

# THE INSTRUMENT/LOCATIVE AND GOAL AFFIX -N- IN SURIN KHMER

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0. Introduction
1. Instruments and locatives
2. Goals
3. Affixed intransitive verbs

## 0. Introduction

Khmer<sup>1</sup> seems to be unique in the literature on Mon-Khmer languages in that the normal nominalizing infix -N- differentiates instruments from other noun derivatives. For Standard Khmer, Jacob (1963:69) gives the following breakdown of the kinds of nouns derived from different forms of the affix:

utensils	n, N, rn
general nouns	mn, N
agents	m, N, rm
objects made	b

In Surin Khmer (henceforth SK), a dialect of Northern Khmer spoken in Thailand, the breakdown is somewhat different as derived agents are almost non-existent and the -mn- ~ -m- form of the affix is dying out. The b affix is very rare and beyond the scope of this paper. The SK forms of the affix are:

instruments and locatives	-N-, -rN-, (N-)
goals	-N-, -nr-

(N is realized as a homorganic nasal. N- is a syllabic nasal.)

Jenner and Pou (henceforth J&P) (1980-1981), discussing Central Khmer, say of their classification of -n- noun derivatives as general, resultative, agentival, locative and instrumental iteratives, "...it is doubtful that such classification reflects varying functions of the infix, which were probably never differentiated in the minds of native speakers." (p. xlvi). But in SK there must be some differentiation in the minds of the native speakers between the goal and the instrument because they take different forms with -N-: when the root form has an unaspirated stop, an instrument with -N- will have an aspirated stop (except with consonant clusters [1.1., 1.4.4.]), but a goal will have an unaspirated stop (2.1.): /kʋʋc/ 'to knot', /khnuʋc/ 'bamboo string' (instrument) and /knuʋc/ 'a knot' (goal). Further evidence

for the distinction between instrument and goal is in the use of -rN- for instruments (1.1.2.) and -Nr- for goals. Of course there is a residue of forms with initials other than unaspirated stops and without -r- which must be sorted syntactically (see below), but there is enough evidence, with only a few clear exceptions (see 1.4.5. and 2.3.), to show that it is an emic distinction.

An instrument can be defined syntactically by its optional occurrence following the auxiliary verbs /prΛΛ/ 'to use' or /jua/ 'to bring':

±(Aux) + Instrument + verb

/(prΛΛ) khnuuc kuvuc/ '(use) a bamboo string to knot'. For most instruments, both /prΛΛ/ and /jua/ are able to be used, but there are some semantic restrictions.) Goals can be defined by a relative clause:

+ Goal±(/dεεl/) + Verb

/knuuc (dεεl) kuvuc/ 'the knot (that was) knotted'. When the auxiliaries and relativizer are omitted, the syntactic patterns are the same: NV. Most goals can also follow their unaffixed verb root: /kuvuc knuuc/ 'knot a knot'.

Some instruments can also function as locatives (see 1.2.).

In addition to the instrumental infix -N- there is also a tantalizing set of instruments beginning with a syllabic N- (see 1.3.1.).

Normally a verb root must be transitive in order for the affixed form to be a noun, but some intransitive verbs give abstract nouns or classifiers when affixed with -N- (see 3.).

-N- can be realized as -n-, as a homorganic nasal preceding a consonant or as -mn- ~ -m-. Before a vowel normally -n- occurs, but -mn- can also occur. Before a consonant there is normally a homorganic nasal, but -m- sometimes occurs. (There are also three examples of agents with -m- [see 1.4.2.]).

The -N- affix can also give verbal derivatives such as causatives, for a discussion of which see Thomas 1984.

