THE MUTATION OF *R IN PRE-THAVUNG

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1. *Introduction*

Thavung (Thavưưng) is a language of the Vietic[1] branch of Mon-Khmer which is, or was until recently, spoken in the Annamite Cordillera near the Laos-Vietnam border.[2]   It does not now have an /r/ as do the better-known Vietic languages, Vietnamese and Muong (Mưòng). Comparison with these latter and with other languages of the area reveals, however, that /r/ was in the phonological inventory of an earlier stage of the language, which I shall call pre-Thavung.

In his "Lexique thavung-français" Michel Ferlus established that Thavung */r/ underwent two changes. The proto-phoneme became a voiceless laryngeal spirant in initial and certain cluster environments but a voiced lateral after labial and velar stops and in word-final position. In this paper I propose to review these two changes and present others not reported by Ferlus. Lexical data from Mon-Khmer and Daic languages will be adduced in support of the posited changes, and morphological developments relevant to the history of pre-Thavung */r/ will be discussed.

The Thavung lexicon comprises only 770 words. Most changes are hence poorly represented by the data, while in some cases only one example is available. I have tried to cite all material available. Cognate data have been transcribed directly from the listed references, unless otherwise specified.

2. *Initial *R*

The pre-Thavung vibrant occurred initially in monosyllabic

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[1] *Vietic* is used here for *Viet-Muong* to avoid any confusion that might arise from current use of the latter for reference both to the branch and to the subgroup comprising Vietnamese and Muong.

[2] Michel Ferlus collected the only known Thavung lexical material among refugees in Khammouan province, Laos, in 1965 and 1970 (Ferlus, 1974c, 1979). Whether other speakers exist is unknown. Ferlus reported that it was going out of use among the refugees.

words and in the main or second syllable of dissyllabic forms. In both environments it mutated to the voiceless laryngeal spirant /h/. This change is an areal innovation attested in Vietic (see examples below) and in Southwestern Daic languages,[3] which have had considerable influence on Thavung. The liquid has become /h/ in Lao, but has remained /r/ in Siamese.

This mutation of initial */r/ can be shown by comparison with related Mon-Khmer languages. Because of merger of the reflexes of pre-Thavung */r/ and */h/, the liquid can be identified only through cognates showing reflexes of */r/. Hence the following list is probably not complete.

Thavung	Pre-Thavung	Cognates
həə[1] 'que'	*ree	See ahəə[1] 'quoi', below.
haa[1] 'se laver (visage)'	*raa	Souei sraaʔ 'se laver (la tête)'.
hɔɔ[1] 'tortue'	*rɔɔ	Khen hỏ, VN rùa 'turtle'.
hot[1] 'tout, tous'	*rot	VN rốt 'the last'.
hɔɔc[1] 'intestins'	*rɔɔc	Khen rọch, VN ruột 'intestines'.
hɔk[1] 'crapaud'	*rɔk	Rengao kĭt adrŏk, Khasi hnrɔʔ 'toad'.
hɛh[1] 'racine'	*rɛh	Souei rɛɛh, VN rẽ 'root'.
ahəə[1] 'pilon'	*ʔaree	Souei ntrềe, Khen khằy 'pestle'.
ahəə[1] 'quoi'	*ʔaree	VN rầy 'these'.
hahing[3] 'pou de corps'	*hariñ	Souei ntrin, Khen khậnh 'body louse'.

The mutation of */r-/ can also be established by comparison of Daic loans with their ancient and modern Daic forms.[4]

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[3]This Daic branch consists of Siamese, Lao, White Tai, Black Tai, and others (Li, 1977: 14).

[4]Daic reconstructions are based on Li (1977) if preceded by L; otherwise they are from Ferlus (1979). Li did not list proto-forms, which I have improvised for greater clarity; any errors in these are my responsibility. For the four proto-Daic proto-tones I have used Li's letter identifications, replacing Ferlus's *1 and *2 with *B and *C. Siamese lexical entries are from Li, Lao ones from Ferlus, if not otherwise specified.

