ICONICITY OF VOWEL QUALITIES IN NORTHEASTERN THAI REDuplicated WORDS

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1. Introduction

Several types of reduplication in languages spoken in Southeast Asia have been reported by Haas (1942 and 1946), Banker (1964), Smith (1973), Diffloth (1976 and also in this book) and Jacob (in this book). The use of reduplication is also common in the Isan dialects, i.e., the Thai dialects spoken in the northeastern region of Thailand. Reduplicated words are normally used as intensifiers and pluralisers. The iconic value of vowel qualities in reduplicated words are of particular interest.

Firth (1930) draws to our attention the relationship between vowel qualities and their suggestive meanings. He states:

When the consonantal link is etymemic or phonaesthetic, vocalic heterophony will also have some sort of function. Vowel variation in otherwise similar phonetic sequences is a common verbal device in English and other Germanic languages—e.g. drink, drank, drunk, sink, sank, sunk. ... Vowel variation is widely used for other purposes in most Germanic languages. We sometimes vary the vowels to suit in some way the varied aspects of similar actions—e.g. the verbs drip, drop, droop. Why should suit the first sort of action and the third, it is possible to guess—but we must beware of sound symbolism...

The use of reduplication, of ee and oo sounds, and the liquid l r n m sounds as intensives, as diminutives associated with reiteration, or with affectionate, or pejorative feelings or regard for the picturesque, will account for much of what is loosely called onomatopoeia.1

The iconicity of vowel qualities in Isan reduplicated words may be used as evidence to support Firth's interesting comments on sound symbolism. The analysis in this article, which is based on the Muaong Sam Sip dialect (MSS) spoken in Ban Bua Yang, Tambon Dum Yai, Amphoe Muang Sam Sip in Ubon Rachathani Province, and the many examples of reduplication found in the Isan-Central Thai Dictionary by Somdet Phramaha Wirawong Titsamahathera, et al. (1972) and also Nimmanahaeminda
(1976) strongly suggest that the phenomenon described is quite widespread among Isan and other Tai dialects spoken in the northeastern part of Thailand.²

2. A brief phonological sketch of the Muang Sam Sip dialect

Consonant system

Initial consonants

<table>
<thead>
<tr>
<th>p</th>
<th>t</th>
<th>c</th>
<th>k</th>
<th>?</th>
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<tbody>
<tr>
<td>ph</td>
<td>th</td>
<td>kh</td>
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<td>f</td>
<td>s</td>
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<tr>
<td>v</td>
<td>l</td>
<td>j</td>
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</tbody>
</table>

Note: MSS has no consonant clusters.

Examples

paː² 'fish'
taː² 'eye'
cāː⁴ 'noncommissioned officer (army, air force and police)'
kaː² 'crow'
?aː⁶ 'to open one's mouth'
phaː³ 'to bring along'
thaː³ 'to paint, smear'
khaː³ 'thatch grass'
baː² 'to omit, skip'
daː⁴ 'to scold'
maː³ 'to come'
naː³ 'rice field'

paː¹ 'to be coarse, rough (as of a floor having dirt or sand on it)'
 ngaː³ 'sesame'
 faː¹ 'wall; lid'
 saː¹ 'swamp'
 haː¹ 'to seek'
va:³ 'arm spread (a measure)'
læ:³ 'to say good-bye'
ja:² 'medicine'

Final consonants

p  t  k  ?
m  n  η

Examples

sa:m¹ 'three'
sa:n¹ 'to weave, plait (bamboo)'
sa:ŋ¹ 'to comb (thatch grass)'
sa:p⁵ 'an unpleasant smell (as of body odours)'
sa:t⁵ 'to splash'
sa:k⁵ 'pestle'
sap¹ 'to chop, slash'
sat¹ 'animal'
sak¹ 'to tattoo'
sa?⁴ 'to tear up'

Vowel system

Monophthongs

i, i:  (w)³ w:  u, u:
e, e:  y, y:  o, o:
ɛ, ɛ:  c, ɔ:⁴
a, a:

