

Reduplication in Khmer Morphology

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Introduction

Khmer, the Mon-Khmer language which is the principal language of Cambodia, uses reduplication in a number of different ways. This paper examines a particularly interesting form of reduplication, where the process does not repeat the morpheme exactly. An alteration is found in the final syllable, sometimes only in the vowel of the final syllable. It is this last case that will receive the most attention. The goals of the paper are

- to show that this was a productive morphological process in Khmer;
- to reject alternative compounding and borrowing analyses.
- to try to locate this process in the history of the Khmer language.

- to show that these items do not form a fixed word-class.
- to suggest semantics of vimes must be discussed in terms of prototypes

This work would not have been possible without the guidance and wisdom provided to me by Gerard Diffloth over many years, and the exceptional patience and cooperation of my principal informant Sokhoum Khek. Additional data was obtained at the 1987 Southeast Asian Studies Summer Institute at Northern Illinois University, for which I am indebted to my instructors in the Khmer language: Im Proum, Kim Sue Lee, Leang, Dandarii, Sanith, and my former fellow students Pamela Bunte and Jean Longmire for their valuable comments.

Types of Reduplicative Compounds

There is very little productive derivational morphology in Khmer, but the language has a glorious history of affixation. Affixes have been dealt with at length by a number of scholars, including Gorgoniyev, Huffman, Jenner, Jacob, and Pou. Reduplication (which I take to be a form of affixation) has been discussed by Maspero, Gorgoniyev, Huffman, Jacob and Long Seam.

There are a number of reduplicative methods which have been employed in the development of the Khmer language, ranging from copying a single segment to entire polysyllabic structures. In this paper, we will only be concerned with large-scale reduplication of lexical items, primarily with, but sometimes without, mutations. I will employ the term mutation to describe cases in which reduplication is imperfect and results in a significant alteration of the reduplicand. Jenner and Pou (1981) discuss partial reduplication, with initial segments copied to the left, but do not deal with the matter of complete reduplication, or reduplication with mutation in the final syllable. They treat elements of the compounds as independent lexemes. It is clear, that Jenner and Pou reject the notion of a morphological process of reduplication with mutation, as they posit separate (unattested) roots for non-reduplicated words which I will argue are a result of mutation.

Straight Reduplication

There are quite a number of examples of reduplicative compounds in Khmer. Some belong to the expressive (Schiller 1990) category, for example:

(1a) **mhɔɔp-mhɔɔp** in a palpitating or throbbing manner

(1b) **mhaɔp-haɔp** in a frequently opening manner

but there are also numerous examples of reduplication which are clearly not expressives. Most adjectival verbs can be reduplicated with a pluralizing or intensifying function (though this characterization is a bit oversimplified), e.g.

(2a) **touc -touc** small used for several of the same item

(2b) **chruu-chruu** deep used for several instances

Here, there is a difference in that the presuppositions of propositions using these expressions can be affected so:

(2b') **nəu srok khmae min mien stəŋ chruu tee**

in Cambodia there are no deep rivers

This cannot be followed by an exception clause, e.g. except for the Mekong but

(2c) **nəu srok khmae min mien stəŋ chruu-chruu tee**

can be followed by such a clause.

Chimes, Rimes and vimes

The lexemes under discussion in this paper are those which are not straight reduplications but rather reduplications which involve a change in the vowel of the main syllable. Whether it is justifiable to treat these separately from lexical items which are reduplicated with altered rimes (a **rime** is the final consonant of a word together with the preceding vowel) is an open question which I hope to deal with at length, eventually. I have suggested elsewhere (Schiller 1985) that there was a word-formation process in Khmer where the rime of a word was altered to create a new word with similar, but slightly different semantics. I have termed this procedure "mutation", and suggest that "reduplication with mutation" be used to describe the process that reduplicates with alteration of rime. The reduplicand which results from this operation can be called a **chime**,

conforming to standard usage. Let us call the special process under discussion "reduplication with vocalic mutation", with the reduplicand called a **vime** I hope that these terms are sufficiently transparent

The isolation of lexemes which are the result of reduplication with vocalic mutation is not a trivial task. It is not enough simply to look in the dictionaries for separate roots, for a number of reasons.

1. The roots may have been overlooked by the compiler. This would hardly be surprising, given that many of the Items themselves are not recorded.
2. The roots may have disappeared from the language at some point
3. Phonological changes may have effected the roots, but not the compound items.
4. We distinguish these lexemes from compounds involving morphemes which are added to a root to flesh out an expression. The latter are found throughout Southeast Asia The added material may be a rhyming word, an archaic term with similar meaning, or an invented morpheme.
5. Sometimes neither element exists synchronically as an independent lexeme, for example: **khoow-khəw** wild as in person cannot be investigated, as neither **khoow** nor **khəw** is attested.