Thavung	Pre-Thavung	Daic Cognates
hap[1] 'accepter, re-cevoir'	*rap	L *rap D, Siamese rap D2, Lao hap 'to receive, accept'.
hɛɛt[1] 'rhinocéros'	*rɛɛt	*rɛɛt D, Lao hɛɛt D2.
hu?[1] 'savoir, con-naître'	*ru?	L ruu C, Siamese ruu C2, Lao huu, Lung-chow ɫuu? 'to know'.
hEEm[2] 'mouvement descendant (lune)'	---	*rɛɛm A, Lao hɛɛm A2.
hEEng[2] 'fort'	---	L *rɛɛŋ A, Siamese rɛɛng A2, Lao hɛɛng 'force, strength'.
hAAng[2] 'divorcer'	---	*raang C, Lao haang C2.
hAAy[2] 'en colère'	---	*raay C, Lao haay C2.
ahian[2] 'étudier'	---	*rian A, Lao hian A2.

3. Medial *R

Pre-Thavung */r/ also occurred as the second segment of initial and medial clusters.

After */m/ the vibrant changed to /h/ and conditioned the devoicing of the nasal:

Thavung	Pre-Thavung	Cognates
mahing[1] 'dragon'	*mr(i)ŋ	VN rồng 'dragon'
mahii[1] 'forêt'	*mrii	Mah Meri mrii, Khmu? bri?
mahɛɛ[1] 'beaux-parents'	mrɛ(h)	VN rḛ̂ 'son-in-law', Pacoh alêh 'brother-in-law'.

The */sr/ changed to an aspirated apical stop, */th/:

thoo[3] 'taro'	*sro?	Khmu? sro?, VN sọ 'taro'.
thAng[2] 'bois, vegetal'	*(s)raŋ	Phon-Soung slang.
thaang[1] 'mois lunaire'	*sraaŋ	Khen kháng, VN tháng 'month'.
thɛh[1] 'sable'	*srɛh	Khmu? srɛh 'sand'.

In clusters with simple stops */-r-/ developed in two patterns, dependent on whether the cluster was word initial or medial. In initial clusters it changed to a voiceless preaspirated lateral after labial, apical and velar plosives. These consonants then assimilated the aspiration.

When the cluster initial was a palatal or glottal stop, the result was also a lateral but the initial phoneme remained unaffected:

clɔɔk[1] 'ruisseau'   *crɔɔc   Khen hól,   VN suôi
                                  'stream'.[6]

clung[2] 'gros, gras' *jruŋ   VN, Khen rộng 'wide, big'.

clOng[2] 'cru (viande)' *jroŋ   Khen khổng, VN sổng 'raw'.

alɔɔ[3] 'riz paddy'   *ʔaʔrɔʔ   Katu haró, VN lúa 'rice'.

balip[1] 'plonger'   *paʔrip   VN sâp 'to damp, moisten'.

kalɔɔl[1] 'loup'   *kaʔrɔɔl VN sổi 'wolf'.

malOOy[2] 'pluie'   *maʔrəəj[7] Old Mon brey 'rain(fall),
                                  Hung plớy 'sky',   VN
                                  trới 'sky, weather'.

The medial cluster */dr/ coalesced to form a voiced preglottalized apical stop, /ʔd/, in five lexical items:

kdii[1] 'cerf'   *kdrii   Old Mon *drāy* 'hog deer',
                                  Stieng drai 'a   deer',
                                  Khen ɗai, VN nai 'deer'.

dam[1] 'cinq'   *dram   Chrau prăm, Khen ɗăm, VN
                                  năm 'five'.

cdang[1] 'droit'   *cdraŋ[8] VN rặng, Khen giặng 'row'.

adaang[1] 'griller sous la *ʔadraaŋ VN rang; Daic L *raaŋ A,
  braise'   Siamese raang A2   'to
                                      roast'.

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[5]The irregular finals are unexplained. Note also Daic L *xruəi C 'mountain stream', Khmer *jroḥ* 'idem', and proto-Chamic *croh 'stream'.