Diphthongs

iu iə  (wə)⁵ ui un
eu yи oi
ɛu ci
ai, a:i
au, a:u
### Triphthongs

<table>
<thead>
<tr>
<th>ieu</th>
<th>wəi⁶</th>
<th>uei</th>
</tr>
</thead>
</table>

#### Examples

- ?in²: 'Indra (name of a Hindu god)'
- ?iː²: 'title used with first names'
- ?en²: 'tendon, sinew, gut'
- ?eːn²: 'to lean'
- kəʔ¹: 'to pick out, remove (tiny objects with the tip of the finger)'
- ?eː⁶: 'the air bladder (of a fish)'
- ?an²: 'clf. for small, long objects'
- ?aː²: 'father's younger sister'
- twk¹: 'building'
- ?uːn⁴: 'other, other ones'
- ηyn³: 'silver'
- ?yːn⁶: 'to call'
- khuk⁴: 'jail'
- ?uː⁴: 'cradle'
- ?on⁶: kʰiː⁵ ?on⁶: 'a kind of plant'
- ?oː²: 'a bowl-shaped vessel (usually used for drinking water)'
- khoʔ⁴: 'to knock'
- khoː³: 'neck'
- ?iṇ²: 'eel'
- hiu¹: 'hungry'
- heu¹: 'chasm'
- ?eːu²: 'waist'
- ?au²: 'to take'
- ?aːu²: 'father's younger brother'
- ?ai²: 'to cough'
- ?aːi²: 'shy'
- ?wən⁶: 'to diminish in force (rain)'
- ?yi⁴: 'to utter'
khui³ 'to chat'
ʔuə⁴ 'sour sausage (Isan style)'
hoi³ 'to scatter about on top of something'
ʔɔi⁶ 'sugar cane'
hiəu⁴ 'to be wilted, withered'
ʔwəi⁶ 'first daughter'
ʔuəi⁴ 'to head (a boat) in a different direction'

**Tone system**

An MSS syllable may have one of the following six tones: ⁷

![Tone diagram]

**Tone 1:** low-rising, e.g.
- khaː¹ 'leg'
- khaːn¹ '(Year of the) tiger'
- khat¹ 'to polish'
- kat¹ 'to bite'
- bat¹ 'card'

**Tone 2:** low-rising (slightly)-falling, e.g.
- kaː² 'crow'
- baː² 'to skip'

**Tone 3:** high-rising-falling, e.g.
- khaː³ 'thatch grass'
- khaːn³ 'chin, jaw'
Tone 4: high-level (or gradually falling), e.g.
   kha:\textsuperscript{4} 'galangal'
   ka:n\textsuperscript{4} 'white ring around dog's tail'
   ba:\textsuperscript{4} 'shoulder'
   kha:\textsuperscript{4} 'price, value'
   khat\textsuperscript{4} 'to steer or guide a boat'

Tone 5: low-falling with glottal constriction, especially in open syllables, e.g.
   kha:\textsuperscript{5} 'to kill'
   kha:t\textsuperscript{5} 'to be torn'
   ka:t\textsuperscript{5} 'a kind of vegetable'
   ba:t\textsuperscript{5} 'to cut (e.g. one's finger)'

Tone 6: mid-falling, e.g.
   ka:\textsuperscript{6} 'rice seedlings'
   ba:\textsuperscript{6} 'crazy'
   kha:\textsuperscript{6} 'to trade'
   kha:t\textsuperscript{6} 'to tie something around'

3. Patterns of reduplication

There are two types of reduplication in MSS: single reduplication and double reduplication. The former suggests singularity and the latter suggests plurality. The two types of reduplication may be represented in generalized formulas as follows:

Single reduplication: \( \text{CV}(C) \rightarrow \text{CV}(C).\text{CV}(C) \)

Double reduplication: \( \text{CV}(C).\text{CV}(C) \rightarrow \text{CV}(C).\text{CV}(C).\text{CV}(C).\text{CV}(C) \)

In single reduplication, each reduplicated word consists of two syllables, and each syllable can be divided into two major components: the changed component (C-) and the constant one (-VC) as illustrated in the diagram below:

```
<table>
<thead>
<tr>
<th>C</th>
<th>T</th>
</tr>
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<tbody>
<tr>
<td>k</td>
<td>:k^5</td>
</tr>
</tbody>
</table>
```

```
<table>
<thead>
<tr>
<th>C</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>s</td>
<td>:k^5</td>
</tr>
</tbody>
</table>
```
Both C and V elements can be any consonant and vowel in the phonological system of MSS. However, there are some restrictions on the occurrence of T or tones: only tones 4, 5 and 6 occur in reduplicated words.

