A Classified Account of J. F. Needham's *A Collection of A Few Môshâng Naga Words*

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Abstract

J. F. Needham's 1897 publication provides the first written account of Muishaung (Glottolog mosa1240), and one of the first ever accounts of any language within the Tangsa-Nocte group. While not completely free of typographic oddities, the text serves as an invaluable record of language change of an otherwise under-documented language within the Sino-Tibetan family. This paper presents a detailed account of the text, including lexical items and grammatical structures of the original, with a comparison to the modern form of the language as spoken in the Tərɨt Valley of Arunachal Pradesh, India at the Burmese border.

Keywords:

Legacy materials, J. F. Needham, Tibeto-Burman, Tangsa-Nocte, Muishaung

Introduction

Descriptions of the languages of eastern Arunachal Pradesh and northwestern Myanmar are few, despite the incredible linguistic diversity of the region. Early descriptions are even rarer, with only a very small handful of accounts from before the 1900s. Perhaps the most significant contributor of such descriptions was Jack Francis Needham, who published word lists and sketches of the Hkamti variety of Southwestern Tai, still spoken in Northeast India and Myanmar today, as well as the Tibeto-Burman varieties Mising, Singpho, and Muishaung Tangsa. His description of Muishaung — which includes occasional references to the neighbouring and closely related Shecyü (Shangke) Tangsa variety — is the first account of any of the

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languages within the Tangsa-Nocte group to include grammatical analysis; the few earlier published records were limited to the type of word lists such as is found in Brown (1851). Along with his description of Singpho, he produced the first accounts of any Patkaian (Northern Naga) variety available to the outside world. It would be almost a century before additional works beyond lexical collections would come out in the work by Das Gupta (1978; 1980).

Needham's account of Muishaung is still invaluable as a record of linguistic data today, providing a window into a version of the language from nearly a century and a half ago and a clear account from which a number of significant changes in phonology, lexicon and morphosyntax can be timed. However, its value goes beyond that of the data itself. Just under the surface, his *Collection of A Few Môshâng Naga Words* also gives the modern fieldwork a glimpse into some very familiar pitfalls of fieldwork data collection that they may also be dealing with. A number of words in the text have incorrect glosses, but ones for which it is easy to imagine the elicitation methods. Some are relatively straightforward, such as "sky" being given when asking for "up" rather than the actual directional term, while others evoke the likely scene that played out when Needham visited the speakers. One of these cases is "wild cat" being given when eliciting "flea", suggesting perhaps the presence of an actual cat with fleas which was used as a reference to incorrectly elicit the desired term.

Other cases exemplify some of the difficulties faced by linguists and community members alike when attempting to have consistently transcribed orthographic representations of speech. Examples include regular omission of glottal stop codas (but description of such syllables as "sharp"), inconsistent transcription of an underlying palatal nasal phoneme perhaps due to Needham mishearing or the speaker misspeaking or simply the existence of some sort dialectal / idiolectal variation. When taken not as a text full of errors made by typographers, translators or Needham himself — all explanations for the mismatches with today's speech which the authors have encountered over the years — but instead looked at with a careful eye to the patterns which emerge in the transcription, to anyone who has

undertaken linguistic fieldwork Needham's account exists as something like an ethnography of the ethnographer. The inconsistencies, errors and accompanying prose tell us a great deal about Needham, perhaps almost as much as the text tells us about Muishaung as a language.

With that as the context, this paper presents much of the original data as published in 1892, with additional analysis and commentary on the work relating to both the data and the collection methodology as much as it can be reconstructed through quirks of transcription, glossing, or commentary in the text. We also provide parallel data from the modern language as spoken in the Tərɨt Valley, around 27°05'N 95°53'E where the headwaters of the Namchik River are to be found, and of which one of the authors of this paper is a native speaker.

While in many cases, Needham's account closely matches the modern form of the language. However, a significant number of differences are to be found, sometimes minor and sometimes the result of significant miscommunications. Even in cases where the differences are substantial or where miscommunications have occurred when the data was originally collected in 1888, there is much to be learned relating to how this under-documented language of only around 2,000 speakers between India and Myanmar has changed in the past 136 years in terms of phonology, lexicon, semantics, and morphosyntax.

As mentioned, the account provided by Needham also presents a glance at the period of time in which he was collecting the data. The specific errors in concept elicitation and transcription give the data a very human flavour, and in his work much of modern struggles in fieldwork data elicitation are also evident, but also a sense of the salience of concepts not only to Needham but the Muishaung community as well back in 1888 when the data were collected.

Language background

Written as 《Môshâng》 in the original text, the name of the community and their language is today spelt ⟨Muishvung⟩ in the official Roman orthography and

pronounced /mɨ₂ʃeuŋ₂/. The other common spelling under which it is known is ⟨ Mossang⟩.

The Muishaung community is today believed to be one the largest of the dozens of Tangsa-Nocte subtribes in India today. They are classified among the Scheduled Tribes in India, and are also found throughout northwestern Sagaing Region in Myanmar, in the greatest numbers around the Lake of No Return, as well as in Nanyun and Hkamti Townships. In Arunachal Pradesh, India, the population originally settled in the Tərɨt Valley along the modern national border, where their villages appear on the oldest maps produced by the British Survey of India. Speaker numbers are estimated to be around 2,000-3,000, however reliable numbers are not available.

In terms of resources on the language, a brief un-published sketch grammar has been compiled (Morey, 2019) and a community-driven dictionary is currently in development. Bible and Hymnal translations are in use within the community, and children still regularly learn the language as their mother tongue today. A handful of partial descriptions can also be found in the literature, including in Morey (2015, 2018) and van Dam (2020).

The Glottolog code for the language is mosa1240.

Lexicon

This section presents each of the concepts in the word list section of the original 1897 publication. Entries are organised under Needham's glosses, with adjustments made for clarity to the reader; "Ditto" is replaced with the appropriate term, and cases where Needham used local Indic terms, more modern spellings may be used or the term has been replaced entirely with or supplemented by a suitable English equivalent for the sake of the reader. When a Shecyü (Shangke) form is given in the original text, it has also been included.

Modern orthographic forms are given in ⟨angle brackets⟩. When occurring in the prose rather than section headers, Needham's orthography is given in ⟪double angle brackets⟫, which are otherwise skipped in entry headers. Bold headers indicate

Needham's original transcription. Modern phonemic forms are given in slashes with broad IPA transcription, in which subscript numerals represent tone categories. Subscript zeroes indicate unstressed semi-syllables which do not carry a tone. Glosses in the prose are in single quotes. Fully reconstructed proto forms are prefixed with an asterisk, while potential proto-language etyma which are not reconstructed are prefixed with a hash (#).

above · rang

⟨rvungx⟩ · /reuŋ₂/

This stem is given as 'above', but is rather the stem for 'sky', today ⟨rvungx⟩ /reuŋ₂/. In order to mean 'above', it would need to be 'sky'-LOC, ⟨rvungxnuex⟩ /reuŋ₂nɤ₂/.

This is an early form for the proto-Tangsa *-aŋ rime, in this case not showing the sound change in Needham's transcription that the rime has since fully undergone by today.

'Above' is otherwise commonly ⟨htvuk⟩ /tʰeuk₄/ today, from proto form *tʰak₄, a stem within the checked-tone counterpart to the *-aŋ rime.

acid · â´hî

⟨vhix⟩ · /ə₀hi₂/

The base verb ⟨hix⟩ /hi₂/ 'to be acidic' prefixed with nominalising particle ⟨v-⟩ /ə₀-/. Adjectival modifiers are forms in

Tangsa-Nocte languages by nominalising stative verb stems with this prefix. Nearly all lexemes in Muishaung which might be translated as adjectives in English will composed in this manner. Additionally, colexification of 'sharp' and 'sour' is common across the region.

This is the first instance of Needham describing a sound as 'sharp' in the margin notes, referring to the 'checked' quality of words ending in a glottal stop. Any time a word is referred to in this way, it can be understood as having a CVʔ syllable structure.

Significantly, however, certain stems were described at being sharp which today would not have a glottal stop coda. However, in closely related languages, the cognate stem does

have such a coda, indicating that the stem in Muishaung may have either undergone a sound change in losing the coda on those stems, with Needham's description being an indication of the timing, or that he simply misheard an unintentional glottalisation by the speaker, i.e. a production error. An example of the etymon found elsewhere in Patkaian would be /hiʔ²²/ in northern Khiamniungan, today meaning 'to sharpen a blade'. In Muishaung today, all glottalisation is lost, and the stem occurs with tone 2, the reflex of *modal CV syllables in the proto language. That it occurs today with tone 2 also excludes the possibility of an error in elicitation for which verb stem alternation (suppletion) would have occurred, as the suppletive counterpart to tone 4 (checked) stems is tone 1. In other words, if instead the modern form were to be tone 1, one might rightfully suspect suppletion Rather than full elision of the coda.

all · wa´tong

⟨wvtvungx⟩ · /βə₀tɐuŋ₂/

In the modern Roman orthography, ⟨v⟩ represents /ə/ in prefix position and /ɐ/ in stem nuclei, with a measurable difference in formant frequencies.

This entry is the first in Needham's text which shows an intermediate stage of what was at the time an ongoing sound change within proto-Tangsa-Nocte *-aŋ rimes. This change to /-ɐuŋ/ in modern Muishaung is nearly fully complete at the present day with only rare exceptions, but at the time of Needham's data collection in 1888, this change was found only for a handful of stems. These *-aŋ stems were variously transcribed by Needham as ⟪-ang⟫ , ⟪-ong⟫ or ⟪-aung⟫ . Some stems occurred only with the ⟪-aung⟫ spelling, indicating having completed the change, while others were given with multiple spellings, indicating alternation as the change was still ongoing.

A small number, including ⟪wa´tong⟫, instead have ⟪o⟫ in the rime. This may represent an intermediate stage, although other words are transcribed with both ⟪-ang⟫ and ⟪-aung⟫ in the

text, and not with ⟪-ong⟫ . More likely, this was a feature of the speakers idiolect, or a transcription error on Needham's part.

alive · â-ta´rong

⟨vthvrvungx⟩ · /ə$_0$t̪ə$_0$reuŋ$_2$/

The bare verb is /reuŋ$_2$/, with CAUS prefix /t̪ə$_0$-/ and NOMZ prefix /ə$_0$-/. Note that CAUS is more generally /tə$_0$/ with a non-dental onset, however a handful of verbal stems have undergone dentalisation of the causative prefix. This is very rare at the present time, and the result of an irregular change, but has been confirmed with multiple speakers. It may be a change which is still occurring and thus possibly something to be discussed by future scholars.

Needham's remark is 'Is alive?' as a verb phrase, suggesting additional attention on his part to the morphology.

anger · an´yürr

⟨vnyerx⟩ · /ə$_0$ɲer$_2$/

A number of terms given have slightly different meanings than given, such as ⟨vnyerx⟩ /ə$_0$ɲer$_2$/. The actual meaning of this is to avoid someone as a sign of being emotionally hurt, more properly translated as 'to shun', rather than being angry. More typically, 'angry' is ⟨thuinzkhvyx⟩ /t̪ɨn$_1$kʰei$_2$/, 'liver+bitter'.