[6]Most Vietic forms have the lateral, but three show a retroflex sibilant, which can indicate */r/ (cf. Maspero, 1912: 81), and four have aspirated stops preceding the lateral, suggesting parallel development.

[7]Relationship to Daic L *ʔdiŋ B, Siamese ding B1 'vertical, straight down; to pour', and to VN thẳng 'straight, direct, right' is not clear.

aduung[1] 'cageot à   *ʔadruuŋ Khmer *druṅ*, Pacoh tarrúng
    poulet'   'coge'.

    In two words the cluster evolved differently. In the first, the */-r-/ disappeared while aspirating the presyllable initial; a nasal element precluded preglottalization. In the other, the cluster metathesized to */-rd-/, and the vibrant disappeared while conditioning the simultaneous aspiration of the presyllable initial and the preglottalization of the main-syllable initial stop. This pattern is also seen in the development of presyllabic */r/ (§5).

khadOOng[2] 'carapace'   *kndrɔɔŋ Arem roong, Palaung krɔɔng
                                                    'back'.

phadɔng[1] 'il fait chaud'   *pdrɔŋ   Chrau prăng 'sunny',   VN
                                      năng 'sunshine', nóng nảy 'to be hot   (of weather)', Katu charóng 'sunshine'.

    The apical stop in this cluster was anaptyctic and the product of phonetic conditioning in an older */nr/ cluster (see §6 for discussion of its morphological origin). Similar formations are seen elsewhere in Mon-Khmer. Smalley mentions a [dr] allophone of Khmuʔ /r/ occurring after /n/: cf. kɔɔnrook, phonetically [kɔɔndrook] 'orphan'.[9] The same conditioning is suspected in Rengao kĭt drŏk 'toad'; cf. Khasi hnrɔʔ 'idem' (see Thavung hɔk[1] in §2).[10] With one exception, the nasal element was lost before these changes took place, and is not reconstructed here. The preglottalized reflex has since been simplified to Thavung /d/, a voiced simple apical stop.

    The */dr/ cluster has apparently had a long history in Austroasiatic, and its reduction is evidently a widespread and recurrent phenomenon. Its recurrence is attributable to its relationship to morphological */r/ (see §6). The following examples are merely suggestive:

gloss   *liquid forms*   *stop forms*

water   Nicobar (Teressa) raak Kharia ḍaʔ, Khen đác.

to cover   Śora rub, Mon grop   Kharia ḍa'b, Palaung dăp.

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[8] Smalley, 1961: 4.

[9] The Khasi and Rengao forms are cited by Gérard Diffloth in his *Etymological Dictionary of Mon-Khmer* (in preparation).

back	Palaung krɔɔŋ	Sora kəndong.
eel	Pear məlɔɔŋ	Khmer andăn.
duck	Kharia gɛɽɛ	Khmer dă.
five	Chrau prăm	Proto-North Bahnaric *baqdăm.
crow	Old Mon kil'āk	Mnong-Rlam daak, Chrau can-ɖaq.

The Daic loan vocabulary exhibits a variety of changes involving medial */r/. Some of these can be identified as pre-Thavung innovations; others represent developments proper to Daic. The following items reveal pre-Thavung patterns; three of them were probably prefixed after borrowing.

Thavung	*Pre-Thavung*	*Daic Cognates*
khaliang[2] 'objets, affaires'	*griaŋ	L *griaŋ, Siamese khriang B2, Lao khiang 'apparatus, thing'.
khalAng[2] 'stick laque'	*graŋ	*graŋ B, Lao khang B2.
slɛɛw[1] 'vert'	*saʔrɛɛw	L *xiau A, Siamese khiau A1, Ahom khriw, Lao khiau/hɛɛu 'green'.
kalAAl[2] 'chauve'	*kaʔraal[11]	*laan C, Lao laan C2, VN sói 'bald'.
lɔɔy[1] 'cent'	*ʔrɔɔy	*rɔɔy A, Lao hɔɔy A2.