For example:

na:⁵ ba:n² byn⁴-vyn⁴ 'a very happy big face'
de:n² ki:k⁵-si:k⁵ 'to be dark red (as of eyes)'
dam² khï:⁵-li:⁵ 'to be black (as of round objects)'
khwn⁵ ci:t⁶-phi:t⁶ 'to sprout poorly (as of plants)'

In double reduplication, the C and the T elements of box B are constant, i.e. they are exactly the same as those of box A. The V element is the changed component. V₁ and V₂ are back vowels whereas V₃ and V₄ are front vowels. The vowels of box B are always in harmony with the ones of box A in terms of tongue height.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>T</td>
</tr>
<tr>
<td>V₁(C)</td>
<td>V₂(C)</td>
</tr>
<tr>
<td>kh₁</td>
<td>œm⁵</td>
</tr>
</tbody>
</table>

4. Iconic value of vowel qualities

Generally speaking, reduplicated words in Isan dialects are used as modifiers (adjectives and adverbs) or as intensifiers following descriptive verbs referring to the principal colours, shapes, i.e. 'fat, round thin, long' and a few others. Based on the iconic value of vowel qualities, the V elements may be divided into three major classes:

**Class 1:** u o w y

u represents u u: uᵢ uᵢ uɛ uɛᵢ
o " o o: oᵢ
w " w w:\n y " y y:\n
**Class 2:** i e o

i represents i i:\n e " e e: eᵢ
o : o o: oᵢ
Class 3: e a

e represents e e:
a " a a: ai a:i au a:u

Rounded and unrounded back vowels (u o w y) always suggest a larger size or a higher degree of intensity\(^5\) whereas vowels belonging to the second class (i e c) always suggest a smaller size or a lower degree of intensity. The vowels of the third class may convey either the idea of largeness or that of smallness; for example, a would suggest the greater magnitude when paired with e, yet when paired with o, it suggests the smaller magnitude. From the data collected, six patterns of two-way semantic contrasts suggested by different vowel qualities have been found. They are as follows:

Pattern 1: u-u vs. i-i a-a o-o

Ex.1  
\(\text{mu}^3 \text{ kin}^6 \text{ kut}^4-\text{dut}^4\)  
\(\text{mu}^3 \text{ kin}^6 \text{ kit}^4-\text{dit}^4\)

Ex.2  
\(\text{khieu}^1 \text{ cum}^4-\text{kum}^4\)

Ex.3  
\(\text{lien}^1 \text{ ?ui}^4-\text{hui}^4\)

Ex.4  
\(\text{khieu}^1 \text{ ?um}^4-\text{thum}^4\)

Ex.5  
\(\text{ko}^2 \text{ cum}^6-\text{kum}^6\)

Ex.6  
\(\text{san}^5 \text{ ?u}^6-\text{pu}^6\)

Pattern 2: o-o vs. i-i e-e a-a o-o

Ex.1  
\(\text{ko}^2 \text{ co}^4-\text{ko}^4\)

Ex.2  
\(\text{ko}^2 \text{ ci}^4-\text{ki}^4\)

Ex.3  
\(\text{lien}^1 \text{ ?ai}^4-\text{hai}^4\)

Ex.4  
\(\text{khieu}^1 \text{ ?um}^4-\text{thum}^4\)

Ex.5  
\(\text{ko}^2 \text{ com}^6-\text{kom}^6\)