Vimes

The main focus of this paper is the group of words where reduplication is perfect except for the vowel of the rime, which has been altered in some way. The data consist of all of the relevant vimes contained in Headley's dictionary, checked with native speakers for accuracy of form and meaning, and many additional items collected in field work conducted from 1982-1987. A few examples are presented in (3).

(3a)	chlei-chlaa	to run around here and there
(3b)	craciŋ-crakien	in an unbecoming manner
(3c)	haəl-haal	to feel uncomfortable because of overeating
(3d)	kleeŋ-klooŋ	in a swaying or fluctuating manner
(3e)	kravek-kravak	winding, meandering
(3f)	kakhek-kakhak	to choke, or sound of choking while

		drinking or 'water dripping from the body'
(3f1)	ʔaaw kakhak-kakhak	dripping wet shirt'
(3f2)	*ʔaaw kakhek-kakhek	
(3g)	kñek-kñok	crumpled, messy, crinkled
(3h)	laep-laap	to fawn, to try to gain favors
(3i)	lem-lom	to speak out of order or sequence: awful; rotten, unsuitable, unsuited for
(3j)	lej-laj	stunned, stupefied, shocked, confused
(3k)	lej-laj	rolling the eyes (out of fear or surprise)
(3l)	mjek-mjak	coquettishly
(3m)	məyii-məyie	to put on airs, behave unusually (of children)
(3n)	nñek-mñak	coquettishly, esp. of women
(3o)	ɲeek-ɲook	in a rolling or teetering manner
(3p)	ɲeeɲ-ɲooɲ	confused, dizzy, semi-conscious
(3q)	pet-pot	with a tense gluteus maximus (tight-assed)
(3r)	phdeih-phdaah	lazy, careless, disorderly, non-conformist, illegal
(3s)	rae-raa	in a wandering manner., lazily; to pace, to wander back and forth
(3t)	rɔbaə-rɔbao	warped (as wood left in the sun too long); sneaky, furtive, scheming
(3u)	rɔcheñ-rɔchoñ-	partially eaten (S.) rough, uneven (because of many holes or pock marks)

(3v)	rɔkep-rɔkop	not smooth, uneven, with indentations, bumps appropriate for roads but less so for a piece of wood
(3w)	rɔkheik-rɔkhaak	in ruins, completely ruined, fallen apart, collapsed
(3x)	rɔkheñ-rɔkhoñ	not smooth, uneven with indentations, as termite-eaten wood
(3y)	rɔkiim-rɔkəəm	manner of crab walking all over the place
(3z)	rɔkiim-rɔkiem	visible through the skin (as ribs of a skinny person)
(3aa)	rɔliip-rɔliep	containing only a drop or so (of some liquid); scarce, lacking; scarcely
(3bb)	rɔpaək-rɔpaok	in a disorderly manner (refers to an object hanging down)
(3cc)	rɔpet-rɔpot	unruly; walking thighs pressed close together
(3dd)	rɔteiɣrɔtaak	very sloppy
(3ee)	rɔyiik-rɔyiek	ragged, tattered (of clothes): tumbledown (of houses); in a disorderly manner; unfashionably, raggedly
(3ff)	rɔñeiw-rɔñaaw	sound of a cat crying repeatedly
(3gg)	rɔʔaək-rɔʔaok	noisily
(3hh)	teiɲ-taaɲ	ramble about. indecisively
(3ii)	tiim-tiem	hesitant(ly)
(3jj)	tiɲ-tieɲ	awkward, reeling, swaying manner
(3kk)	treh-troh	trembling, shaky (drunken movements - K)
(3ll)	ñek-ñak	to swing the body in order to attract attention

Properties of Vimes

Phonology

There are some sound patterns which are only found in derived forms. These are not hard to identify in the written language they require the use of diacritics because the sounds used are not common to the Khmer language. Furthermore, there are interesting distributional gaps. Initial **ɗ**, an Implosive stop, is common in Khmer but we have almost no examples of this initial in our list of reduplicated + mutated words, The sole possible exception is:

(4a) **daac-daoc** broken, used for single objects

This example, not found in the dictionaries, is related to

(4b) **rɔdaac-rɔdaoc** broken, used for multiple objects.

According to my informant, the /aoc/ final is significant and bears some symbolism of broken .