This entry is one of a handful of /ɲ/ onsets on which Needham has misidentified syllable boundaries. The prefix is nominaliser /ə$_0$-/.

arm · yok´phûm

⟨yvukphumz⟩ · /ʒeuk$_4$pʰum$_1$/

The stem ⟨yvuk⟩ /ʒeuk$_4$/ typically refers to the whole arm and hand. For compounds in which it is not the semantic head, it will more typically mean 'hand', such as in 'finger'. It is also used for 'leaf'.

The Shangke form is given as ⟪yâ phûm⟫. The difference in the initial vowel is due to *-ak rimes shifting in parallel with *-aŋ rimes as their fourth-tone equivalent, thus the parallelism with the second syllable of ⟪wa´tong⟫ 'all'. Additionally, the stem still retains a coda in Shangke, with the full form of the first morpheme being /jaʔ/, once more a case of

Needham not transcribing glottal stop codas.

This is the first entry which has a form for Shangke, given as ⟨yâ´phûm⟩.

arrow · lâ´san

⟨laqsanz⟩ · /laʔ₄san₁/

Here ⟨laq⟩ /laʔ₄/ means 'bow', and ⟨san⟩ /san₁/ refers to any narrow rod-like item. The same ⟨san⟩ /san₁/ morpheme is found on names for the parts of looms, guns, or anything else which may have such a shape.

ash · tap´thâ

⟨tvphtaq⟩ · /tep₄tʰaʔ₄/

This is specifically the ash that is produced at the hearth. Other ash can also be called by this name, but is more appropriately called ⟨wvrz buenx⟩ /βɐr₁bɤn₂/.

aunt · ĩ´sî

⟨izsuiyz⟩ · /i₁sɨi₁/

The /i₁-/ prefix here is a first person possessive, so this will actually mean 'my aunt'. This term will only refer to one's mother's sister. 'Paternal aunt' is instead ⟨nguiyz⟩ /ŋɨi₁/, as is 'mother-in-law'. Little attention was paid in the original text to the differences between English and Muishaung kinship systems, in which relative age and gender both play a significant role.

axe · mang´kî

⟨muingxkix⟩ · /mɨŋ₂ ki₂/

Here, Needham's 《ang》 does not match either the *-aŋ or *-ɑŋ rimes. Nearly all Tangsa-Nocte varieties will have a stem similar to /miŋ/ for 'axe', while the rest of Patkaian instead has something more similar to /βa/.

bad · â´bâ

⟨vbac⟩ · /ə₀ba₃/

bag · yâ´khâk

⟨nyackhak⟩ · /ɲa₃kʰak₄/

A sachet, literally 'tobacco'+'bag'. This term would not apply to something like a larger bag such as for rice, nor modern day backpacks or duffel bags. The Shangke form is given as 《khâk》.

bamboo · wâṉ

⟨wawx⟩ · /βɔ₂/

While not explained in the text, the underlined 《ṉ》 indicates nasalisation,

likely of the preceding vowel. This is the most likely analysis of its intended use, rather than any sort of segmental feature, based on its occurrence elsewhere such as in 'bee' below.

Two stems occur for 'bamboo' in modern Muishaung, being /βɔ₂/ and /βaʔ₄/. The former, which is the stem given in Neeham's account, shows an important intermediate step in a sound change which today has completed. Nasalisation on the vowel at Needham's time derives from a velar coda, which has been completely lost by now. No phonemic vowel nasalisation is found today, but clearly existed in 1888. The /ɔ/ vowel is the modern reflex of the *-ɑŋ rime.

Note the Shangke form 《wâ》 likely represents the other stem given the height of the vowel in Needham's account.

basket, man's · phâng´phai

⟨phangxphvyc⟩ · /pʰaŋ₂pʰei₃/

This is not actually a basket but rather a type of carrying bag, thus a more accurate lexeme for what may otherwise be interpreted by the reader for 《yâ´khâk》 above.

basket, woman's · khêṉ

⟨khec⟩ · /kʰe₃/

This term represents the largest of multiple basket types. The ⟨khec⟩ /kʰe₃/ basket is typically used for carrying paddy rice. Nasalisation is again found on cognate terms elsewhere in Patkaian, such as in northern Khiamniungan, where the basket for carrying paddy is known as /kʰan⁵⁵/.

basket, small flat · phê

⟨phec⟩ · /pʰe₃/

This is a rare case where the modern form has a potential match with a liquid coda but Needham's does not, although in modern Muishaung a liquid-less form also occurs. Related stems are ⟨pherx⟩ and ⟨phenx⟩ occurring in certain compounds.

bead · lik´sâ

⟨luikthuiyz⟩ · /lɨk₄t̠ɨi₁/

Needham's 《lik´sâ》 (today ⟨luik.saz⟩ /lɨk₄sa₁/ means a type of woman's necklace which is worn closely around the neck, with little slack. For 'beads'

the term is ⟨luikthuiyz⟩ /lɨk₄ʈɨi₁/. This is another instance where it is easy to imagine elicitation through pointing to objects around the speakers.

bear · cha´bâ

⟨jvpbawx⟩ · /tɕep₄bɔ₂/

This is a very usual lexeme across Tangsa-Nocte varieties, most typically with /ba/ as the final morpheme. Interestingly, however, the modern form in Muishaung suggests the *-ɑŋ rime, despite most other Tangsa varieties not showing any similar likeness. An exception is Hahcheng, which has the form /sap.beŋ/, Shangwan with /ʃap.baŋ/, and Tikhak with /ʧʰa.baŋ/. All other varieties suggest an *-a rime.

For Shangke, Needham gives ⟪châb´bî⟫.

bee · yâṉ

⟨nyaq⟩ · /ɲaʔ₄/

Despite the apparent dissimilarity between the modern form and Needham's transcription this is a clear match with the modern form, /ɲaʔ₄/. Needham consistently transcribes as /j/ ⟨y⟩ what are /ɲ/ onsets. In some

cases, palatal nasal onsets prefixed with nominaliser ⟪a-⟫ are incorrectly syllabified in Needham's text. Despite the lack of nasal onset, the stem is transcribed with final '-ṉ'.

In all cases where underlined ⟪ṉ⟫ occurs, it corresponds with a nasal coda in the proto language which has been lost in Muishaung, and can be understood to mark vowel nasalisation. This provides an excellent snapshot of the timing of nasal coda loss in Muishaung first described in van Dam ().

In this case, the nasalisation is rather from the palatal onset, but was interpreted as part of the rime. Needham also consistently fails to transcribe glottal stop codas, but often describes such syllables as 'sharp' as discussed above.

Notably, confusion caused by misinterpretation of Needham's transcription resulted in the incorrect identification of the etymon in STEDT https://stedt.berkeley.edu/ as being #2788: PTB *s-b-(r/y)aŋ FLY (n.) / BEE.

belly · vak

⟨wuk⟩ · /βuk$_4$/

bird · vû

⟨wuz⟩ · /βu$_1$/

As with most languages of the region, as well as elsewhere in Southeast Asia, the simplest unmarked stem for bird will often refer to chickens in the default context. Here Needham has given the gloss as 'bird', but in modern Muishaung the general class will be ⟨wuzshawx⟩ /βu$_1$ʃɔ$_2$/, as is the case elsewhere in Tangsa-Nocte as well.

black · ân´yak

⟨vnyvuk⟩ · /ə$_0$ɲɐuk$_4$/

Here syllabification is incorrect, but the form is otherwise as today.

bite, v · kok

⟨kvuk⟩ · /kɐuk$_4$/

This is one of two forms of the stem in Muishaung. As with much of Tangsa-Nocte, Muishaung has a system of verbal stem alternation, where nominalised verb stems will either remain unchanged, or show a change in tone (typically to third tone), or, as is the case here, undergo a much more substantial change. The

nominalised/gerundive stem in Muishaung is ⟨kuiuz⟩ /kɨu$_1$/.

bitter · â´krip

⟨vkhuip⟩ · /ə$_0$kʰɨp$_4$/

This form for 'bitter' specifically refers to flavour, such as of the traditional tea. Another stem which is additionally used in emotive contexts is ⟨khvyz, khaq⟩ /kʰɐi$_1$, kʰaʔ$_4$/, a verbal stem with suppletive forms. This alternate form is additionally used as a pairing word for ⟨khuip⟩ /kʰɨp$_4$/ in poetic phrases, a common feature of Muishaung in which related stems or phonologically parallel nonce words are used in elaborate expressions.

blood · ta´gri

⟨tvghuiyz⟩ · /tə$_0$ɣɨi$_1$/

Needham describes the ⟨r⟩ transcription as significantly strong, often trilled, and makes note that at times he has written ⟨rr⟩ to further emphasise this. The use of ⟨r⟩ is not otherwise described in a way as to make cases such as ⟪â´krip⟫ for 'bitter' or ⟪ta´gri⟫ for 'blood' particularly clear to the reader. These should not be interpreted as the trilled /r/ here, but

rather a deviation from his own orthographic conventions. Instead, the ⟨ri⟩ digraph indicates something along the lines of /əi/, with ⟨r⟩ serving more to indicate vowel quality, similar to it's use in British spelling conventions for terms such as 'Burma' or 'Myanmar' in English, which are not in any way representative of /ɹ/ or similar sounds but rather indicate neighbouring vowel quality.

The Shangke form is given as ⟨tê´yai⟩⟫

bone · â´râṉ

⟨vrawz⟩ · /ə$_0$rɔ$_1$/

This is another case of the *-ɑŋ stem at an intermediate stage along the sound change, with nasalisation represented by ⟪ṉ⟫ .

bow · lâ

⟨[kazlic]laq⟩ · /[ka$_1$li$_3$]laʔ$_4$/

bough · pûlphâk

⟨pulxphak⟩ · /pul$_2$p^{h}ak$_4$/

While there is nothing notable about Needham's transcription here, it is very rare that Muishaung words will end in /-ak/, as nearly all morphemes with *-ak in the proto language have

shifted to /-ɐuk/ in the modern language. Few exceptions are to be found, but this is one such example where the sound change has not completely spread in the lexicon. Whether this stem will also change in the future remains to be seen.

bracelet · yok´sân

⟨yvuksanx⟩ · /ʒɐuk$_4$san$_2$/

Here again we see ⟪ok⟫ from *-ak.

bridge · hî

⟨hix⟩ · /hi$_2$/

brother, elder · ĩ´phû

⟨vphuz⟩ · /ə$_0$p^{h}u$_1$/

Here as with 'younger brother' below, the ⟪i-⟫ prefix is possessive. Likewise in the Linguistic Survey of India (Grierson 1928) give it in the possessed form. The general kinship term will instead have the schwa prefix when not specifically referring to one's brother.

brother, younger · ĩ´nô

⟨vnox⟩ · /ə$_0$no$_2$/

As with other Patkaian varieties, there is no lexical distinction between younger sister and younger brother.

The ⟨nox⟩ /no$_2$/ stem here applies to any younger sibling. Sex is only distinguished for older siblings. One can explicitly mark a younger sibling as male or female with an additional gender marking suffix, but this is not obligatory.

buffalo · ngâ

⟨ngac⟩ · /ŋa$_3$/

This is one of the few nominal stems which take third tone. In most cases, third tone is the result of derivation from a now-lost nominalising *-h suffix. It has been suggested by Weidert that this may be a borrowing from Tai, thus accounting for breathiness. The potential for borrowing was investigated in <mark>AUTHOR, (YEAR)</mark> and shown to be plausible, but can not be clearly shown to be due to borrowing for the other third-tone nominal stems.