Ex.6  
\(\text{san}^5 \text{ ?o}^6-\text{po}^6\)
<table>
<thead>
<tr>
<th>Ex.</th>
<th>Word</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>na:⁵ so:'-vo:'⁴</td>
<td>'a big ugly face'</td>
</tr>
<tr>
<td></td>
<td>na:⁵ se:'-ve:'⁴</td>
<td>'a small ugly face'</td>
</tr>
<tr>
<td>3</td>
<td>fa:⁶ ce:η⁶ co:η⁶-po:η⁴</td>
<td>'extremely clear sky'</td>
</tr>
<tr>
<td></td>
<td>fa:⁶ ce:η⁶ ca:η⁶-pa:η⁴</td>
<td>'clear sky'</td>
</tr>
<tr>
<td>4</td>
<td>na:⁵ le:m¹ co:t⁶-lo:t⁶</td>
<td>'long pointed face of a large creature'</td>
</tr>
<tr>
<td></td>
<td>na:⁵ le:m¹ co:t⁶-lo:t⁶</td>
<td>'long pointed face of a small creature'</td>
</tr>
<tr>
<td>5</td>
<td>pa:η⁴ mok⁴-cok⁴</td>
<td>'walking stiffly (as of a large creature)'</td>
</tr>
<tr>
<td></td>
<td>pa:η⁴ mok⁴-cok⁴</td>
<td>'walking stiffly (as of a large creature)'</td>
</tr>
</tbody>
</table>

**Pattern 3:** w-w vs. i-i

<table>
<thead>
<tr>
<th>Ex.</th>
<th>Word</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>hu:³ cw:⁴-vw:⁴</td>
<td>'a big hole'</td>
</tr>
<tr>
<td></td>
<td>hu:³ ci:⁴-vi:⁴</td>
<td>'a small hole'</td>
</tr>
<tr>
<td>2</td>
<td>jiot⁵ khwn⁶-nwn⁶</td>
<td>'stretching out full length (as of a big thing)'</td>
</tr>
<tr>
<td></td>
<td>jiot⁵ khin⁶-nin⁶</td>
<td>'stretching out full length (as of a small thing)'</td>
</tr>
<tr>
<td>3</td>
<td>hu:¹ san³ phwn⁶-vwn⁶</td>
<td>'sticking out (as of big ears)'</td>
</tr>
<tr>
<td></td>
<td>hu:¹ san³ phin⁶-vin⁶</td>
<td>'sticking out (as of small ears)'</td>
</tr>
</tbody>
</table>

**Pattern 4:** y-y vs. ε-ε

<table>
<thead>
<tr>
<th>Ex.</th>
<th>Word</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>kha:η⁶ ky:η⁶-dy:η⁴</td>
<td>'to be stuck on (as of something big)'</td>
</tr>
<tr>
<td></td>
<td>kha:η⁶ ke:η⁶-de:η⁴</td>
<td>'to be stuck on (as of something small)'</td>
</tr>
<tr>
<td>2</td>
<td>na:⁵ ba:n² byn⁴-vyn⁴</td>
<td>'a big happy face'</td>
</tr>
<tr>
<td></td>
<td>na:⁵ ba:n² ben⁴-ven⁴</td>
<td>'a small happy face'</td>
</tr>
<tr>
<td>3</td>
<td>lian¹ ?y:⁶-hy:⁶</td>
<td>'to be extremely yellow (as of a big thing)'</td>
</tr>
<tr>
<td></td>
<td>lian¹ ?ε:⁶-he:⁶</td>
<td>'to be extremely yellow (as of a small thing)'</td>
</tr>
</tbody>
</table>

**Pattern 5:** a-a vs. ε-ε

<table>
<thead>
<tr>
<th>Ex.</th>
<th>Word</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>lom⁶ pa:η⁶-ja:η⁴</td>
<td>'to topple (of a big thing)'</td>
</tr>
<tr>
<td></td>
<td>lom⁶ pe:η⁶-je:η⁴</td>
<td>'to topple (of a small thing)'</td>
</tr>
</tbody>
</table>
Ex. 2  bumⁿ⁶ ṭaːŋ⁶-maːŋ⁶  "a large indentation (as in a pot)"
      bumⁿ⁶ ṭeːŋ⁶-meːŋ⁶  "a small indentation (as in a pot)"

Ex. 3  baːn² khaːŋ⁵-laːŋ⁵  "to spread fully (as of a mushroom cap)"
      baːn² kheːŋ⁵-leːŋ⁵  "to spread a little (as of a mushroom cap)"