Fang Kuei Li reconstructed for proto-Tai several initial clusters containing */r/; six appear in the next two word lists. Most of these clusters coalesced to form single phonemes, but in some the nonliquid segment dropped out after leaving its imprint on the tone. The following items reflect initial merger in Daic. Whether the similarity of the Daic */ʔdr/ and pre-Thavung */dr/ reductions is fortuitous or indicative of a causal relationship is not clear at present.

phaak[1] 'front'	(*phaak)	L *phraak D, Siamese phaak D1, Lao phaak 'forehead'.
khAAt[2] 'herse'	---	*graat D, Lao khaat D2.

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[10]This word has been classified as Daic because of its vowel; it may actually be a Vietic form borrowed by Daic.

dɨan[1] 'mois' (*ʔdɨan) L *ʔbrɨen A, Siamese dɨan A1, Lao dɨan 'month'.

kdɨa[1] 'ergot' (*kʔdɨa) L *ʔdrɨai A, Siamese dɨai A1, Lao dɨay 'spur of cock'.

One loanword listed by Ferlus does not appear in the preceding list: he cites the correspondent of kOOk[2] 'enclos, prison' as *grɔɔk D, whence Lao khɔɔk. According to Li, *gɔɔk is to be reconstructed for proto-Southwest Tai, which gives the same form in Lao and *gɔɔk (rather than *grɔɔk) in pre-Thavung and thence kOOk[2].

In the following forms the initial dropped out of the Daic cluster probably before the word entered Thavung: */thr/ became */hr/ and then /h/ in Lao and Siamese (see */hr/ below).

hɛɛp[1] 'couteau à riz' (*rɛɛp) L *thrɛɛp D, Lao hɛɛp D1.

hɨat[1] 'punaise' (*rɨat) L *drɨet D, Siamese rɨat D2, Lao hɨat 'bedbug'.

mahuu[1] 'sueur' (*maruu)[12] L *thr(ɨa) D, Siamese hɨa B1, Ahom ruu 'sweat'.

ahiiw[1] 'tenir' (*ʔariiw) L *thriu C, Siamese hiu C1 "to carry something hanging down from one's hand'.

Li also reconstructed a voiceless vibrant, */hr/, which has evolved to /h/ in both Lao and Siamese:

hAA[2] 'génie des épidé-   ---   *hraa B, Lao haa B1.
mies'

hɔt[1] 'arroser, asperger' (*rɔt) *hrot D, Lao hot D1.

Voiceless liquids appear in other Mon-Khmer languages, and Laurence C. Thompson has reconstructed */hr-/ for proto-Viet-Muong. There is however no clear evidence that pre-Thavung ever had a voiceless vibrant or even copied that articulation in the Daic loans possessing that phone. In Mon-Khmer /hr/ would often appear to be the reflex of */sr/, which in pre-Thavung has mutated to */th/, as is shown above. In one case, hahing[3] 'pou de corps', it appears possible that */hr/ was a pre-Thavung initial.

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[11]Possibly a contaminated form: cf. VN mồ hôi, Souei puhŭul, Pacoh pahŏr 'sweat'.

But, if so, the change was to */hh/ or */hah/, not to /h/ as in Lao.

Thavung asuu[2] 'trou' would appear to evidence the reflex of a Daic stem that was prefixed twice after borrowing: cf. L *ruu A, Siamese ruu A2, Lao huu 'hole'. The underlying form is apparently *jruu, which became *chuu[2] upon devoicing, and then *ʔachuu[2]. The mutation of */ch/ to */s/ is another areal innovation shared by Thavung, some other Vietic languages, and Lao. Siamese does not have it. The word is classified as a loan because of its semantic content, but its resemblance to Khmuʔ jruʔ, Chrau jru, and Vietnamese sâu 'deep' is inescapable.