Needham gives ⟪nî⟫ for the Shangke form.

bullet · chûn´dî

⟨junxthuiyz⟩ · /tɕun$_2$ʈ̟ɨi$_1$/

Given as ⟪chûn´thî⟫ in Shangke.

bury, v · lîp

⟨luip⟩ · /lɨp$_4$/

buy, v · rî

⟨ruiyx, vrez⟩ · /rɨi$_2$, ə$_0$re$_1$/

The bare verb stem ⟨ruiyx⟩ /rɨi$_2$/ undergoes suppletion to⟨rez⟩ /re$_1$/ when nominalised. This would be a case like 'blood' and 'bitter' above where Needham's ⟪ri⟫ corresponds to the modern /-ɨi/ pronunciation, however as the syllable onset is also ⟪r⟫ , and ⟪rr⟫ would indicate a trill by Needham's own conventions, we may still assume Needham had the 1888 equivalent of /-ɨi/ in mind when transcribing.

calf of leg · yavuin

⟨yazwuenc⟩ · /ʒa$_1$βɤn$_3$/

call, v · ka´châ

⟨kvjaz⟩ · /kə$_0$tɕa$_1$/

The actual meaning of this is 'to say'. 'To call' would be instead ⟨ghvlz⟩ /ɣəl$_1$/.

cane (small kind) · rî

⟨ruiyx⟩ · /rɨi$_2$/

cane (large kind) · het

⟨het⟩ · /het$_4$/

catch hold of, v · lû

⟨luz⟩ · /lu$_1$/

caoutchouc · nĩ́türr

⟨nuiyxtuirx⟩ · /nɨi$_2$tɨr$_2$/

Natural rubber from the rubber tree.

child (able to walk) · nốyân̠

⟨nox yawx⟩ · /no$_2$ ʒɔ$_2$/

child (baby) · nốshân̠

⟨nox shawx⟩ · /no$_2$ ʃɔ$_2$/

The second morpheme here is also that found on 'bird' when referring to the general class, and not chickens more specifically. Needham's inclusion of two phonologically similar forms here is not a mistake, but reflects an actual phonemic distinction. This is worth noting, as typesetting errors have at times been suggested by modern speakers in cases where Needham's account may not match modern forms.

chillic · mákât

⟨muitkat⟩ · /mɨt$_4$kat$_4$/

This term refers specifically to chili pepeprs, whereas ⟨thoyz⟩ /ʈoi$_1$/ refers to the spicy taste sensation caused by capsaicin.

claw · yoḱthin

⟨yvukhttuinx⟩ · /ʒeuk$_4$t̪^{h}ɨn$_3$/

This is specifically the fingernail of a human hand, the ⟪yok⟫ stem being 'hand'. A claw of an animal would be ⟨khuingx⟩ /k^{h}ɨŋ$_2$/.

climb, v · dü

⟨duiz⟩ · /dɨ$_1$/

cloth (chudder) · khaithûm

⟨khvyzhtumc⟩ · /k^{h}ei$_1$t^{h}um$_3$/

This will also refer to any blanket. ⟨Htumc⟩ /t^{h}um$_3$/ refers to any rectangular piece of cloth.

cloud · rông

⟨–⟩ · /–/

In earlier sources for Tangsa-Nocte varieties, albeit none as old as Needham's, there is a stem typically transcribed ⟪rong⟫ which refers in some way to rain. It is often distinct from the 'sky' stem, typically ⟨rang⟩ . Here it occurs as 'cloud', quite possibly a rain cloud. After investigation into numerous communities by the author, no version of this stem is to be found today in any of the Tangsa-Nocte varieties surveyed for this term. It may be a case of an irregular sound

change corresponding with a split from the 'sky' stem, which was then lost.

'Cloud' in Muishaung today is ⟨phuemx⟩ /pʰɤm₂/, an etymon found throughout the region and related languages referring to either clouds, fog/mist or both. If it is the case that an earlier ⟪rong⟫ form fell out of fashion, it may be due to the concept of rain cloud being absorbed by this more general cloud/fog stem.

cold · rong´shûng

⟨rvungxsungc⟩ · /rɐuŋ₂suŋ₃/

⟪Rong⟫ here is again the term for 'sky', today ⟨rvungx⟩ /rɐuŋ₂/, and not the ⟪rông⟫ of cloud, above. This term for 'cold' will refer specifically to coldness of weather, and not of objects.

comb · chû

⟨tsuz⟩ · /ʦu₁/

come, v · kâ´lô

⟨kazloq⟩ · /ka₁loʔ₄/

Here ⟪kâ⟫ is the verb meaning 'to go (downriver)'. Muishaung and other Tangsa-Nocte varieties have topographical sensitivity in their verbs for 'to go'. The suffix ⟪lô⟫ is a cislocative marker, indicating directionality toward the speaker. This form of 'come' as given by Needham will be appropriate in cases where a speaker is at a lower altitude relative to the listener. Otherwise the verb ⟨wvungz⟩ /βɐuŋ₁/ will be used in place of /ka₁/.

corpse · mî-tî´kâ

⟨miq thuiyc kaz⟩ · /miʔ₄ t̪ɨi₃ ka₁/

In the margin notes, Needham mentions that this may be person-die, which is correct. 'Corpse' is ⟨mvungx⟩ /mɐuŋ₂/ or ⟨miqmvungx⟩ /miʔ₄mɐuŋ₂/ for humans specifically.

cooking pot · tik

⟨tuik⟩ · /tɨk₄/

cotton · rî´pü

⟨ruiyzpuic⟩ · /rɨi₁pɨ₃/

cow · mân´sû

⟨manxsuiux⟩ · /man₂sɨu₂/

The suffix ⟪sû⟫ will be replaced by sex suffixes when specifying female or male. The form given here is the general form for domestic cattle.

cry · â´kwarr

⟨khorx⟩ · /kʰor$_2$/

This is an early example of vowel fracture on /o/, a process which is nearly complete today. A salient feature of Muishaung which is not found in other varieties of Tangsa-Nocte is the high frequency of diphthongisation of vowels which would be monophthongs elsewhere in the branch. This change is ongoing with /o/, and in the approximately 10 years the first author has been working on the language, lexemes which were given without diphthongs at the start of the work will today reflect the shift. The sound change appears to also have followed in some way the frequency of the words', with lower frequency lexemes such as 'squirrel' ⟨ratpop⟩ only having shifted in this most recent decade.

cross bow · kong´kî

⟨–⟩ · /–/

This term is not known to speakers today. However, many Tangsa-Nocte varieties spoken in Myanmar will still have similar forms, most frequently /laʔ.koŋ/, such as is the case in Rangsa, Nahen, Henchin and Chamkok.

crow · wû´khâ

⟨wuzkhax⟩ · /βu$_1$kʰa$_2$/

dance, v · va´nerm

⟨wvnuemz⟩ · /βə$_0$nɤm$_1$/

Needham uses ⟪r⟫ in a number of places, typically as part of digraphs in the nucleus, which to not correspond to the pronunciation guide given at the start of the text. This is one such case, where instead it indicates a difference in vowel quality.

daughter · yâ´shikshâ/yâ´shikshâṉ

⟨yalxjiksaz⟩ · /ʒal$_2$tɕɨk$_4$sa$_1$/

Daughter is given as both ⟪yâ´shikshâ⟫ and ⟪yâ´shikshâṉ⟫, providing a good indication of the timing of nasalisation loss. It is clear that the original stem had a nasal coda at some point in the past, which today is entirely lost. That both forms are given by Needham indicates that the change was occurring at that time, whereas other stems such as with 'dog' below had not yet begun to lose their nasalisation to the same extent. Based on this, we can conclude that

nasalisation loss began around the 1880s, and was completed by the time Das Gupta () provided sketches of the varieties.

to-day · ta´nî

⟨tvnhuiyq⟩ · /tə$_0$n̪ɨiʔ$_4$/

There are different ways of saying 'today' in Muishaung based on the time of day of the speech event. The form /tə$_0$n̪ɨiʔ$_4$/ is said in the morning, and /m$_1$n̪ɨiʔ$_4$/ in the afternoon. A more general way can also be used, /mɐi$_1$tɕɨu$_3$ rɐuŋ$_2$n̪ɨiʔ$_4$/, which literally means 'current day' as a general term. This is the form given for Shangke, ⟪m´sa râ´nî⟫.

morrow · ĩ˜nap

⟨iznvp⟩ · /i$_1$nɐp$_4$/

dhao · yaung

⟨yvungz⟩ · /ʒɐuŋ$_1$/

Here the form given reflects the completed sound change for *-aŋ stems. Needham gives the Singpho equivalent as ⟪yaung-hi⟫, with the ⟪u⟫ present. This nearly matches to the more general term for 'knife' in Muishaung, whereas in modern Singpho, machete or dao (dha) is /n.tʰu/.

daily · varong´nî

⟨wvrvungxnhuiyq⟩ · /βə$_0$rɐuŋ$_2$n̪ɨiʔ$_4$/

deer · ngam

⟨ngvmx⟩ · /ŋɐm$_2$/

Given as 'deer', ⟪ngam⟫ instead refers to animals in general, as well as flesh or meat. This may suggest that deer is somehow the least marked animal, as is the case with the chicken among birds, or that there was a slight miscommunication between the attendees.

dhan (paddy) · sam

⟨tsvmz⟩ · /ʦɐm$_1$/

On a number of stems, the modern form has an affricate onset where Needham gives a fricative for Muishaung and often Shecyü, as in this case. There is a distinct dialectal difference of affricate vs stop onsets for some terms, but not ones which would correspond to Needham's ⟪s⟫ . It may be the case that this reflects something like fortition at that place of articulation resulting in affricates

different · adai

⟨vdvyx⟩ · /ə₀dɐi₂/

dog · gui´he̱n

⟨ghuizhex⟩ · /ɣui₁he₂/

The suffix ⟪-he̱n⟫ was previously productive as a plural marker for animals. It has fossilised on 'dog', and is not transparently a number marker today. Nasalisation is fully lost.

The Shecyü form given by Needham is an Assamese loan, commonly borrowed by languages in the region which have had close contact with Assamese.

door · khâ´lü

⟨kacluix⟩ · /ka₃lɨ₂/

drink · ning

⟨nuingx⟩ · /nɨŋ₂/

This is another stem which undergoes suppletion, although in this case the only change is a shift to third tone for the gerundive/nominalised stem. Segmentally, no change occurs

drinking cup (of bamboo) · khap

⟨khap⟩ · /kʰap₄/

Two stems are commonly attested for 'cup'. Cross linguistically, there is often with a distinction between modern cups and traditional bamboo cups. Here ⟨khap⟩ /kʰap₄/ is given, which in other varieties often refers to modern cups, but in Muishaung refers to jugs. The other stem in Muishaung is ⟨kok⟩ /kok₄/, which means 'cup' here but often restricted to traditional bamboo cups in related languages. A similar phonological form for both stems is found throughout Tangsa-Nocte, as well as in other Patkaian varieties, as is the case in Cholim and Longri.