The affix -N- is clearly no longer a live affix. The examples in this paper are not meant as a sample--they are all the verifiable occurrences found to date. Many of the sets are not recognized by young people--either they use only the

unaffixed form, or only the affixed form, or else they use the two forms interchangeably. Normally only the old people use -mn- ~ -m-. The younger generation does not use the -mn- ~ -m- unless there is a Thai word borrowed from Khmer which preserves it, as with Thai /kamlɑŋ/ 'strong', Khmer /kamlɑŋ ~ kanlɑŋ/ 'strength'. (See Huffman [1986] for back-borrowing between Standard Khmer and Thai.) Middle-aged people vary on the use of -mn- ~ -m- but otherwise have good control of the affixed/non-affixed forms. 'Perfectly obvious' forms to a linguist, such as /cool/ 'enter' /chmool/ 'male animal' and /snool/ 'core, filling' are rejected by my middle-aged informant as unrelated. Both meaning shifts and phonological shifts have conspired to reduce the number of recognized affixed forms.

## 1. Instruments and locatives

1.1. Simple instruments. The normal, or regular, case for instruments is to have -N- or -rN- following a single initial consonant.

1.1.1. Instruments with only -N-. The following examples are clearly instruments, both semantically and syntactically: /prΛΛ khnet ket/ 'use a wiper to wipe'. /(snɔp/ and /khnuuc/ can also optionally follow the verb like a goal or a locative. But semantically they are not goals, and neither can they follow /nəw/ 'at' as locatives can, so must be considered instruments.)

Note the derived aspiration with the stops.

sɔp	'to pump'	snɔp	'a pump'
kuuc	'to knot'	khnuuc	'bamboo string'
ket	'to wipe anus'	khnet	'a wiper'
kɔɔh	'to scrape'	khɔɔh	'a scraper'
tia?	'to snare'	thnia?	'a decoy'
cɔ?	'to plug'	chnɔ?	'a plug, stopper'
set	'to comb'	snet	'a comb (Buriram), hand of bananas'
sɛɛn	'to offer food'	snɛɛn	'food to offer' (~mn)
saac	'to scoop'	snaac	'a scoop'
sɔɔr	'to harpoon'	snɔɔr	'a harpoon' (~mn)
ruah	'to harrow'	rnuah	'a harrow'
?ar	'to saw'	?anar	'a saw'
khar	'to twirl'	khnar ~ knar	'borer'

1.1.2. Instruments with rN. /prΛΛ rambɔh bɔh/ 'use a broom to sweep'. Before bilabials the rN is prefixed, with the other initials it is infix. There is an epenthetic vowel between the two consonants.

In fast speech the medial r is sometimes dropped.<sup>2</sup> It would be possible (with two exceptions in 19 examples) to say that bilabials and alveolar or palatal stops take rN and all others take N.

booh ~ boh	'to sweep'	rambooh ~ ramboh	
wual	'to measure (quan.)	rangwual	'measuring container' (~m)
doot	'to pierce'	tranoot	'a skewer for fish'
tic	'to sting'	tranic	'a stinger' (-jua) (~mn)
tual	'to prop under'	tranual	'a prop under smthg.' (-prΛΛ)
ciic	'to dig'	craniic	'a digger'

1.2. Instruments functioning also as locatives. In a few cases an affixed form can be either an instrument or a locative, as in /prΛΛ khnΛΛj kΛΛj/ 'to use a pillow to pillow' and /kΛΛj khnΛΛj/ 'to pillow (on) a pillow'. Locatives are similar to goals in that they follow the unaffixed verb, but with locatives /nəw/ 'at, on' can be inserted between the unaffixed form and the affixed form: /kΛΛj nəw khnΛΛj/

Some instrument/locatives have N, some have rN. Note that the N in /tranwap/ is in a different position from the N in goals (2.2.).

kΛΛj	'to pillow'	khnΛΛj	'a pillow'
cvvt	'to tie on head'	chnvvt	'thing to tie on head'
sεεɲ	'carry' (2 people)	sneεɲ	'a stretcher' (~mn)
trwap	'to cushion'	tranwap	'saucer, slipper, cushion'

1.3. Simple locatives. Three examples of clear locatives follow the normal rules for affixing instruments, but are not instruments (by the syntactic test), and neither are they syntactically goals. They cannot follow /jua/ or /prΛΛ/, as instruments do. And unlike goals, after the unaffixed verb, the word /nəw/ 'at' can be inserted. /tom (nəw) tranom/ 'perch on a perch'.