4. *Final* *R*

Pre-Thavung final */r/ merged into the final lateral,   as Ferlus has shown:

Thavung	Pre-Thavung	Cognates
asil[3] 'renifler'	*ʔachir	Pacoh caxĕr, Chrau chhêr 'to blow nose'.
vɛɛl[1] 'gauche'	*ʔwɛɛr	Pacoh avear 'left'.
atɛɛl[1] 'crier, appeler'	*ʔatɛɛr	Pacoh ntêr 'to tell on someone, report'
apəəl[1] 'lèvres'	*ʔapəər	Katu buʼr, Pacoh tambîr 'lip'.
atal[1] 'corde, fil'	*ʔatar	Pacoh ntár, VN dây 'cord'.
haal[1] 'deux'	*rʔaar	Proto-Waic *lʔar, Khen hal 'two'.
jAAl[2] 'détendre'	*nyaar	Khmer yār, Souei pyaal 'to stretch out'.
hul[1] 'voler (oiseau)'	*hur	Khmer hær 'to fly' or hūr 'to flow' (?).
kpuul[1] 'chaux'	*kpuur	Khmer kampor, Loven kpoor 'chalk, lime'.
jool[3] 'se lever'	*ʔyoor	Pacoh ayŏr 'to raise to feet'.
khamool[3] 'termite'	*krmoor	Pacoh camoar, Khen môl 'termite'.

5. *Presyllabic* *R*

The occurrence of */r/ as a presyllable and as a segmental

member of other presyllables in pre-Thavung can be established only by comparison with the few Mon-Khmer languages that have retained the liquid or its reflexes in the same environments. Once the patterns are established, some rather spectacular results can be obtained.

In the presyllable, */r/ appeared as a nucleus preceded by a simple stop. If a vowel had separated the two phonemes at one time, the phonetic effects of the vibrant on contiguous segments *suggest that it had been lost before the mutation of* */r/ began. That mutation proceeded in two environmentally conditioned ways.

When the main-syllable initial was a nonglottal stop, */r/ disappeared in the process of conditioning simultaneously the aspiration of the preceding plosive and the preglottalization of the following stop:

Thavung	Pre-Thavung	Cognates
phadəə[1] 'enceinte'	*prtə(h)	Khen dɔ̃ 'to blossom', Jeh ddah 'sprout'.
phadaan[1] 'cloison'	*prtaa(ñ)	Pacoh cartáng 'partition'.
abɔh[1] 'bec'	*(ʔ)rpɔh	Brou rabɔ̃h, Ngeq carbɔ̃h 'beak'.
khabɔh[1] 'écorce'	*krpɔh	Khen pǫ, VN võ 'bark, rind'.

When the following main-syllable initial was a glottal stop or resonant, */r/ changed into a spirant and then coalesced with the presyllable initial as aspiration. The following consonant was not affected.

phalεε[1] 'hameçon'	*prlε(h)	Pacoh parléh 'hook'.
phaləə[3] 'fruit'	*prleʔ	Khmuʔ prleʔ 'épis', pleʔ 'fruit'.
phanuu[2] 'sein'	*brnuu	Khen pú, VN vú 'breast'.
phaləəm[1] 'sangsue d'eau'	*prləəm	Souei pləəm, Jeh plȇm 'water leech'.
phayɔng[1] 'jeune homme'	*pryɔŋ	Middle Mon gayoñ 'husband'.
thanuu[1] 'fièvre'	*trnuu	Thavung tuu[1] 'malade'.
thamoo[1] 'corde'	*trmoo	Proto-Waic *ʔmoʔ, Khmuʔ cməʔ 'rope'.
thaloo[3] 'tombeau'	*trloʔ	Pacoh llóq 'grave'.