The /kok₄/ stem also shows close similarities to Tai, such as Shan ဝ်ၵ် /káuk/ and Phake ကွၵ် /kauk₁/. In northern Khiamniungan, the final /-p/ form /kap²²/ is believed by speakers to be a borrowing from English.

drum · nûng

⟨nungx⟩ · /nuŋ₂/

beat drum · nungtim

⟨nungx tuimz⟩ · /nuŋ₂ tɨm₁/

becoming stops and fricatives becoming affricates.

dung · dî

⟨diq⟩ · /di$ʔ_4$/

Another stem which is described by Needham as 'sharp', corresponding to final /ʔ/.

dust · mût´gui

⟨bokkhuiyx⟩ · /bok$_4$k^{h}ɨi$_2$/

ear · nâ

⟨nac⟩ · /na$_3$/

earring · nâchî

⟨nacjic⟩ · /na$_3$tɕi$_3$/

earth · gâ

⟨ghaq⟩ · /ɣa$ʔ_4$/

This is again a stem marked as 'sharp' which corresponds to a modern final glottal stop.

eat · sâ

⟨saq⟩ · /sa$ʔ_4$/

While having final /ʔ/ today as the verbal stem with ⟨svyz⟩ /sɐi$_1$/ as the suppletive nominal, Needham did not transcribe this stem as being 'sharp'. That is, there was no indication of it as a checked tone. The stem has final /ʔ/ in all varieties of Tangsa-Nocte, as well as in elsewhere in related languages such as Makyam. It is most likely that

Needham simply missed the glottalisation or failed to mark it as 'sharp'. Note in some varieties, it is instead the form cognate with the gerundive stem that is found, as is the case in both Lainong and Pounyiu.

egg · wû´dî

⟨wuztiz⟩ · /βu$_1$ti$_1$/

The stem ⟨tiz⟩ /ti$_1$/, derived from 'juice' or 'water', is pronounced with affricate onset by some modern speakers, as mentioned above. This is considered non-standard and dialectal. However, this may shed some light on the ts/s alternation previously mentioned.

empty · shok´thü

⟨shvukhttuiz⟩ · /ʃɐuk$_4$t̥^{h}ɨ$_1$/

eye · mak

⟨muik⟩ · /mɨk$_4$/

face · thal

⟨htvlx⟩ · /t^{h}ɐl$_2$/

false · â´rot

⟨vrovt⟩ · /ə$_0$roɐt$_4$/

Vowel fracture has occurred on the nucleus since the time of Needham's transcription.

elephant · jân

⟨jawz⟩ · /tɕɔ$_1$/

This stem was first pointed out in <mark>AUTHOR (2018)</mark> as a good candidate for Tai borrowings, expanded upon in <mark>AUTHORS (2019)</mark>. An additional form for 'elephant' is found throughout Tangsa-Nocte, /bok.la/. This is not attested in Muishaung, which only uses the Tai-like stem. Note that in Needham's transcription the final ⟪n⟫ is segmental, and not vowel nasalisation, as it lacks the underline. Needham also points out the connection to Tai, marking this as being borrowed from Tai Hkamti.

Given his familiarity with Hkamti, it is likely the lack of an underline is not an oversight. This may suggest that loss of nasal codas in favour of nasalisation was not yet complete, or it may just be that Needham was unnecessarily biased toward matching the Tai form which retains the coda. It is certainly not the case that the borrowing occurred within Needham's lifetime, however, so that should at least be eliminated from the list of possible explanations. It is more likely that there was either a typographical error with the missing underline, or that Needham transcribed it as the Tai Hkamti form. The indication for Tai borrowing would instead place the borrowing event at likely many centuries before the present.

fat (not lean) · â´pü

⟨vpuiz⟩ · /ə$_0$pɨ$_1$/

Needham's glossing here is as in 'overweight' but the term which was given in Muishaung rather means fat on a piece of meat. The word for 'not lean' is instead ⟨vphenz⟩ /ə$_0$p^{h}en$_1$/.

far · â´jâl

⟨yalz⟩ · /ʒal$_1$/

Final /l/ is retained in the transcription, where it is often absent or variable on other stems.

father · vâ

⟨vwaz⟩ · /ə$_0$βa$_1$/

fear · â´hî

⟨vhiz⟩ · /ə$_0$hi$_1$/

feather · mûl

⟨mulz⟩ · /mul$_1$/

The stem here is more generally 'fur' or 'body hair'. Today /mul$_1$/ will be

unspecified, whereas /$\beta u_1 mul_1$/ will be explicitly referring to feathers, where /βu_1/ means 'bird'.

female · yâl´shik/yâ´shik

⟨yalxjuik⟩ · /$\mathcal{z}al_2 t\varepsilon ik_4$/

The initial syllable here today has final /-l/, but is given in the text both with and without the coda. This may have been simply phonetic alternation on the part of the speaker. While many Tangsa-Nocte varieties have lost *-l codas, Muishaung is particularly conservative regarding codas.

finger · yok´shî

⟨yvukshix⟩ · /$\mathcal{z}\text{e}uk_4\int i_2$/

fire · varr

⟨wvrz⟩ · /$\beta\text{e}r_1$/

fire-place · varrkuṉ

⟨tapkhux⟩ · /$tap_4 k^h u_2$/

The first syllabe here is 'fire'. The second syllable is less clear. Today we might expect ⟨khux⟩ /$k^h u_2$/, from 'head'. The transcribed 《kuṉ》 is anomalous, both for nasalisation and lack of aspiration, should it be tied to the modern term. Marrison (1967) repeats this form as ⟨varkun⟩ , likely adapted directly from Needham. Across Patkaian, the only formally similar potential matches are in Khiamniungan, for which 'hearth' is /ao.k^{h}an/, again with aspiration. Here /$k^h an^{41}$/ refers to a hole or pit, which may give some suggestion for how this term came into the text in case the elicitation was done around a dug-out fire pit and not a flat in-home hearth. However, in that case, the Muishaung term would be ⟨khurx⟩ /$k^h ur_2$/, again with aspiration, as is the cognate in Jinghpaw, /$khun^{33}$/. Thus, Needham's transcription were it to fit would need to have omitted aspiration, either in his own writing or in the typesetting, and the final nasalisation would have to be in parallel with that of 'flame'.

This is the most likely explanation for the given form. That is, we are likely looking at a compound which originally meant 'fire pit', with extant cognates elsewhere in Patkaian, but which has since been replaced by the modern term.

See 'flame' below for additional possibilities in light of potentially anomalous transcriptions from Needham.

fire-gun · gâp

⟨ghap⟩ · /ɣap₄/

This term is related to that for 'to kick', and in many varieties they are homophonous if not polysemous. Needham specifies 'gun' here, but it will apply as well to firing arrows. An irregular sound change has occurred in many varieties differentiating between 'shoot' and 'kick', but these were clearly a single etymon in the distant past.

fish · ngâ

⟨ngaq⟩ · /ŋaʔ₄/

Another case of a 'sharp' syllable matching a glottal stop coda.

flame · vâṉ

⟨⟩ · //

This form is identified as an error by modern Muishaung speakers, however there are a few notable issues to point out. First, in many varieties, coda /-r/ is dis-preferred if not entirely impossible, often resulting in a shift to final /-n/. The same occurs for final /-l/, which is often even less common than /-r/. It is possible therefore that Needham's consultant was one who may have had experience with other varieties (which was likely the case regardless) and thus presented a form that was less accurate for Muishaung, but acceptable elsewhere. Additionally, there may have been non-Muishaung speakers present, resulting in possible priming. At any rate, Needham would surely not have mistaken his well-described ⟪rr⟫ for ⟪ṉ⟫ , and so we can trust that the transcription is most likely accurate, despite not being the actual term for flame in Muishaung.

This may shed light on 'hearth', then, as well. Since we know Needham often transcribed nasality incorrectly in terms of phonemic syllabification, or as nasalisation on the nucleus when it should have been the onset as in 'bee', it may be the case that his consultant/s for this work did have alternating nasalisation on /βɐr₁/, which may have carried over into the

second syllable of 'hearth'. The lack of aspiration is still problematic, but this may at least be a possible answer for why 'hearth' looks as it does.

Since Needham left absolutely nothing about his speaker's or speakers' background, we cannot know what other possible factors may have been at play. Still, for as careful as Needham was generally, it is more likely that there was either some phonetic variation going on, or other complicating factors which would account for his transcriptions as they are.

flea · kar´khî

⟨tvlic⟩ · /tə$_0$li$_3$/

This is simply a mistake. The lexeme ⟨khvrxkhix⟩ /k^{h}ɐr$_2$k^{h}i$_2$/ is 'wildcat' and not flea. Likely a simple mistake on Needham's part, or perhaps we can speculate that this was elicited by pointing to a cat with fleas and not being understood.

flint striker · varrpai

⟨wvrzpayc⟩ · /βer$_1$pai$_3$/

This instead means to light a fire with flint. Flint striker should instead be ⟨

payclungz⟩ /pai$_3$luŋ$_1$/, literally 'fire+stone'.

fly, v · bâ

⟨baz⟩ · /ba$_1$/

fog · pharm

⟨phuemx⟩ · /p^{h}ɤm$_2$/

Today is ⟨tvpuk⟩ /tə$_0$puk$_4$/, and ⟨phuemx⟩ is instead 'cloud'. The modern form for fog appears similar to a verbal stem with a causative prefix, but an appropriate verb stem was not found which may explain this as such a construction.

foot · yâ´phâ

⟨yazphac⟩ · /ʒa$_1$p^{h}a$_3$/

Here /ʒa$_1$/ is the general term for both leg and foot, and /p^{h}a$_3$/ is the form used for 'palm' when compounded with hand. This thus specified foot as distinct from the larger leg-foot concept.

forget · â´lok

⟨vlvuk⟩ · /ə$_0$lɐuk$_4$/

Derived from *lak$_4$, with the sound change expected for that rime.

forest · ling

⟨luingx⟩ · /lɨŋ$_2$/

–

forehead · khâng

⟨khvungxkuimx⟩ · /kʰɐuŋ$_2$kɨm$_2$/

fowl · wû

⟨wuz⟩ · /βu$_1$/

As 'bird' above.

friend · î-hĩˊwâ

⟨–⟩ · /–/

This lexeme does not clearly match anything in the modern lexicon. The ⟪î-⟫ prefix appears to be the possessive prefix, and ⟪-wâ⟫, cognate with 'father', occurs as an agentive marker – today more commonly /tɕi$_2$/ 'grandfather' serves this role – but it's unclear what ⟪-hî-⟫ is here, and discussions with speakers did not resolve the issue.

get up, v (rise) · kaˊten

⟨kvtenc⟩ · /kə$_0$ten$_3$/

⟨Tenc⟩ /ten$_3$/ means to pull up or raise, and ⟨kv-⟩ /kə$_0$-/ is the reflexive prefix.

girl · yâˊshikshâ

⟨yalxjuiksaz⟩ · /ʒal$_2$tɕɨk$_4$sa$_1$/

As 'daughter' above.

give · kû

⟨kuq, kuyz⟩ · /kuʔ$_4$, kui$_1$/

This stem undergoes suppletion when nominalised. The form given by Needham is likely the bare verbal stem, but for which the 'sharp' marking was not given. It is possible that stem alternation developed in its current state somewhat more recently, as closely related Tangsa-Nocte varieties which show stem suppletion do not undergo the same patterns on the same stems.