There is an almost complete absence of words beginning in /n/ with second series vowels. A single example involves pairing of different vowel series, an extremely rare phenomenon which suggests that it is properly a compound. The first element of is a loan from Thai. The example is further suspect, because there is no register contrast in the /uə/ diphthong.

(5) **nuəy-naay** to be very tired of something

There are, not surprisingly, a number of patterns to be found in the reduplicative process. After all, with somewhere between 27 and 33 vowels, depending on your authority, one would expect to find something on the order of 900 combinations. Yet we find only a small number, even with the loosest criteria applied to the consideration of whether or not a lexeme is an example of reduplication with vocalic mutation. I have only turned up examples of about 5 percent of the possible combinations, in a database of about 450 items. Statistically oriented linguists can perhaps supply the significance of all that, but as far as I am concerned the data implies some sort of selectivity at work, the rules for which I hope to discover. At present, I can only offer a few observations.

Patterns

We find a number of patterns in vimes. As the study of these lexemes is by no means advanced, I ask that the following comments be viewed with extreme caution. I have arbitrarily divided the patterns into three groups. A **major** pattern is one with numerous examples, or, a moderate number of examples which strike me as having the appropriate semantics for expressive terms. A **medium** pattern is one where there are not enough examples to qualify for the above group, but there are at least three examples with appropriate semantics. A **minor** pattern involves lexemes which I present to be somewhat anomalous.

One must keep in mind that many words have entered and departed the Khmer language. Just because one element of a lexeme is present independently in the dictionary does not mean that the other element may not have been an independent word at some point, and it is possible that elements of the lexemes may have broken off to form new words.

The register pattern seems to be maintained That is, a compound formed from a root with a first series vowel has, as a rule, a first series vowel in the reduplicand. This is very important with regard to locating the process in the development of Modern Khmer, a topic I will return to below. This fact is easily established by looking at items which involve written <aa> and <oo> because here the vowel qualities have split in a dramatic manner, the former yielding **aa** and **iə** and the latter **ao** and **oo** respectively. The total absence of entries with a combination of **aə** together with " for example, despite the numerous entries for **aə** with **ao**, shows that register pairing was maintained at some level.

I have found it useful to merge the registers and look at the distribution of vowel qualities in terms of their Middle Khmer (c. 1400-1600 C.E.) values. This brings a considerable degree of order to our chaos:

short			long		
			iə (3)	ɨə (1)	uə (1)
i (82)	ɨ (8)	u (10)	ii (56)	ɨɨ (3)	uu (14)
e (11)			ee (76)	əə (1)	oo (6)
	a (12)	ɔ (1)	εε (40)	aa (5)	ɔɔ (2)
93	20	11	175	10	23

Table 1: Distribution of v1 values

We see a preponderance of high, front vowels, and a lack of diphthongs in first position in the v1 values.

Front	268	High	178
Central	30	Mid	94
Back	34	Low	60

Table 2: Features of V1 values

In the second series, we see a preponderance of low central and back vowels, to the near exclusion of front vowels. The values are shown in tables 3-5.

short			long		
i (0)	ɪ (0)	u (55)	ai (1)	au (1)	
			iə (3)	ɪə (0)	uə (0)
e (0)	a (44)	ɔ (15)	ii (0)	ɨ (3)	uu (9)
			ee (76)	əə (1)	oo (6)
0	44	60	εε (9)	aa (86)	ɔɔ (35)
			17	111	89

Table 3: Distribution of v2 values

Front	17	High	70
Central	155	Mid	71
Back	149	Low	191

Table 4: Distribution of v2 values (except diphthongs)

	v1	v2		v1	v2
Front	268	17	High:	178	70
Central:	30	155	Mid:	94	71
Back:	34	149	Low:	60	191

Table 5: Distribution of v1 and v2 values

We can posit a ±Front distinction which holds regardless of length. ±Low may also be useful. We then expect the typical v1 to be +Front -Low and

the typical v2 to be -Front and + Low. We therefore expect <i or ii> to be prototypical of v1 and either <ɪ or ɨ> or <a or aa> to be prototypical of v2. It turns out that this is the case:

	i	ii	a	aa	ɔ	ɔɔ
v1	82	56	12	5	1	2
v2	0	0	44	86	15	35

Table 6: Front vs. Back vowels

From this it seems that the choice of ±Front, rather than ±Back, is justified.

There are a number of important conclusions which can be drawn from this data.