thanuk[1]	'ciseau, burin'	*trnuk	VN đục 'to chisel'.
sngAAy[2]	'loin'	*jrŋaay	Khasi jngâi, VN ngâi 'far'.
khaʔɛɛ[1]	'excrément'	*krʔɛɛʔ	Pacoh cal-eaq 'to spit up (baby)'.
khaʔɔɔ[3]	'uriner'	*krʔɔʔ	Pacoh ti-ôq, VN ụa 'to vomit'.
khalOOt[2]	'ronger (un os)'	*grloot	VN lột 'to strip'.
khaloot[1]	'peau, cuir'	*krloot	VN lốt 'to change, shed'.
khaʔaak[1]	'cracher'	*krʔaak	Khmer k'ak 'to cough'.
khaʔaak[1]	'corbeau'	*krʔaak	Old Mon kil'āk, VN ác 'crow'.
khalɔng[1]	'intérieur'	*krlɔŋ	Pacoh callúng, VN trong 'in'.
khalɔɔng[1]	'graine'	*krlɔɔŋ	Pacoh callong, Souei klɔɔng 'seed'.
khamool[3]	'termite'	*krmoor	Pacoh camoar, Khen môl 'termite'.
khamaay[1]	'jeune fille'	*krmaay	Pacoh tarmai 'daughter-in-law'.

*/r/ may be reconstructed in the following forms, for which no cognates have yet been found, on the basis of the patterns established above:

khabool[1]	'pangolin'	*krpool	Cf. Pacoh yŏl 'pangolin'?
thanuu[2]	'péter'	*drnuu	
thalik[1]	'se défaire (de soi-même)'	*trlik	Thavung lik[1] 'défaire, dénouer'.
khavɔng[1]	'paon'	*krwɔŋ	Cf. Katu kuông 'peacock'?
khaʔal[1]	'ventre'	*krʔal	
khamayh[1]	'rire'	*krmayh	

The occurrence of */r/ as a presyllable itself can be posited with assurance in only one form. In that form and one other the vibrant appeared before the glottal occlusive; it shifted to /h/, and the glottal disappeared. Note that the apical in the second form, apparently a reflex of */s/, was not aspirated, as in the */sr/ cluster:

haal[1] 'deux'   *rʔaar   Proto-Waic *lʔar,   Khen
                                        hal 'two'.

tahɔɔp[1] 'bâiller'   *srʔɔɔp   Souei sʔaap, VN ngáp 'to
                                        yawn'.

Establishment of these presyllabic */r/ developments permits the following reconstructions, which would otherwise appear un- likely:

khiat[1] 'affûter'   *kryit   Ngeq harjit   'really'
                                        sharp'.

thavOOng[2] 'moustique'   *dryooŋ   Katu rayông, Pacoh rayống
                                        'mosquito'.

thavaak[1] 'aisselle'   *tr(p)aak[13] Souei lampaaʔ,   Khen wạc
                                        'shoulder'.

phañooñ[3] 'cordon ombi-   *prsooñ[14] Khong Kheng suiñ,   Khen
    lical'   thûl, VN rôn 'navel'.

sakhɔʔ[1] 'un panier'[15]   *krcɔʔ   Ngeq troh kacoq,   Lao
                                        kacoq 'basket'.

6. *Morphological *R*

The phoneme /r/ appears or has appeared in a morphological role in several Mon-Khmer languages. According to Jacob, it oc- curred in Middle Khmer in five prefixes and one infix.[16]   The prefixes (and their grammatical functions) are: pr- 'general nominalizer', pr- 'causative', and r-, tr- and kr-   'formation of attributive verbs'. The liquid consonant occurs additionally in modern Khmer sr-, which Jacob indicated to be an intensifier. The infix -rn- was, in Jacob's terminology, a utensil nominali- zer. Ferlus labeled it an instrumental infix and described its usage in Khmuʔ, where it has variants -r- and -n-.   The infix forms substantives designating the instrument or result of an action. Pacoh, a language which has provided many cognates use- ful to this study, has three verbal prefixes including /r/. They are par- 'nominalized action', par- 'causative reciprocal', and

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[12] Reconstruction of the labial is still uncertain because of the Khen labial semivowel. Cf. also Chrau quaq 'armpit', Pacoh lampaq 'shoulder'.

[13] The palatal articulation of the medial nasal may indicate */š/, a Vietic phoneme that has merged initially with */s/ out- side the Viet-Muong subgroup.

[14] Presumably via *chkhɔʔ.