tom	'to perch'	tranom	'a perch for chickens'
tɔɔm	'avoid taboo'	tranɔɔm	'restricted area'
da?	'to place'	tna?	'place where placed on trip'

#### 1.4. Irregular instrument/locative forms

1.4.1. Initial syllabic N-. /prΛΛ ntia? tia?/ 'use a snare to snare'. There are nine words that have an initial syllabic

nasal and are semantically instruments, but only two of them have an existing unaffixed verb: /tia?/ 'to snare' /ntia?/ 'a snare, lasso' and /rut/ 'catch with a basket' /nrut/ 'a basket for catching'. The others are /ŋkwal/ 'a plough', /nciij/ 'scales', /ncul/ 'needle', /nruij/ 'hammock', /nree/ 'pestle', /nluuij/ 'hammer' and /mmph/ 'skein, cotton'. The verb /tia?/ does have a regular instrument /thnia?/ 'a decoy' (cf. 1.1.1.), so there may have been some semantic significance, now lost, to this variant of N. (J&P have \*?aN- for \*/rut, \*/ruij/ and \*/cul/, but \*/cun-/ for \*/ciij/)

1.4.2. Four examples have -m-. In three cases the affixed nouns are agents semantically, but morphologically and syntactically they differ. /cvuij/ 'to trade' /chmviuij/ 'trader', except for the m for n, is morphologically like an instrument. However, syntactically it does not act exactly like an instrument: /chmviuij dΛΛr cvuij/ 'the trader goes to trade' and not \*/chmviuij cvuij/. (/chmviuij/ is not well known.) Of the other two examples, one is morphologically ambiguous: /chlΛΛj/ 'to respond' /camlΛΛj/<sup>3</sup> 'the defendent'. The other is clearly like a goal: /trvut/ 'inspect' /tamrvut/ 'policeman'. Syntactically they are like instruments in that they directly precede their verbs, but they cannot follow either /prΛΛ/ or /jua/: /camlΛΛj chlΛΛj/ 'the defendent responds'. In the latter two cases the -m- is probably preserved because both the unaffixed and affixed forms were borrowed into Thai, reinforcing the older usage.

In the fourth example the -m- replaces a medial voiced stop: /tbət/ 'to fasten a fish for grilling' /tmət/ 'split stick for grilling'. /prΛΛ tmət tbət/

1.4.3. Instruments with CN-. There is a handful of instruments which take CN- instead of just N. The N is a homorganic nasal according to the following consonant. However, the C seems to dissimilate: palatal before alveolar, alveolar before velar and velar before tr. The examples are too scarce to form any firm conclusions, but there is also a goal that conforms to this dissimilation pattern: /kanlia?/ 'a notch' (2.2.).

can-. Instrument/locatives with can- seem to have a very specific nature<sup>4</sup>: /tual/ 'to prop up' /cantual/ 'a prop for oxcart' (vs. /tranual/ 'a prop') and /dΛΛr/ 'to walk' /cnΛΛr/ 'ladder'. A ladder is really a special locative, a special place to walk (vs. the abstract noun /tnΛΛr/ 'manner of walking' (3.3.). /dΛΛr lΛΛŋ cnΛΛr/ 'walk up a ladder', but not \*/dΛΛr nəw cnΛΛr / 'walk on a ladder'. (Note that /dΛΛr/ is an unusual source for either an instrument or a locative as it is

intransitive.) /cantual/ can follow /prΛΛ/ as a normal instrument.

taŋ -. There are two possible examples of taŋ-: /kɿɿp/ 'to pinch' /taŋkɿɿp/ 'chopsticks' and /tkɔʔ/ 'to hook' /taŋkɔʔ/ 'a hook'. The unusual sequence of tk in /tkɔʔ/ looks like a prefixed t, so taŋ- could be a double affix, but there are too few examples to prove anything. (The k of /taŋkɔʔ/ is not replaced by ŋ because voiceless stops are not normally replaced by a nasal (and voiced ones only in some cases). See /cnaΛr/ above and /tmot/ in 1.4.2.)

kan-. /trɔɔŋ/ 'to sieve' /kantrɔɔŋ/ 'a sieve'.

pran. One instrument has pran-: /chaaʔ/ 'cut with double blade' /pranaaʔ/ 'double bladed cutter'. Although this instrument is unique, my informant volunteered the pair as related.