go away, v · kaˊthot

⟨kvhttovt⟩ · /kə$_0$t̪ʰoɐt$_4$/

This means to move slightly or gradually. It is not specifically to depart or leave, nor is it imperative.

goat · kirˊkî

⟨khelxkhix⟩ · /kʰel$_2$kʰi$_2$/

gong · nyâm

⟨nyamx⟩ · /ɲam$_2$/

good · âˊhal

⟨vhvlx⟩ · /ə$_0$hɐl$_2$/

granary · sam´tâp

⟨tsvmztap⟩ · /ʦəm$_1$tap$_4$/

Also ⟨tsvmztumz⟩ /ʦəm$_1$tum$_1$/ in the modern language.

gun · koṉ

⟨koz⟩ · /ko$_1$/

This term is almost certainly a loan from Tai, where it means 'pipe' or 'gun', being က‌ောင် /kauŋ$_3$/ in Phake and ၵွင်း /kāung/ in Shan

gunpowder · nâm´van

⟨namxwanx⟩ · /nam$_2$βan$_2$/

flint for ditto · palûng

⟨payclungz⟩ · /pai$_3$luŋ$_1$/
Literally 'igniting stone'.

hail · ting´ür

⟨nyerxlox⟩ · /ɲer$_2$lɔ$_2$/
Syllabification is incorrectly identified in the original text, and should be ⟪ti´ngür⟩, the first morpheme in Needham's case being that of 'water, juice' /ti$_1$/.

hair · kû´mûl

⟨khuxmulz⟩ · /kʰu$_2$mul$_1$/
Literally 'head fur'.

hand · yok´phâ

⟨yvukphac⟩ · /ʒɐuk$_4$pʰa$_3$/

hat · khû´phûk

⟨khuxphuk⟩ · /kʰu$_2$pʰuk$_4$/

he · â´pî

⟨vpiq⟩ · /ə$_0$piʔ$_4$/
Another case of a checked syllable not marked as 'sharp'. The stem is checked in all varieties of Tangsa-Nocte. Notably this is not the case in other Patkaian branches, nor are reflexes of the coda attested in other branches such as Lainong or Chen where the glottal stop coda was largely lost, but for which reflexes of the CVʔ syllable are a consistent toneme with 44: contour. It is possible that the coda is innovative in Tangsa-Nocte, since it is absent elsewhere. However, this would still be an oversight to Needham's were he to be consistently marking -ʔ codas, as the development must have happened at the proto-Tangsa-Nocte stage.

here · â´nü

⟨vnuex⟩ · /ə$_0$nɤ$_2$/

here · â´yü

⟨–⟩ · /–/

Needham transcribed a number of palatal nasal onsets with ⟪y⟫ , either due to the speaker's production or his own interpretation, so it is likely this was simply a palatalised /n/ due to effects of the nuclear vowel. Therefore it is likely that this form was a case of allophonic variation.

head · khû

⟨khux⟩ · /k^{h}u$_2$/

heavy · â´lî

⟨vliz⟩ · /ə$_0$li$_1$ / li$_4$/

Adjectives in Muishaung are derived from nominalised stative verbs. The form given by Needham – marked as 'sharp' – is the gerund form of to be heavy . When used as a nominal predicate, translatable as a simple adjectival clause modifying a nominal subject, this form will be used. This stem undergoes verbal suppletion when the meaning changes to 'weight', in which case it should be /ə$_0$li$_1$/ rather than /ə$_0$li$_4$/. This stem is of particular interest more generally

for being a clear case of suppletion affecting meaning.

hill · kû

⟨kuz⟩ · /ku$_1$/

horn · â´rûng

⟨vrungx⟩ · /ə$_0$ruŋ$_2$/

hot · â´kâl

⟨vkalx⟩ · /ə$_0$kal$_2$/

house · yim, yüm

⟨yuimx⟩ · /ʒɨm$_2$/

The high central vowel often shows alternation between /i/ and /u/ in many Tangsa-Nocte varieties. This is often allophonic. Today 'house' is /ʒɨm$_2$/ in Muishaung. Needham included two spellings, possibly to account for allophony.

notched steps leading up to house · hĩ´khû

⟨hixkhux⟩ · /hi$_2$k^{h}u$_2$/

Literally 'bridge head'

how · m´khô´lâ

⟨mz'khoc lac⟩ · /m$_1$k^{h}o$_3$ la$_3$/

high · yûng

⟨yungx⟩ · /ʒuŋ$_2$/

This is also 'big, large'. Likely this

would have been elicited with reference to some landmark such as a mountain, for which 'big' would have been appropriate.

I · ngâ

⟨ngaz⟩ · /ŋa₁/

ill · â´tû

⟨vthuiuz⟩ · /ə₀ʈ̪u₁/

Indian corn · powûng

⟨puixwungx⟩ · /pɨ₂βuŋ₂/

Needham's ⟪o⟫ vowel will be influences by the following ⟪w⟫ .

iron · yân

⟨yanx⟩ · /ʒan₂/

jungle · yâ´rü, jâ´rü

⟨yayzruix⟩ · /ʒai₁rɨ₂/

The /ʒ/ phoneme is represented in the modern orthography as ⟨y⟩ but is realised anywhere between /j/ and /ʒ/, with some Tangsa-Nocte varieties also having /dʒ/ as an allophone. Needham's transcription shows an awareness of this alternation, still present today.

kill · tat

⟨thvt⟩ · /t̪et₄/

This is the plain verb stem for the etymon. The nominalised form is /t̪ɨi₃/. The dentalised /t̪/ is a reflex of proto-Tangsa *ð-.

knee · long´kü

⟨lvungxkuix⟩ · /leuŋ₂kɨ₂/

knife · yân´hî

⟨yanxhix⟩ · /ʒan₂ hi₂/

⟪Yân⟫ here is 'metal, iron'.

kochu · dü

⟨tuiz⟩ · /tɨ₁/

large · â´dil

⟨vdvlz⟩ · /ə₀del₁/

laugh, v · nî

⟨nhuiyx⟩ · /n̪ɨi₂/

Dentalisation of nasal onsets is an innovation in Muishaung not seen in other Tangsa-Nocte varieties. It likely occurs through analogy of /t̪/. It sometimes occurs as a result of semantic splits, such as between 'two' /nɨi₃/ and the dual pronominal marker /n̪ɨi₃/. Today the distinction is phonemic and lexically specified.

leech · ta´wat

⟨tvwvt⟩ · /tə$_0$βet$_4$/

This is specifically terrestrial leeches. Aquatic leeches are /na$_2$piŋ$_2$/, a compound of two borrowed Tai stems, ꡤ꡶ '*naːᴬ' for wet rice field and ꡛꡭ '*pliːŋᴬ' for leech.

leaf · nâm´yok

⟨namxyvuk⟩ · /nam$_2$ʒeuk$_4$/

The stem /ʒeuk$_4$/ here is polysemous with 'hand'. The initial component in the compound acts as a semantic head. In this case, Needham's form with ⟪nâm⟫ limits this to plants which are not trees, ⟪nâm⟫ being the term for shrubs, grasses and other jungle plants.

leg · yâ

⟨yaz⟩ · /ʒa$_1$/

This is the most general term and includes the foot.

lightning · rong´lep

⟨rvungxlep⟩ · /reuŋ$_2$lep$_4$/

This refers to lightning in the sky, not a lightning strike. This is a distinction found throughout Patkaian. Lightning striking would be ⟨pheq⟩ /pʰeʔ$_4$/ in Muishaung.

lip · na´warr

⟨nuixbuirz⟩ · /nɨ$_2$bɨr$_1$/

The modern form is ⟨nuixbuirz⟩ /nɨ$_2$bɨr$_1$/. The second morpheme, ⟨buirz⟩ , is best translated as lobe and occurs in compounds for both 'earlobe' as well as 'buttocks'.

light (not heavy) · â´chân

⟨vjawz⟩ · /ə$_0$tɕɔ$_1$/

loin cloth · rî

⟨ruiyq⟩ · /rɨiʔ$_4$/

This is again a case where if the onset were not ⟪r⟫ we may expect Needham's ⟪ri⟫ nucleus transcription. While many of the conventions are consistently used, even if not explicitly described, often there are enough exceptions that would make it nearly impossible for a reader to work out the pronunciation of a word based just on its spelling.

look, v · lân

⟨lawx⟩ · /lɔ$_3$/

Like 'elephant', this is another instance of the *-ɑŋ rime written with a segmental nasal rather than the vowel nasalisation signified by the underlined ⟪n̠⟫ . In the case of

'elephant' where Needham attributed it to being a Hkamti borrowing, the segmental /n/ transcription may have been due to the influence of Hkamti on Needham himself. However in this case we may suspect it as a typographical error. There is not a reasonable pathway for *-aŋ to have become /ɔ/ that would have included an intermediate stage of final /n/ that did not also result in a merger. Thus, this transcription should be assumed to be erroneous, and instead intended as ⟪lâṉ⟫.

louse · thik

⟨httuik⟩ · /t̪ʰɨk₄/

make, v · gür

⟨ghuir⟩ · /ɣɨr₃/

This verbal stem is also common in compounds referring to occupations. 'Carpenter' will be house + /ɣɨr₃/ + SPEC. 'Mason' will be 'stone'+/ɣɨr₃/+SPEC. As with most Sino-Tibetan languages, word formation in Muishaung is largely through compounding.

male · mĩ́wâ

⟨miqwaz⟩ · /miʔ₄βa₁/

Person /miʔ₄/ combined with the SPEC ⟨ 'father' /βa₁/. Today 'grandfather' /tɕi₂/ is a more productive specifier, but previously /βa₁/ was common, and still occurs today as a masculine marker on humans.

many · ấpáng

⟨vpvungc⟩ · /ə₀ᵽɛuŋ₃/

mat · dam

⟨dvmx⟩ · /dɛm₂/

monkey · vĩ́sil

⟨wixsuilx⟩ · /βi₂sɨl₂/

mortar for pounding paddy · thim, thüm

⟨htuimz⟩ · /tʰɨm₁/

pestle · thim´yâ

⟨htuimzyaz⟩ · /tʰɨm₁ʒa₁/

mother · n´yû

⟨nyuiuz⟩ · /ɲɨu₁/

Nearly all cases where a palatal nasal occurs in the data, Needham marks syllabification as if it is /n.j/. In some cases, the nasal is missed entirely, as is the case for 'bee'. This is frequent

enough that it may be indicative of a feature of the speaker's pronunciation, rather than Needham's ear, such as the speaker under-pronouncing the nasality and therefore overcompensating.

moon · yâ´pî

⟨yacpix⟩ · /ʒa₃pi₂/

mod · choâl

⟨jovlz⟩ · /tɕoɐl₁/
This is the traditional fermented rice drink previously common across cultures in the region, but which has fallen somewhat out of favour after conversion to Baptist Christianity.

mouth · nürr

⟨nuix⟩ · /nɨ₂/
A significant phonological departure from the modern variety, Needham transcribes this with double 《r》 indicating a strong trill. For terms which today end in coda /r/, the transcription is an appropriate choice. However, today 'mouth' is /nɨ₂/ for the native speaking author. There is potential dialectal variation also encoded in the text as compared to modern pronunciations, particularly

with coda ⟨l⟩ and ⟨r⟩ . In some such cases Needham's transcription does not directly match that of speakers who were consulted by the authors. However, coda /r/ and /l/ are particularly unstable across Tangsa-Nocte varieties when looked at diachronically, and a shift in the pronunciation between dialects should not be surprising.

