoon, 1958.
SH = ရှေးဟောင်းမြန်မာ ကျောက် စာများ, ပထမ တွဲ, ရန်ကုန်, ၁၉၇၂။ ဒုတိယ တွဲ, ရန်ကုန်,၁၉၈၇။ *She haun Myanmar kyauksa mya* (Old Burmese inscriptions) in 5 volumes, Ministry of culture of the Union of Burma, Rangoon (1972–1998).
OB = Old Burmese
WB = Written Burmese

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[14] It is interesting, that the phonetic sequence /hj/ can be interpreted phonologically either as preaspirated sonant /ʰj/ or as palatalized /hʲ/. The system chooses the first variant, which became standard, but in inscriptions both variants are met: *hyan* 'eight' and ʰyi 'have'.

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