1.4.4. Instruments from verbs with initial consonant clusters. There are two examples which are semantically and syntactically clearly instruments /prΛΛ canlɔh chlɔh / 'use a torch to hunt' which happen to have an initial consonant cluster ending in l in the verb form. J&P (313) relate both words to \*/luh/ 'pass through', which would account for the l. SK does have /luh/ 'come about, reach enlightenment', but perhaps because of the vowel shift and semantic distance, my informant does not recognize the relationship. The only other non-goal to compare with these words is /camlΛΛj/ (1.4.2.).

chlɔh	'hunt with torch'	canlɔh	'torch'
khɔh	'put a rope in nose'	kanlɔh	'nose rope'

1.4.5. Semantic irregularities. There is one curious example which looks like a goal because it has nr, not raN, but semantically and syntactically is an instrument: /srah/ 'to fence' /sanrah/ 'fencing material'. /kɿɿ prΛΛ sanrah srah/ 'He uses fencing material to make a fence.' /sanrah/ is the only example of an instrument or locative from a verb with initial sr-.

There are two words that do not have the normal aspiration before the infix, but semantically and syntactically are instruments: /kɔl/ 'to lay under' /knɔl/ 'underlayer, wedge'. /kɿɿ prΛΛ knɔl kɔl/ 'He uses a wedge to put underneath'. /cam/ 'to remember', /cnam/ 'reminder' (~mn) /kɿɿ prΛΛ cnam cam/ 'he uses a reminder to remember'.

## 2. Goals.

Although the -N- affix is common to both goals and instruments/locatives, goals can be identified morphologically by non-aspiration before the n, or by nr (instead of rN). They can be identified semantically by being the item acted on or created by the root action and they can be identified syntactically by being able to take a relative clause, and in most cases by being able to directly follow the verb. /snaap (dæɛl) saap/ 'seedlings (which were) sprouted' and /saap snaap/ 'sprout seedlings'.

Some goals are classifiers, that is, semantically they are count nouns, and syntactically they can only follow a numeral, not precede it as full nouns do. /chwaaj piir caŋwaaj/ 'coil up two coils'. A full classifier-noun (+cl) cannot occur with a relative clause but a temporary classifier (+cl) can.

Except for initial ch, initial aspirated stops act like single consonants (see discussion in 2.2. and exceptions in 3). Normally the affixed form is unaspirated, but see /khniit/ 'a line' (from an aspirated root) and /theer/ (surprisingly, from a voiced stop) in 2.1. and the example in 2.3.2.

2.1. Goals from verbs with single initial consonants. The normal, regular goal has a simple -N- after the initial consonant. Goals from initial unaspirated stops remain unaspirated, and goals from voiced stops are devoiced. /kuur knuur/ 'draw a wavy line' /dam tnam/ 'plant a plant'. Most of these verbs can occur before the affixed form, and all can occur in the relative clause following the goal. Many of these goals can be temporary classifiers.