mud · bok

⟨bok⟩ · /bok₄/

nail · yok´thin

⟨yvukhttuinc⟩ · /ʒeuk₄t̠ʰɨn₃/

name · ming

⟨muingc⟩ · /mɨŋ₃/

near · ân´yek

⟨vnyek⟩ · /ə₀ɲek₄/
Again syllabification splitting a palatal nasal onset. The 《â》 prefix is the nominaliser, forming an adjectival modifier from a stative verb stem.

nest · wûshanchîan̠

⟨wuzshawxjez⟩ · /βu₁ʃɔ₂tɕe₁/

net · châk

⟨jak⟩ · /tɕak₄/

now · mâ´chû

⟨mvyzjuiuc⟩ · /mɐi₁tɕɨu₃/

old · â-kîoṉ

⟨vkez⟩ · /ə₀ke₁/

As with 'nest', the final nasalisation is from a loss of *-ŋ coda. The cognate in Joglei is /keŋ₁/, with similar cognates in some other Tangsa-Nocte varieties. In most, however, the coda has likewise been lost. It is /ki/ in Rëra, /kɨ/ in Chamchang (Kimsing), and /ke/ in Gaji.

old man · vî-kâṉwâ

⟨lixkawx waz⟩ · /li₂kɔ₂ βa₁/

old woman · vî͂krû

⟨wizkuiux nyuiuz⟩ · /βi₁kɨu₂ ɲɨu₁/

petticoat · nî͂sâ

⟨nhuiyqsaz⟩ · /ṉɨiʔ₄sa₁/

Another instance of dentalisation of a nasal onset analogous to the dental plosive.

woman's chudder · khaipâṉ

⟨khvyzparx⟩ · /kʰɐi₁par₂/

This is another instance like 'flame' where a nasal vowel is given in place of what is today /r/, further supporting the analysis that these were in alternation for the speaker consulted by Needham. Given the strength of articulation of /r/ in modern times as well as in Needham's description, it is unlikely to be a simple mistake.

pig · vak

⟨wvuk⟩ · /βɐuk₄/

pipe · yâ´tik

⟨nyactuik⟩ · /ɲa₃tɨk₄/

There is again a lack of nasalisation here, using only ⟪y⟫ for a palatal nasal onset. Likely the speaker simply did not enunciation the nasalisation clearly, as evidenced by a number of other words in the list. However, Needham's interpretation may also be the culprit.

place or put, v · tâ

⟨taq⟩ · /taʔ₄/

poison · la´pû

⟨lvpuz⟩ · /lə₀pu₁/

This is poison gathered from leaves and then put on spears or arrows, rather than the type used for fishing.

post · thung

⟨thungz⟩ · /tʰuŋ₁/

plantain · yâm n̪gâ

⟨nyapngak⟩ · /ɲap₄ŋak₄/

Initially 《yâm n̪gâ》 does not look like a particularly good match for /ɲap₄ŋak₄/. In spite of this, it likely is. The use of 《n̪》 adjacent to a syllable with 《y》 onset likely accounts for the palatal onset, frequently missed in the text. Final ⟨m⟩ on the first syllable occurs due to underlying assimilation of /p/ to the following nasal manner of articulation. The 《n̪gâ》 is /ŋa/, but with the nasalisation 《n̪》 having been conflated with the velar onset. Then the only unaccounted for aspect is the final /k/. This can often come across as a glottal stop in less careful speech, especially when in isolation, and Needham never accounts for final glottal stops except on monosyllables which he then describes as being 'sharp'. Based on this, Needham's 《yâm n̪gâ》 almost certainly is an effort at transcribing /ɲap₄ŋak₄/ when taking into account the various other near misses in transcription elsewhere in the text.

rice · vûng

⟨wungx⟩ · /βuŋ₂/

This is rice which has been husked, as opposed to paddy, for which other terms are given.

cooked rice · dûng

⟨dungc⟩ · /duŋ₃/

rain · rang

⟨rvungxyunc⟩ · /rɐuŋ₂ʒun₃/

Historically it is likely that there was a #raŋ stem for rain, distinct from the sky *raŋ stem, attested in some older texts. This has been lost throughout many Rangpangic varieties, while the meaning of 'rain' for such a stem is still widely attested across Tibeto-Burman. It is likely this developed due to a semantic split (as described in van Dam 2022), or simply is a case of polysemy which has now been lost.

See also 《rông》 'cloud', for which the vowel is distinctly different in Needham's transcription.

red · kaishân

⟨vshawx⟩ · /ʃɔ₂/

Here 《shân》 is another case where

the final nasal is expected to be underlined 《ṉ》. The modern form of this morpheme is /ʃɔ/, the rime derived from *-ɑŋ. The initial 《kai》 is less transparent, however compare /ko.xin/ in Gaqkat, a Southwestern Patkai variety closely related to Wancho, as well as /nan.kʰai/ in Kaisan and /nan.ki/ in Konnu, where /nan/ is likely a Tai loan, common in varieties in the Kaisan-Kon subgroup. This morpheme closely resembles *kʰal, 'hot', possibly a connection to 'red-hot'.

ring · yoktû´op

⟨yvuktop⟩ · /ʒɐuk$_4$top$_4$/

Here again evidence of vowel fracture is apparent based on syllabification marking in Needham's transcription.

ripe · â´muin

⟨muinx⟩ · /mɨn$_2$/

Transcription of earlier forms of /ɨ/ are not fully consistent. In some cases, when a monophthong occurs in the modern variety, Needham uses 《ui》 to transcribe the corresponding segment. Coincidentally, this is also the orthographic convention used for

the sound in the modern Roman orthography, first developed by Rev. Gam Win based on missionary orthographies used in Myanmar in the past.

river, also water · yeng

⟨yuix⟩ · /ʒɨ$_2$/

The final nasal here is not accounted for. It may be a reduction of /ɲɨu$_1$/ 'mother', a typical augmentative. Such assimilation of /ɲɨu$_1$/ (or cognate stems) is common in Patkaian, often rendered semantically opaque to speakers.

road · lam

⟨lvmx⟩ · /lɐm$_2$/

roof of house · ship, shüp

⟨shuip⟩ · /ʃɨp$_4$/

In the modern variety, /ʃɨp$_4$/ refers to the action of covering the roof beams with leaves. The modern lexeme for 'roof' is ⟨wuxkhux⟩ /βu$_2$kʰu$_2$/, the latter part being 'head' and the former a morpheme used on a great many compounds relating to the roof.

run · yû

⟨yuz⟩ · /ʒu$_1$/

salt · shûm

⟨shumz⟩ · /ʃum₁/

sand · phâ̱ṉ

⟨phawx⟩ · /pʰɔ₂/

This is one of a couple of sand words. This one refers to sand or gravel found at the bank of a river. Again the underlined 《â̱ṉ》 ending corresponds to the *-ɑŋ rime.

see, v · khî

⟨khiz⟩ · /kʰi₁ / kʰi₃/

seek, v · thî

⟨thuiyx⟩ · /t̪ɨi₂/

seize, v · lû

⟨luz⟩ · /lu₁/

sell, v · shong

⟨shvungz⟩ · /ʃɐuŋ₁/

send, v · târ

⟨tvghurx⟩ · /tə₀ɣur₂/

Here Needham likely elicited the same lexeme as is found in the modern language, but with ellision of the velar. This is today typically a fricative, but can occur as an obstruent.

sharp · â´thî

⟨vhttuiyx⟩ · /ə₀t̪ʰɨi₂/

shoot, v · gâp

⟨ghap⟩ · /ɣap₄/

similar (alike) · âdam, dam

⟨vdvmz, dvmz⟩ · /ə₀dɐm₁, dɐm₁/

sing, v · â´shir

⟨shic⟩ · /ʃi₃ (song)/

The equivalent stem today /ʃi₃/ refers to a song rather than the verb 'to sing'. Needham transcribes this with final 《r》 , also not present today.

sit down, v · nong

⟨ngvungc⟩ · /ŋɐuŋ₃/

skin · â´krü

⟨shuix⟩ · /kʰɨ₂/

Based on other transcriptions this is expected to be 《â´kri》 , however 《ü》 is commonly used for what Needham describes as /y/, suggesting difficulty hearing the 1888 equivalent of /ɨ/ as a clear phoneme. Muishaung is somewhat unique today in the number of central vowel phonemes, and a distinction between /ɤ/ and /ɨ/ which is often not entirely clear in casual speech, often becoming more like [ɣ] and [ɨ̠] respectively, the latter

often erroneously transcribed as /ɯ/ in the literature anyway.

sky · rong

⟨rvungx⟩ · /rɐuŋ₂/

This is a case of the *-aŋ rime with ⟪o⟫ transcription indicating either an intermediate step in the sound change, or just an inconsistency in Needham's transcription This term was historically and still today rhyming with the 'machete' stem, now /ʒɐuŋ₂/, aside from a difference in tone which has not affected the phonological development of the rime.

This stem is homophonous with 'wing'

slave · dâ

⟨dax⟩ · /da₂/

slippery · ân´yâr

⟨vnyelz⟩ · /ə₀ɲel₁/

Here there is incorrect syllabification with the nominalising prefix /ə₀/. Significantly, this again shows a potential dialectal variation between his speakers and one of the current authors of this comparison in the

liquid coda. A similar case is seen in 'young man' and 'sun' below.

sleep, v · voil

⟨wovlc⟩ · /βoɐl₃/

This does not mean 'sleep' exactly, but rather the act of lying down flat. Stems for 'sleep' today are ⟨yuip⟩ /ʒɨp₄/ and ⟨tsovlx⟩ /t͡soɐl₂/.

small · â-phûn´sâ

⟨vphuinc saz⟩ · /ə₀pʰɨn₃ sa₁/

smell · â´thing

⟨thuingx⟩ · /t̪ɨŋ₂/

smoke · varrkrû

⟨wvrzkhuiuq⟩ · /βɐr₁kʰɨuʔ₄/

Use of ⟪r⟫ on the nucleus again corresponding to central vowels. No mention if given of the glottal coda, but again words are only described as 'sharp' when they are monosyllabic.

snake · pû

⟨puiuc⟩ · /pɨu₃/

By comparison with other entries, ⟪prû⟫ would be expected here. The 'snake' stem is found throughout Patkaian, and often with a diphthong involving a central vowel followed by /u/. It is therefore surprising that

Muishaung, a variety with substantially more diphthongs than any other in Patkaian, would have a monophthonic /pu/ even in Needham's time.

Compare Hahcheng and Joglei /pəu/, Khalak and Chamchang /pau/, Lochhang /pao/, Mungre /poi/, as well as Khiamniungan and Pounyiu /pau/ and Lainong /pio/.

snow · thik´hek

⟨tsikhek⟩ · /ʦɨk$_4$hek$_4$/

This is a case where Needham gives an obstruent, but the modern version has an affricate. There is alternation between /ts/ and /t/ in modern Muishaung, which this may also be a case of.

son · mî´vâshâ, mî´vâshâ̠n

⟨miqwazsaz⟩ · /miʔ$_4$βa$_1$sa$_1$/

Needham's ⟪shâ̠n⟫ is seen elsewhere in the text and would correspond to /ʃɔ$_2$/ today, as seen in 'child' ⟨noxshawx⟩ /no$_2$ʃɔ$_2$/ above, as well as being the second part of the general category term for 'bird', ⟨wuzshawx⟩ /βu$_1$ʃɔ$_2$/. It is distinct from the ⟨saz⟩ /sa$_1$/ diminutive found in the language today. This /sa$_1$/ is a diminutive marker and also means 'son' or 'child' on it's own. The nasalisation is not a mistake, and is found throughout the text.