1. There is a pattern to the reduplication involving the reversal of polarity of a phonemic feature.
2. This pattern applies using Old or Middle Khmer values for the vowels, but does not hold for Modern Khmer, which may explain in part, the lack of productivity of the process in Modern Khmer.
3. The high degree of regularity of the data suggests that these are not accidental compounds. It also casts doubt on any iconic relation between the reduplicator and reduplicand.

Morphology

The reduplicative process which forms vimes can operate on roots which have previously undergone partial reduplication, for example:

(6a)	tətiim-tətəəm	stealthily; repeatedly up and down or in and out
(6b)	pəpiim-pəpəəm	slowly and blindly, gropingly
(6c)	tateh-tatah	with great difficulty
(6d)	ñəñeh-ñəñah	in a gossipy or bragging manner
(6e)	pəpleec-pəplooc	talkative, garrulous, tricky
(6f)	tətreet-tətroot	shaky, staggering, rocking, unsteady

Syntax

With few exceptions, the lexemes under discussion have the following syntactic properties:

1. They are not themselves modified by other terms, except, on occasion, by an intensifier such as **craən** much, many or nah very .
2. They cannot, as a rule, be preceded by the negative particles **min** or **ʔat**.
3. Many Khmer predicates can be nominalized morphologically (no longer productive) or syntactically. For the most part, the list attached cannot undergo nominalization.
4. Can be used either adjectivally or adverbially
5. These words can modify either predicates or arguments, and most of the ones found in Headley's dictionary are co-listed adverbially and adjectivally.

Semantics

The predication is usually perceptually based, involving interaction with one of the senses. Thus one does not find words of this type with meanings such as build , stop , fantasize , etc. This property is similar to that of expressives (Schiller 1995). We cannot reconstruct the semantics of vimes, which were all created in the not-recent past, as we shall see.

Pejorative formation

In some cases a vowel mutation creates a lexeme with pejorative sense. The following have pejorative connotations unacceptable. (8b) is an instance of rime mutation rather than vocalic mutation, but it illustrates the same theme.

(8a)	kraheim-krahaam	an unpleasant shade of red from krahaam 'red'
(8b)	touc-taat	'small (pejorative)' used for separating out, say, small fruits

Historical Considerations

Since the lexical items under discussion are not found as loanwords we may be able to conclude that the processes which gave rise to them were Khmer innovations which took place after Khmer became an individual language. I found no examples of the prefix applied to only a single element of a reduplicated morpheme. I have already established the presence of reduplicated words which show prefixation on both elements. This allows us to postulate the reduplicative process as productive at least during, and perhaps after the period of productive affixation but not exclusively before. The study of onomatopoeic examples can help us determine the relationship between the formation of the lexical item and the, development first of register and later of vowel quality contrasts arising from the voicing of initial consonants. For example:

(9) រ៉ែវ-រ៉ែវ sound of a cat crying repeatedly

Since voiceless nasals were not present, so far as we know, at any stage of the development of Modern Khmer, a diacritic mark was placed over the nasal to insure correct register or vowel quality. The Angkorian values would be **រ៉ែវ-រ៉ែវ**, which, with the advent of register, would have maintained those values in the clear voice: ***រ៉ែវ-រ៉ែវ**. If the diacritics were not present, we would reconstruct **រ៉ែវ-រ៉ែវ**. It strikes me as unlikely that an onomatopoeic word for a cat's cry would be in the breathy register, though I have not had the opportunity to listen to Cambodian cats. Nevertheless, were that the path of development, the present value of the word (without diacritics) would be ***រ៉ែវ-រ៉ែវ**, but this is not attested.

The preservation of register (or vowel series) in the reduplicand is unsurprising. Register and vowel quality derive historically from a voice/voiceless distinction in the initial consonant. That many of the lexical items under discussion require diacritics to insure proper vowel quality leads me to believe that the process was perhaps (still?) productive at a period when either register or vowel quality distinctions were important, i.e. post-Angkorian.

On the other hand, we notice that the /e/~o/ first register pattern is paralleled by the /i~/u/ second register pattern. This might lead one to suspect that the process took place before vowel quality was affected. It should be noted that this is not likely to be a reflection of spellings, since these lexemes are highly colloquial in nature and many are not contained

in the dictionaries. Our discussion of the Middle Khmer values above tends to confirm that the process was productive at an early stage.