kuuc	'to knot'	knuc	'a knot'	(~mn) <u>+Cl</u>	
kuur	'to draw'	knuur	'wavy line'	(~mn)	
kuar	'mix together'	knuar	'a mixture'	(~mn) <u>+Cl</u>	
kat	'to cut'	knat	'half' (uncommonly: ~mn)	<u>+Cl</u>	
tɔɔ	'tie ends together'	tnɔɔ	'a knot'	(~mn) <u>+Cl</u>	
te?	'to find fault'	tne?	'blemish, fault'	(~mn) <u>+Cl</u>	-VN <sup>5</sup>
tuul	'place on head'	tnuul	'thing on head'	<u>+Cl</u>	
cet	'to chop'	cnet	'pieces'	(~mn) <u>+Cl</u>	
cɛɛc	'to distribute'	cnɛɛc	'thing distributed'	(~mn) <u>+Cl</u>	
caŋ	'to trim'	cnaŋ	'a chip'	<u>+Cl</u>	
caaj	'to pay, give'	cnaaj	'what is given'	(~mn)	-VN
cuuj	'to help'	cnuuj	'help given'	(~mn)	-VN
cdɔɔŋ	'to tie'	cnɔɔŋ	'thing tied'	(~mn) <u>+Cl</u>	
sat ~ rsat	'to float'	snat	'thing floating'		

saap	'to sprout'	snaap	'seedlings'	
sɔp?	'to shed'	sɔp?	'what is shed'	(~mn)
bɔt	'to seal'	pnɔt	'a dam'	
bɔl	'borrow rice'	pnɔl	'repayment (with interest)'	-VN
dam	'to plant'	tnam	'a plant'	(~mn)
deer	'to sew'	thneer	'a seam'	
khiit	'make a line'	khniit	'a line'	

2.2. Goals from verbs with initial consonant clusters. Some verbs have initial consonant clusters before the -N- is infixed. Native reaction is that they are not affixed (see further examples of -nr- in 3.). The example of a goal with kan- before l may represent truly initial l. If that is the case, then the cluster in /sɔp/, for instance, (if modern day clusters do represent old affixes) probably has the l and not the s as the old affix. Otherwise the s would normally have been replaced by kan-. But instead, the old initial l triggers -n-. (Note the CN- prefixes with some instruments, in 1.4.3.)

An unusual situation arises when the initial is ch-. With the causative -N<sup>6</sup>, ch- acts like a single unit (Thomas, 1984:79-80), but with goals it acts like a consonant cluster, that is, the -N- is infixed between the stop and aspiration and is realized as a velar (see below and 3.3.). If the aspiration would fall between consonants it is lost: /caŋwaai/ 'a coil', not \*/caŋhwaaj/.

Except for /kanlia?/, /santuun/ and the classifiers. which are full classifiers, the nouns can be followed by their relativized verbs. Normally only /caŋhan/ and /caŋka/ can occur directly after their verbs.

chan	'to eat (monk)'	caŋhan	'food eaten by a monk'	
chwaaj	'to coil'	caŋwaaj	'a coil' (~mn)+Cl,	-Rel
sɔp	'to make curry'	sanɔp	'curry' (~mn)	-VN
pruah	'to scatter'	panruah	'what was scattered'	-VN
crɪɔc	'tear, cut unevenly'	canrɪɔc	'a piece' (~mn)+Cl,	-Rel
				V 'be' N
craah	'to pierce'	canraah <sup>7</sup>	'a splinter'	
cka	'clear field'	caŋka	'cleared field'	
stuun	'to transplant'	santuun	'transplants'	-Rel
lia?	'to notch'	kanlia?	'a notch' V 'make' N,	-Rel

### 2.3. Irregular goals.

2.3.1. rN. There are two possible examples of goals with rN instead of nr. In one case it occurs as a prefix before w. The expected \*/waNr-/ for a goal is an unpermitted sequence, so we get raN-, which would be normal for instruments, not goals: /wec raŋwec/ 'bundle up a bundle' (as a goal) is acceptable, but not \*/prΔΔ raŋwec wec/ (as a syntactic instrument) or \*/wec waŋrec/ (as a morphological goal).

The other case is unusual as there are two possible sources of the affixed form /ransvul/ 'heat waves, light rays': /chvul/ 'to shine a light' (cf. /snvul/ 'sunburned'), or /rvul/ 'to heat over a fire'. Syntactically it tests like a goal with /chvul/: /ransvul (dɛɛl) chvul/ 'rays (that) shine'. It may be that the original base was \*/-vul/. Morphologically it is more like an instrument than a goal.