'Child' ⟨noxshawx⟩ /no$_2$ʃɔ$_2$/ has a cognate in Ngaimong as /nau$_2$seŋ$_2$/, but can also be said as noxsaz /no$_2$sa$_1$/, for which the non-nasalised ⟪mî´vâshâ⟫ is likely a representation. Thus, the two forms given here are not allophonic variation of nasalisation, but rather represent two entirely different morphemes which also occur with a tonal distinction. Both stems occurred in 1888 serving as diminutives or possibly nominalisers, similar to the way 子 has developed in Sinitic.

sow, v · win

⟨wuinc⟩ · /βɨn$_3$/

spear · pâ

⟨paq⟩ · /paʔ$_4$/

spark · varrpü

⟨wvrzpuic⟩ · /βɐr$_1$pɨ$_3$/

spirit (evil) · thâng, thâung

⟨thvungc⟩ · /t^hɐuŋ$_3$/

Here Needham gives both a pre- and post-change form of the word, showing that the two pronunciations coexisted and were perhaps in free variation.

stand · châp

⟨jvp⟩ · /tɕɐp$_4$/

star · rî͈sî

⟨ruiyzsuiyq⟩ · /rɨi$_1$sɨiʔ$_4$/

stay, v · gal

⟨ghuilc⟩ · /ɣɨl$_3$/

stead · â͈gû, â͈grû

⟨vghuez⟩ · /ə$_0$ɣɤ$_1$/

It is unclear what was meant here, but this is likely meant to be /ə$_0$ɣɤ$_1$/, 'to lack', as the only potential verb which will have the correct pronunciation and a possible semantic connection, although this is speculative.

stone · lûng

⟨lungz⟩ · /luŋ$_1$/

sun · rong͈shârr

⟨rvungxshalx⟩ · /rɐuŋ$_2$ʃal$_2$/

Here again is a case of alternation between /l/ and /r/. This is only attested as having coda /-l/ today, which is also the more conservative reading of the morpheme. That the ⟨r⟩ is doubled indicates it was clearly a trilled /r/ for Needham, therefore dialectal variation has to be assumed. In Shangwan, which has lost final *-l (and for which the final /n/ in 'Shangwan' is a replacement strategy), 'sun' will be /rəŋ.ʃar/.

tail · â͈mî

⟨vmiz⟩ · /ə$_0$mi$_1$/

take, v · lam͈van

⟨lvmc wvnc, lvmz wvnc⟩ · /lɛm$_3$ βɐn$_3$, lɛm$_1$ βɐn$_3$/

that · ka͈rau, ka͈rü

⟨kvruex⟩ · /kə$_0$rɤ$_2$/

them or they · thing͈shî

⟨tsuingcshiq⟩ · /tsɨŋ$_3$ʃiʔ$_4$/

there · ga͈nü

⟨kvnuex⟩ · /kə$_0$nɤ$_2$/

The initial ⟪g⟫ in Needham's transcription is an error, and should be ⟪k⟫.

thief · â´grûwâ

⟨vghuiuqwaz⟩ · /ə₀ɣɨuʔ₄βa₁/

This is NOMZ-steal-father/man, which is an interesting case of SPEC being /βa₁/ 'father, man' rather than /tɕi₂/ 'grandfather' as is common today.

thin (not thick) · â´vâr

⟨vwarx⟩ · /ə₀βar₂/

thin (not thick) · â´gü

An appropriate modern equivalent was not able to be found for this form as given by Needham. The intended meaning and provided form combination does not resemble any currently used terms.

thin (not fat) · â´rê´ân̲

⟨vrex⟩ · /ə₀re₂/

this · â´rau, â´rü

⟨vruex⟩ · /ə₀rɤ₂/

thorn · shû

⟨shuiuq⟩ · /ʃɨuʔ₄/

Notably, this is not referred to as 'sharp' in Needham's account, possibly due to the diphthong.

thumb · yok´shî

⟨yvukshix⟩ · /ʒɐuk₄ʃi₂/

This is simply 'finger'. The full form of 'thumb' today is /ʒɐuk₄ʃi₂kɨu₂/, the final morpheme also being the feminine marker for certain animals, calling back to the use of 'mother' as an augmentative used elsewhere in the languages of the region.

thunder · rong´mûk

⟨rvungxmuk⟩ · /rɐuŋ₂muk₄/

tiger · châ

⟨jaq⟩ · /tɕaʔ₄/

Even more notably than 'thorn', this is not marked as 'sharp'. The recognition and indication of /-ʔ/ codas is largely not consistent. It can be stated at least that where mentioned, Needham is entirely correct, but more often than not, checked syllables are not indicated as such.

tobacco · nyâ

⟨nyac⟩ · /ɲa₃/

toe · yâ´shî

⟨yazshix⟩ · /ʒa₁ʃi₂/

tongue · la´lî

⟨tvlix⟩ · /tə₀li₂/

The initial ⟪l⟫ of the first syllable is likely a mistake, either a production error by the speaker or having been misheard by Needham. Given the similarity in place of articulation, either explanation would be reasonable.

tooth · vâ

⟨wac⟩ · /βa₃/

touch wood · mü

⟨–⟩ · /–/

An equivalent modern form was not found for this, and it is not clear what was meant by the English gloss.

track, v · yür

⟨yurc⟩ · /ʒur₃/

The actual meaning here is 'to chase' rather than to track.

true · â´sing

⟨vsuingz⟩ · /ə₀sɨŋ₁/

tree · pûl

⟨pulx⟩ · /pul₂/

uncle · î´vong

⟨vwvungx⟩ · /ə₀βɐuŋ₂/

This is specifically one's paternal uncle. Maternal uncle is /ɣu₁/. The ⟪î⟫ prefix is possessive, as with other kinship terms collected here, although absent on other kinship terms provided by Needham such as 'father'.

unripe · â´thing

⟨vhttuingx⟩ · /ə₀t̪ʰɨŋ₂/

village · kî´aṉ

⟨kez⟩ · /ke₁/

A more common term for village today is ⟨ghaqshungc⟩ /ɣaʔ₄ʃuŋ₃/. Nasalisation in Needham's transcription is of uncertain source.

war · râ´lûng

⟨rvlungc, rvkhvt⟩ · /rə₀luŋ₃, rə₀kʰɐt₄/

what? · yam´lû

⟨yvmxlix⟩ · /ʒəm₂li₂/

where · m´jû´lâ

⟨mzyuqlac⟩ · /m₁ʒuʔ₄la₃/

white · â´lü

⟨luiz⟩ · /ə₀lɨ₁/

who? · u´lâ

⟨uzlac⟩ · /u₁la₃/

why? · kham´lâ

⟨khvmc lac⟩ · /k^hem$_3$ la$_3$/

wing · wûrong

⟨wuzrvungx⟩ · /βu$_1$reuŋ$_2$/

worm · chil´bâ

⟨jvlxbaz⟩ · /tɕel$_2$ba$_1$/

This term is specifically used for worms which give some feeling of disgust, and would not typically be used for grubs that could be a food source. It also serves – in that capacity as linked to disgust – as a temporary name for infants in order to ward off evil.

yesterday · ma´yâ

⟨mzyac⟩ · /m$_1$ʒa$_3$/

you · m´nang

⟨mznvungz⟩ · /m$_1$neuŋ$_1$/

young man · yâ´rôwâ

⟨yalxroxwaz⟩ · /ʒal$_2$ro$_2$βa$_1$/

Another case of /l/ as ⟪r⟫ but also /l/ is often lost in Needham's transcription when in coda position. Compare 'young woman' ⟪yâr´tû⟫ . The final syllable ⟪wâ⟫ is the 'father' stem which occasionally occurs as a specifier or agentive marker.

young woman · yâr´tû

⟨yalxtux⟩ · /ʒal$_2$tu$_2$/

As with ⟪yâ´rôwâ⟫, here coda ⟪r⟫ for what is /l/ in the modern variety.

Computer-readable word list

The entirety of the above word list from Needham's text is available in CLDF format along with the modern pronunciation and notes consistent with the following section. It can be downloaded at [removed for blind review].

Grammatical notes

Following the word list, Needham provided a very brief sketch grammar with example sentences. It is only a few pages long, but provides additional insight into changes that the language underwent during the past century.

Gender

Grammatical gender is not a feature of Muishaung or related Tangsa-Nocte varieties. It is typically not a part of pronominal systems, except in cases where such distinctions have been innovated in the third person singular pronominal forms. Gender marking is typically restricted to overt marking through the addition of 'man' or 'woman' to terms. Table 1 shows terms where gender specification is semantically specified, adapted from the original.

《mĩ˝vâ *or* wâ》	man, male	《vĩ˝krû》	old woman
《yâl´shik *or* yâ´shik 》	woman, female	《vâ *or* wâ》	father
《lĩ˝kâng》	old man	《nyû》	mother

Table 1: Semantically gendered terms

These terms are explained by Needham as terms for which gender is inherent in the semantics. The alternation between 《w》 and 《v》 on *father* reflects the likely underlying realisation of the phoneme back in 1888 as /β/, the same as it is today. The same type of alternation is found on 《y》 today, realised anywhere between /j/ and /ʒ/.

Needham describes the terms in Table 1 as being used to explicitly mark sex of human concept such as *slave* or *child* by appending the term for that concept to the terms for 'man' or 'woman' above. The examples given by Needham are shown in Table 2.

《dâ》	slave	《no´shân̲》	child		
《mĩ˝vâ dâ 》	male slave	《mĩ˝vâ no´shân̲ 》	male child	《mĩ˝vâ shân》	son
《yâ´shik dâ》	female slave	《yâ´shik no´shân̲》	female child	《yâ´shik shâa》	daughter

Table 2: Gender-marked compounds

In the original printing, the forms for 'son' and 'daughter' are printed as shown in Table 2, with the underline missing on 《n̲》 in 'daughter' and printed as 《a》 on 'son'. These are almost certainly typographical errors introduced at the time of printing, given the clear compositional nature of the compounds which was the focus of the section in the text.

The description of gender continues with examples for marking what he calls 'inferior animals', for which different strategies are given. These are 《lâ》 and 《pûng》 for males, today /la_1/ and /puŋ_1/, and 《shârr》 or 《krû》 for female, today /ʃar_2/ and /kɨu_2/. Needham provides the forms shown in Table 3.