Pattern 6:  e-e  vs.  e-e

Ex. 1  nɔːn³ meːp⁵ ṭeː⁶-peː⁶  "to lie in a prone position (of a big fat thing)"
      nɔːn³ meːp⁵ ṭeː⁶-pəː⁶  "to lie in a prone position (of a small fat thing)"

Ex. 2  peː² leːt⁶-peː⁶  "to be flat (as of a big thing)"
      peː² leːt⁶-pəː⁶  "to be flat (as of a small thing)"

Ex. 3  lin⁶ naːu³ kheːt⁶-leːt⁶  "a broad long tongue"
      lin⁶ naːu³ kheːt⁶-ləːt⁶  "a narrow long tongue"

The semantic relationship of different vowel qualities described above may be presented diagramatically as follows:

```
  w
 / 
 o ——— u
 /    
 △ ——— △
 /        
 ◊ ——— Y
 /    
 ◇ ——— ◇
 /        
 △ ——— △
```

○ = larger size or higher degree of intensity

△ = smaller size or lower degree of intensity

A three-way semantic contrast (large vs. medium vs. small) suggested by different vowel qualities also occurs in MSS. So far, only two patterns have been found:
Pattern 1:  o-o vs. c-c vs. i-i

Ex.1  
hu:3  con⁴-pon⁴  'a really big hole'
hu:3  con⁴-pon⁴  'a fairly big hole'
hu:3  cin⁴-pin⁴  'a small hole'

Ex.2  
mw:n³  ta:2  mon⁶-kon⁶  'to open one's eyes very widely'
mw:n²  ta:2  mon⁶-kon⁶  'to open one's eyes widely'
mw:n³  ta:2  min⁶-kin⁶  'to open one's eyes a little bit'

Pattern 2:  u-u vs. c-c vs. ε-ε

Ex.1  
man³  hot¹  tun⁴-jun⁴  'It shrunk a lot.'
man³  hot¹  ton⁴-jon⁴  'It shrunk quite a lot.'
man³  hot¹  ten⁴-jen⁴  'It shrunk a little bit'

Ex.2  
tum⁴  ?u⁴-pu⁴  'a very big bump (as from a mosquito bite)'
tum⁴  ?os⁴-pos⁴  'a fairly big bump (as from a mosquito bite)'
tum⁴  ?ε⁴-pε⁴  'a small bump (as from a mosquito bite)'

Double reduplication is used to indicate plurality. The normal rhythmic pattern is  O / O / O . Three patterns have been found:

Pattern 1:  u-u-i-i vs. c-c-ε-ε

Ex.1  
lɔi³  ?u:n⁴-lu:n⁴-?i:n⁴-li:n⁴  'floating (in the water) of several big objects'
lɔi³  ?i:n⁴-λo:n⁶-εi:n⁴-λe:n⁴  'floating (in the water) of several small objects'

Ex.2  
kın⁶  khum⁵-lum⁵-khim⁵-lim⁵  'rolling of several big objects'
kın⁶  khom⁵-lom⁵-khem⁵-lem⁵  'rolling of several small objects'

Pattern 2:  γ-γ-e-e vs. c-c-ε-ε

Ex.1  
duəŋ²  my⁶-cy⁶-me⁶-ce⁶  'several big round shapes'
duəŋ²  mo⁶-co⁶-me⁶-ce⁶  'several small round shapes'

Pattern 3:  o-o-e-e vs. c-c-ε-ε
Ex.1  ten⁶ kho⁴'-jo⁴'-khe⁴'-je⁴' 'jumping back and forth, (as of several big frogs)'

ten⁶ kho⁴'-jo⁴'-khe⁴'-je⁴' 'jumping back and forth (as of several small frogs)'

Ex.2  kha:u¹ co:k⁶-pho:k⁶-ce:k⁶-phe:k⁶ 'to be extremely white (as of several big white objects)'

kha:u¹ co:k⁶-pho:k⁶-ce:k⁶-phe:k⁶ 'to be extremely white (as of several small white objects)'