2.3.2. A possible goal with derived aspiration. There is one word that morphologically looks like an instrument but it cannot occur with /prΔΔ/ or /jua/. It is possible that the similarity between the verb and noun is only accidental as the meanings of the two words are so different: /kac/ 'to snap off' /khnac/ 'a counter' (snapped off from a stick while counting). /kac khnac/ 'snap off a counter'.

### 3. Affixed intransitive verbs.

Although most nominalizations come from transitive verbs, there are various kinds of intransitive verbs that can be nominalized also. The resultant nouns are a mixed bag. A few are clearly goals, some are full classifiers. Semantically most are rather abstract nouns. The clearest case is the verbs of physical characteristics: they give dimensions. The quotative verbs have weak transitivity: /knwt/ 'thought', and /tniaj/ 'prediction' can follow their verb forms like normal goals: /tiaj tniaj/ 'to predict a prediction'. This example has almost become fossilized as a semantic couplet, especially for young people.

A number of adjectives look as though they were originally nouns from intransitive verbs and then changed into adjectives because of increased restrictions on occurrence.

Normally affixation of intransitives follows the rules for goals, but there are two exceptions here to the rule for affixing aspirates. In one, the ch of /chuuu/ 'sick' (3.1.) loses its aspiration: /cŋuuu/ 'sickness'. But uu is a rare vowel, and no examples have been found with it following -h-.

(J&P [xlviil] have five examples of -ŋ- meaning 'iterative'.) In the other, a non-palatal aspirate (th) does not lose the aspiration: /taŋhom/ 'size' (3.2.).<sup>8</sup>

3.1. Stative verbs give abstract nouns. /cŋuɯɯ/, /panluɯɯ/ and /sɔpɩ/ can occur with a relative clause, but the others cannot (-Rel).

sɔ?	'happy, at ease'	sno?	srno?	sanro?	'ease'	(~mn)	-Rel
sruul	'happy, well'	sanruul			'freedom'	(~mn)	-Rel
c?ɛɛt	'full, satisfied'	caŋ?ɛɛt			'a filling'	+Cl,	-Rel
sɩl	'to be leftover'	snoɩ			'leftovers'	(~mn)	
phluɯɯ	'to shine'	panluɯɯ			'brightness'		
chɯɯ	'hurt, sick'	cŋuɯɯ			'sickness'	(~mn)	

3.2. Physical characteristics give dimensions which do not occur with relative clauses. They can occur with the question word /bla/ 'how much?': /kanrah krah bla/ 'how thick is the thickness?'

/thŋuan/ is a strange example. The loss of the aspiration is not unusual /(see /kanlaŋ/) but the medial in the root is unusual. Since there already is a nasal, no nasal is added but the loss of aspiration shows the presence of the affix.

krah	'thick'	kanrah	'thickness'	(~mn)	-Rel
kpuah	'tall'	kampuah	'height'		-Rel
khlaŋ	'strong'	kanlaŋ	'strength'	(~mn)	-Rel
thŋuan	'heavy'	tŋuan	'weight, pregnant'	(~mn)	-Rel
thom	'large'	taŋhom	'size'		-Rel

3.3. Motion verbs normally give classifiers which cannot occur before a relative clause. However, /canruh/ 'what dropped off' can occur with a relative clause. Probably the irregularity is because the verb 'root' is already affixed once (/cuɯ/ 'to defecate'). Furthermore, the subject is an involuntary actor.

/tɲaɲɲ/ is not a classifier, normal goal or instrument. It can occur either before or after the verb, followed by an adjective: /tɲaɲɲ dɲaɲ l?ɔɔ/ 'a good walking manner' or /dɲaɲ tɲaɲɲ l?ɔɔ/ 'walk in a good manner'.