《vak》	pig	《vĩ˜sî》	monkey	《gui hên̲》	dog
《vak lâ》	male pig	《vî lâ》	male monkey	《gui hên̲ lâ》	male dog
《vak shârr》	female pig	《vî krû》	female monkey	《gui hên̲ krû》	female dog
《kê´kî》	goat	《châ》	tiger		
《kê´pûng》	male goat	《châ lâ》	male tiger		
《kê´shârr》	female goat	《châ krû》	female tiger		

Table 3: Gender-marked animal terms

The strategies described by Needham are still present today, but with some additional complexity. Needham presents the terms in a way which may suggest that these are lexically specified. This is not the case, and instead the terms for female animal differ based on whether it has given birth or not. Feminine /ʃar_2/ is typically used for female animals which have not yet given birth. Thus today ⟨wvuksharx⟩ /βeuk_4ʃar_2/ is a female pig which has not, and ⟨wvukkuiux⟩ /βeuk_4kɨu_2/ will refer to a female pig which has previously given birth.

Despite this system, female goat is instead ⟨khelxkuiux⟩ /$k^hel_2kɨu_2$/ today regardless, with Needham's ⟪kê´shârr⟫ rejected by speakers as being incorrect.

In spite of the brevity of the section, Needham largely captures the extent to which gender is a feature of the language.

Adjectives

The subsection on adjectives includes a very short collection of glossed examples of adjective use. Needham states that it can occur before or after the noun, which is correct in one sense. However, in Muishaung, as in other Tangsa-Nocte varieties, adjective-like nominal modifiers are formed from stative verbs that take the nominaliser prefix /$ə_0$-/. When preceding the noun, as with ⟪â´hal vâ⟫ good+man, the result is a noun phrase which cannot serve as an independent clause.

Examples (1a) and (2a) are adapted from Needham, preserving the original glossing in bold, while (1b) and (2b) are the modern-day equivalents.

(1a) *â´hal* *vâ*   (2a) *vak* *â´pü* *vâ*

  good **man**   **pig,** **fat**

  'good man'   'a fat pig'

(1b) *$ə_0$-hel_2* *$βa_1$*   (2b) *$βeuk_4$* *$ə_0$-pɨ_1$* *$βaʔ$*

  NOMZ-good   father   pig   NOMZ-   INT

                                        fat

  'good man'   '[A] pig is fatty!'

Despite the order described as flexible, when following the noun as in the other three examples provided by Needham, the result instead is a subject-predicate construction, and forms an independent clause. Thus ⟪vâ â´hal⟫ would be understood as 'the father/man is good'. Such constructions lack any sort of copula. A similar commonly used construction adds a focus marker /$kɤ_2$/ between the subject and predicate. The omission of /$kɤ_2$/ in Needham may suggest that this is something which has increased in frequency since his time.

(3a)	*yânˊhî*	*âˊthî*	*vâ*	(4a)	*khai*	*âˊlu*	*vâ*
	knife,	**sharp**			**cloth,**	**long**	
	'a sharp knife'				'a long cloth'		

(3b)	*ʒan₂hi₂*	*ə₀-ʈʰɨi₂*	*βaʔ*	(4b)	*kʰei₁*	*ə₀-lu₁*	*βaʔ*
	knife	NOMZ-sharp	INT		cloth	NOMZ-long	INT
	'[A] knife is sharp'				'[A] cloth is long'		

Significantly, Needham includes 《vâ》 in all examples. In the first it is glossed as 'man'. In the other examples, this can not be, and instead it is almost certainly /βaʔ₄/, an intensifier. This leads the authors to suspect the 《vâ》 in 'good man' may also possibly be the intensifying /βaʔ₄/ rather than 'father, man' /βa₁/. No explanation is given for the additional occurrences of 《vâ》. Without more information on the original methodology, it may not be an answerable question.

Personal pronouns

This section includes a single table of the pronominal system with a valuable footnote: *'I am not sure that the plural is right'*. It is an excellent example of the type of transparency which is so badly needed to be able to properly interpret texts from this era. Needham's account is seen in Table 4 adapted from the original text.

	SG	PL
1	ngâ	nĩˊshî
2	mˊnang	nüm
3	âˊpî	thingˊshî

Table 4: Muishaung pronouns according to Needham

The modern-day pronominal system is as in Table 5. Our analysis of the pronominal system treats overt dual, trial, and plural marking as affixes. These are pragmatically conditioned and not necessary for the bare stem to be interpreted as non-singular.

SG	N.SG.INCL	N.SG.EXCL	DU	TRI	PL

1	ŋa$_1$	nɐuŋ$_1$	nɨi$_1$	–n̪ɨi$_3$	–t̪ɨm$_2$	–ʃiʔ$_4$, –he$_1$
2	m̩$_1$nɐuŋ$_1$	nɨm$_1$		–n̪ɨi$_3$	–t̪ɨm$_2$	–ʃiʔ$_4$, –he$_1$
3	ə$_0$piʔ$_4$	tsɨŋ$_3$		–n̪ɨi$_3$	–t̪ɨm$_2$	–ʃiʔ$_4$, –he$_1$

Table 5: Modern Muishaung pronouns

Despite Needham's concerns, he was fully correct in his analysis. The plural forms given were the exclusive first person singular, and the overt plural marker /–ʃiʔ$_4$/ was not included on the second person plural, but it is also not necessary.

Verbs

The section on verbs is brief in terms of prose but contains many examples. Imperatives are rightfully identified as being marked by 《shû》 and 《krû》, today /ʃɨu$_1$/ and /kɨu$_1$/. The role of these two is never commented on, although from the examples given it is clear that this is a distinction of transitivity, as it is today as well. The transitivity distinction is not made in other Tangsa-Nocte varieties, and is surely an innovation in Muishaung which predates Needham's visit. Morey (2019:170) provides a comparative account of the imperative markers across varieties, and in no other is such a distinction attested.

Some examples of the imperative are given in (5–8). The modern forms and translations match those given by Needham and are included in the second line of the examples.

(5) *â´pî˜   dat´   shû*
ə$_0$piʔ$_4$ t̪ɛt$_4$ ʃɨu$_1$
3sg   hit   IMP.TR
'Hit him'

(6) *kong   gâp´   shû*
ko$_1$ ɣap$_4$ ʃɨu$_1$
gun   fire   IMP.TR
'Fire the gun'

(7) *châp   krû*

(8) *yû   krû*

tɕep₄	kɨu₁		ʒu₁	kɨu₁
stand	IMP.INT		flee	IMP.INT
'Stand [up]'			'Run away'	

Note in (6) 'gun' is given as ⟪kong⟫ whereas before in the word list it was given as ⟪koṉ⟫, further indicating the state of flux that loss of nasal codas were in at the time.

Transitivity is distinguished for the imperative, but not shown elsewhere in the sentences, as in (8-9).

(7) *Ngâ kâ khâung*   (8) *Ngâ shong khâung*

1SG	go	FUT		1SG	sell	FUT
'I will go'				'I will sell'		

In the modern language, transitivity occurs in these cases, as in (9) and (10), having replaced the earlier ⟪khâung⟫.

(9) ŋa₁ ka₁ t^heuŋ₂   (10) ŋa₁ ʃeuŋ₃ ʃeuŋ₂

1SG	go	FUT		1SG	sell	FUT
'I will go'				'I will sell'		

The situation around transitive marking verbs in Muishaung as it relates to Needham's account has previously been discussed in Morey (2019), which states:

> This distinction in future marking between transitive and intransitive appears to be a relatively recent innovation. Muishaung is the only Pangwa Tangsa variety for which we have substantial historical records dating back more than a short time. Needham (1897:10) recorded … that the future was marked by verbal operator k^h- used for both transitive and intransitive.

The ⟪khâung⟫ /k^heuŋ₂/ form still exists today but as a first person singular hortative.

The other major difference between Needham's sentence examples and the modern variety is the frequent use of 《kâ》 /ka$_1$/ 'to go' at the end of declarative sentences, as in (11). examples

(11a) *sam   muin   kâ*   (b)   *ʦem$_1$ mɨn$_2$ ka$_1$*

rice   ripen   REAL   rice   ripen   REAL

'The rice is ripe'   'The rice has become

                                     ripe'

This is not used for simple declaratives as translated by Needham but instead means that the ripening of the rice has come to pass.

Numerals

The final section of the text gives the numbers 1-13, and then all multiples of 10 up to 100 in Muishaung, followed by 1-10 in Shangke, with the final note from the author that '...the rest [of Shangke numbers] are so similar to the Môshâng ones, that I did not think it worth while writing them down'.

Conclusion

Fieldwork documentation provides ample opportunities to the one collecting the data to realise one's past mistakes. At the time of writing, the authors of this paper have worked closely together on a single language variety for a full decade, and in that time have had many chances to revisit past discussions in the form of audio or video recordings and to build upon those past interpretations with new knowledge and improved language skills.

As part of that process, many amendments, additions, and total corrections of past understandings have occurred. Needham's text provides a rare and wonderful snapshot not just of the language as spoken by his main contact/s in 1888 — precisely the outcome Needham himself would have intended — but also an intriguing picture of all the complications that fieldworkers have faced from the start. There are difficulties in understanding the important features of an unfamiliar language, difficulties of communicating the data one may wish to elicit, difficulties in

understanding what a researcher from far away may be asking in the first place, and of course difficulties in capturing the sounds one may be hearing, especially with the limitations of 1888's technology.

In this way is not only an invaluable record of language change, but a particularly humanising document about its author, about whom so little has survived to the present time. Little remains of the details behind Jack Francis Needham's time travelling through the areas, and even fewer details — hardly any at all — of the people he spoke to in the communities through which he passed. Instead we are left attempting to forensically reconstruct his methods, for which we fortunately have at least some clues.

The importance of legacy materials is clear, both for understanding not only the historical background of language documentation as well as the state of the modern languages. By approaching these documents with the goal of working out the underlying systems which may otherwise be dismissed simply as mistakes on the original author's part, we can shed new light into important changes in the language, while also better understanding which aspects have remained the same.

References

Brown, Nathan (1851). "Specimens of the Naga language of Asam". In: Journal of the American Oriental Society 2, pp. 157–165.

Dam, Kellen Parker van (2019). *Horsing around: The Complicated State of Tangsa-Nocte *aŋ Rhymes*. Paper presented at the Himalayan Languages Symposium. Sydney, AU.

— (2020). "The syntax of intensifiers in Muishaung". In: Linguistics of the Tibeto-Burman Area 43.1, pp. 19–36.

— (2022). *Semantic Splits in Northern Naga: Lexical disambiguation through partial sound changes in polysemes*. Presented at the 2nd International Conference of the Tibeto-Burman Association of Northeast India.

Das Gupta, Kamalesh (1978). "A note on the Tangsa language". In: Resarun: journal of the Research Department, Government of Arunachal Pradesh 4.2, pp. 6–16.

— (1980). *The Tangsa language: a synopsis*. Shillong: The Philology Section, Research Department, North-East Frontier Agency, p. 77.

Grierson, George Abraham (1928). *Linguistic Survey of India. Comparative Vocabulary*. Calcutta: Government of India Central Publication Branch.

Morey, Stephen (2015). "The internal diversity of Tangsa: vocabulary and morphosyntax". In: Language and culture in Northeast India and beyond, p. 23.

— (2018). "Verb stem alternation in Pangwa Tangsa". In.

— (2019a). "Pangwa Tangsa agreement markers and verbal operators". In: Himalayan Linguistics 18.1.

— (2019b). *Preliminary Muishaung Grammatical Sketch.*

Needham, Jack Francis (1897). A Collection of A Few Môshâng Naga Words. Shillong: Assam Secretariat Printing Office.