Although I am neither sufficiently acquainted with, nor have access to sufficient materials on languages of the area, I can nevertheless make some observations concerning Surin Khmer, where one finds examples quite similar to those we have been discussing. A few of these, taken from a recent dictionary of Surin Khmer, are presented below.:

Comparisons of Surin Khmer with Cambodian Khmer

(10a)	Cambodian	rɔ̄ceic-rɔ̄caac	noise made by a bird or young chicken
(10a')	Surin	rɔ̄ceec-rɔ̄cic	to be noisy, of people or birds crying
(10b)	Cambodian	rɔ̄dac-rɔ̄daoc	broken into little pieces, separated, apart from each other, scattered around, unimportant, useless
(10b')	Surin	rdac-rdɔ̄c	ragged
(10c)	Cambodian	rɔ̄yeɛŋ-rɔ̄yoŋ	dangling, hanging down unevenly and disorderly
(10c')	Surin	rjoŋ-rjaŋ	a large number of strings, ropes, wires, connected or suspended in a disorderly fashion.

These examples encourage the view that the productive period of the reduplicative process lies before the Cambodian/Surin Khmer split. This reduplicative process may also have taken root in other Mon-Khmer languages. A very cursory examination of dictionaries of a dialect of Bruu spoken in Thailand and of Kul, spoken in Thailand and Cambodia, provides scanty but tantalizing examples:

(11a)	Bruu	rajoŋtrajeet	shaking, moving
(11b)	Kul	ŋkhuək ŋkhək	high spirited, merry,
(11c)	Kul	khruə? khrà?	(the same)

In neither case is either morpheme listed separately in the dictionary. The similarity of process, and, in the case of Bruu prefix, to what we see in Khmer may be evidence for great antiquity, or of independent development, or perhaps even of borrowing. The praiseworthy compilation of these dictionaries within the past ten years is fortunate in giving us a glimpse of these languages, but unfortunately the amount of material is still far from adequate to pursue the question of word formation rigorously, as examples of reduplication with mutation are few indeed.

There is clearly quite a bit of work to be done here, but I think that it should be possible to pin down when this reduplication-mutation process was productive, using our knowledge of affixation, the writing system, and information from other Mon-Khmer languages of the area

Conclusions

Vimes were probably productive in Khmer at one time.

Reduplicative items in general are not result of borrowings and the Khmer lexemes do not, as a rule, show up in neighboring languages. Thus we can claim that the reduplicative process took place at some point after Khmer became an independent language.

Vimes are not productive today and do not form a fixed word-class.

New reduplications with mutation are not being formed, as far as I can tell, and informants routinely reject formations which parallel existing types. We must sadly conclude that the process is quite dead in modern Khmer.

The semantics of vimes should be discussed in terms of prototypes.

I have discussed a number of obstacles which render a formal study of reduplicative lexemes as a word-class in Khmer difficult indeed. Nevertheless, there is no cause for despair if one is willing to free oneself from the yoke of mere formalism. It does not seem difficult to recognize a certain type of formation, characterized by the following criteria:

- 1) Morphological reduplication, with or without mutation of rime or main vowel.
- 2) Syntactic function as a non-negatable predicate, usually both adjectival and adverbial.
- 3) Semantic range involving perception of some sort. Iconicity has already been noted by Gorgoniyev (inter alia). The lexemes should be applicable to a varied set of phenomena

A prototypical reduplicative compound shows all of these characteristics. As Khmer lost the processes which gave rise to these elements, the items took on more fixed meanings, and were incorporated idiomatically into more restricted syntactic ranges.

Although we are not yet in a position to demonstrate the existence of that process formally, to deny it would be a tragic mistake, in my opinion, because it would lead to the positing of many root words for which we have no diachronic evidence. This last approach has been adopted by Jenner (1981), who implicitly rejects the notion of reduplication with vowel mutation. Much further work needs to be done concerning the historical word formation processes of Khmer. I hope that these brief remarks serve to introduce a few notions which may be of some assistance in this endeavor.

1999 Postscript

Unfortunately, I have not had an opportunity to pursue this topic further but in the dozen years since this paper was presented I have done further investigations on expressives in general and presented a formal account in Schiller (1995).

References

- Gorgoniyev, Yuri. 1963. *Grammatika Khmerskogo Yazyka*. Moscow: Nauka.
- Jenner, Philip and Saveros Pou: *A Lexicon of Khmer Morphology*. [MKS IX-X](#)
- Headley, Thomas. 1976. *Cambodian-English Dictionary*. Washington: Catholic University Press.
- Schiller, Eric. *Expressives: Inside or Outside Grammar?* [CLS 30](#) (1995)
- Schiller, Eric (in progress). *The Khmer Prefix ro-*. To be published at [Linguistics Unlimited](#).