5. Conclusion

Reduplication in Northeastern Thai dialects is a living process well-established in the speech community. Its basic forms and functions can be said to be the same for different speakers although there are some minor differences. The iconic value of vowel qualities in reduplicated words can be illustrated systematically. Two phonetic features of vowel, namely, BACK and HIGH seem to play the most important rôle. The dichotomies BACK vs. NON-BACK and HIGH vs. NON-HIGH may be presented diagramatically as follows:

```
          i
         /\            w  u
HIGH  e  NON-BACK
        \-------------
NON-HIGH ε  y  o
          \       \  BACK
            a  ɛ  c
```

Normally, vowels are classified in articulatory terms on the basis of three dimensions of classification: a.) tongue height, b.) tongue advancement and c.) lip posture. It is interesting to note that the posture of the lips appears irrelevant in the reduplicative system of Northeastern Thai dialects.

NOTES


Miss Dhanan Chantrupanth, who is professor Henderson's student, told me that Professor Henderson mentioned in class that when Firth was
alive, he was very interested in this aspect of phonetics. I should have asked Professor Henderson for more information; however, I was reluctant to do so because this article was supposed to be a surprise for her. I expect to hear her comments later.

My Saek and Yo informants from Nakhon Phanom province have told me that similar types of reduplication could also be found in their languages.

The short unrounded high back vowel \(\text{u}\) occurs only rarely in MSS except in loanwords from the Central Thai dialects such as \(\text{t\text{u}k}\) 'brick building' and in reduplicated words. Where Standard Thai words have the vowel was in \(\text{l\text{u}k}\) 'deep', \(\text{ma\text{u}k}\) 'a kind of eggplant', \(\text{sa\text{u}k}\) 'to hiccup', \(\text{plaa\text{m\text{u}k}\text{u}}\) 'squid', \(\text{\text{u}t}\) 'tough (as of a person)', \(\text{khw\text{a}aj\text{-th\text{u}}k}\) 'a young male buffalo', MSS cognates have \(\text{y}\).

MSS has a kind of \(\text{\text{u}}\) which is realized as \([\text{\text{u}}\text{.]}\) in closed syllables and as \([\text{\text{u}\text{.}}]\) in open syllables.

\([\text{w\text{e}}]\) and \([\text{i\text{e}}]\) are in free variation in careless speech, especially that of uneducated speakers. It is considered more prestigious to use only \([\text{w\text{e}}]\). Words spelled in Standard Thai orthography with the letters \(<\text{i\text{a}u}>\) are always pronounced \([\text{i\text{e}}]\), whereas words spelled with the letters \(<\text{i\text{a}o}>\) may be pronounced \([\text{w\text{e}}]\) or \([\text{i\text{e}}]\) in MSS.

\([\text{wa}\text{i}]\) alternates freely with \([\text{i\text{a}i}]\); however, it is more prestigious to use \([\text{wa}\text{i}]\).

Narrowband spectrograms were made to confirm the analysis of the phonetic shapes of tones in MSS. The words used are: \(\text{kha}\text{:1} 'leg', \(\text{ka}\text{:2} 'crow', \(\text{ba}\text{:2} 'to skip', \(\text{kha}\text{:3} 'thatch grass', \(\text{kha}\text{:4} 'galangal', \(\text{ka\text{n}}\text{:4} 'white ring around dog's tail', \(\text{ba}\text{:4} 'shoulder', \(\text{kha}\text{:4} 'price, value', \(\text{kha}\text{:5} 'to kill', \(\text{ka}\text{:6} 'rice seedlings', \(\text{ba}\text{:6} 'crazy', \(\text{kha}\text{:6} 'to trade', \(\text{kha}\text{:7} 'to be torn', \(\text{ka\text{t}}\text{:5} 'a kind of vegetable', \(\text{ba\text{t}}\text{:5} 'to cut (e.g. one's finger)', \(\text{kha\text{t}}\text{:6} 'to tie round', \(\text{kha\text{t}}\text{:1} 'to polish', \(\text{kat}\text{:1} 'to bite', \(\text{bat}\text{:1} 'card', and \(\text{kha}\text{t}\text{:4} 'to steer or guide a boat'.

An emphatic stress and an intonation contour indicating excitement always accompany the vowel set suggesting large size or high degree of intensity.

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