/caŋhuuar/ can also occur as an adjective: /lak can huuar/ 'a pillar support, basic tenet'.

dΛΛr	'to walk'	tnΛΛr	'manner of walking' (~mn) -Rel
chiian	'to step'	caṅhiian	'a step' (~mn)+Cl, -Rel
chuuar	'to stand'	caṅhuuar	'a standing' (~mn)+Cl, -Rel
cruh	'to fall off'	canruh	'what fell off' (~mn)+Cl

3.4. Quotative verbs are similar to normal goals according to the relative clause test: /knurt (dεεl) kurt/ 'thought that was thought'.

kurt	'to think'	knurt	'thought' (~mn)
tiiāj	'to guess'	tniiāj	'prediction' (~mn)
cεh	'to know'	cneh	'knowledge' (~mn)

3.5. Marginal cases of possible nouns with very restricted occurrence may be in the process of becoming adjectives. The phases of the moon usually occur with /khaṅ/ 'side, direction'. The aspiration of /khanΛΛt/ is surprising. /sanlaṅ/ usually occurs following a noun. /camvun/ and /camrΛΛn/ are rare, probably felt as loans from Thai. Furthermore, the relationship between /camvun/ and its root verb is tenuous.

kΛΛt	'to become'	khΛΛt	'waxing (moon)'
rυuc	'to finish'	rnyuc	'waning (moon)'
slaṅ	'to love'	sanlaṅ	'beloved'
cvun	'to be approximately'	camvun	'amount'
crΛΛn	'much, many'	camrΛΛn	'increase'

## NOTES

1. This material was collected during field work in the years 1981-1983 and 1985-1987. Our own data were supplemented by the informant, Mr. Kheuan Singkhanipha, checking through the Khmer (Surin)-Thai-English Dictionary by Dhanan and Chartchai. Although the dialect was slightly different, he was able to make the necessary switches.

The orthography used in this paper is: consonants, /p, t, c, k, ʔ, b, d, m, n, ɲ, ŋ, j, w, l, r, s, h/ and vowels, /i, ɨ, e, ε, ʊ, ʏ, ə, ʌ, a, u, ʊ, o, ɔ, ɒ, ɔ, ɒ, ia, ua, ua/. Length is written as a double vowel.

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2. In some dialects there is free variation between C- and Cr- in any stop or spirant initial cluster, so this analysis does not hold for those dialects. For my informant, although these affixed forms with r in the presyllable can drop the r, unaffixed initial consonants cannot add an r (compare 1.1.1. and 1.1.2.).

3. /chl-/ --> /caml-/. Aspiration is not permitted in the unaccented presyllable, but with goals with initial ch the aspiration is moved to the main syllable.

4. Gregerson (personal communication) reports that Rengao has an affixed form for 'ladder' from /juur/ 'descend', but Surin Khmer does not have the corresponding pair. A more plausible explanation for our form for 'ladder' comes from Pornpen Sujinpram (thesis, Mahidol), that it comes from two words: /cuan/ 'level' plus /dʌʌr/. This might also explain the other example, /cantual/. This process of reducing the end of one word (and sometimes the beginning of the last) can be a very conscious act, as in 'pig-latin' (Thomas and Thomas, 1982), but it becomes automatic with commonly used phrases, as /bʌʌ yaŋ cɔh/ 'if like that, therefore' often becomes /pcɔh /. Probably many of the anomalous forms and lists of possible affixes with overlapping meanings that plague Khmer linguists can be explained by this type of reduction.

5. -VN means that the affixed form cannot follow the unaffixed verb.

6. With the causative -N-, ch- acts like a single consonant,

taking pan- rather than -ng-: /chuar/ 'to stand' /panchuar/ 'to stand someone up'. So /canhuar/ means only 'a standing', not 'to cause to stand'.

7. This example is from Dhanan and Chartchai. /canraah/ is a causative verb for my informant.

8. /thom/ has another interesting form: /tanthom tanthom/ 'the large ones', parallel to /tatuuc tatuuc/ 'the small ones'. These examples seem to be simply reduplication. The n of /tanthom/ is probably phonologically motivated, and is not an affix.

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