[15] Jacob, 1976: 602-9.

tar- 'reciprocal'.[17] Pacoh also has a nominalizer infix, -an-, which has a large variety of allomorphs, including -al-, -ar-, -arn-, -r-, and -l-. The nouns it forms designate the result or location of an action, or the instrument used in doing it.

The reconstruction of pre-Thavung medial and presyllabic */r/ permits the firm identification of one infixal morpheme and reveals the probable existence of two prefixes.

The infix is the instrumental */-rn-/, of which Ferlus has found traces in Viet-Muong.[18] The full form is found in the following three reconstructions:

Base		Derivative	
Thavung	*Pre-Thavung*	*Thavung*	*Pre-Thavung*
---	(*p?uu?)	phanuu^2 'sein'	*brnuu
tuu^1 'malade'	*tuu	thanuu^1 'fièvre'	*trnuu
tuk^1 'ciseler'	*tuk	thanuk^1 'ciseau'	*trnuk

The base represented (*p?uu?) is formulated according to the external evidence and is itself not attested in the lexicon. It is already an affixed form. The root is (*?uu?) —— cf. Khen ú, Pacoh uq 'to suck' — to which the morpheme (*p-), a causative prefix found in Middle Khmer and elsewhere,[19] has been attached. The resultant sense was probably 'to suckle': cf. Pacoh pa-uq 'to give suck, nurse', VN bú 'to suckle'. In Khmu?, the full form of the instrumental infix is used in bases with single consonant initials. Hence the hypothesis that (*-rn-) was inserted to give (*p-?-rn-uu?) seems warranted, despite the awkward consonant sequence.[20] This form was reduced to the pre-mutation *brnuu, which of course had the meaning 'breast' or, analytically speaking, 'that which one is caused (given) to suck'. The derivation of 'chisel' from 'to chisel' is self-explanatory, while 'fever' is quite reasonably a result of being 'sick', if not the agent making one so.

As in Khmu?, the pre-Thavung instrumental infix had a vibrant allomorph, demonstrated in the following list. Its usage

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[16] Watson, 1966: 15 ff.

[17] Ferlus, 1977: 53-4.

[18] Jacob, 1976: 603; Watson, 1966: 17-20.

[19] Infixation of the affixed base is not suspect, for *pr?uu? should then follow. The pre-mutation form *brnuu is apparently from earlier *?brnuu?, itself directly from *p?rnuu?.

apparently approximated that of Khmu?, where /-r-/ is inserted between clustered consonants (the second may not be the liquid).

Base	Derivative	
Pre-Thavung	*Pre-Thavung*	*Thavung*

(*ptəh 'to sprout,   *prtə(h)   phadəə[1] 'enceinte'
   bud, blossom')
     Cf. Jeh ddah 'sprout'.

(*cpɔh 'to snap at')   *(?)rpɔh   abɔh[1] 'bec'
     Cf. Chrau simvŏh 'to snap at, bite'.

(*ple? 'to bear fruit')   *prle?   phaləə[3] 'fruit'
     Cf. Khmu? ple? 'fruit'.

(*tlo? 'to make a hole')   *trlo?   thaloo[3] 'tombeau'
     Cf. Old Mon *kirloh* 'to penetrate' *(?)*.

(*jŋaay 'distant point')   *jrŋaay   sngAAy[2] 'loin'
     Cf. Old Mon *jamhay* 'distant point'.

(*k?ɛɛ? 'to defecate')   *kr?ɛɛ?   kha?ɛɛ[1] 'excrément'
     Cf. Brou créq 'feces'.

(*kloot 'to shed skin')   *krloot   khaloot[1] 'peau, cuir'
     Cf. VN lôt 'to change or shed skin'.

(*k?aak 'to caw')   *kr?aak   kha?aak[1] 'corbeau'
     Cf. Souei k?aa? 'crow'.

(*klɔŋ 'to be inside')   *krlɔŋ   khalɔng[1] 'intérieur'
     Cf. Khmu? kluang 'to be inside'.

(*klɔɔŋ 'to plant')   *krlɔɔŋ   khalɔɔng[1] 'graine'
     Cf. VN trông 'to plant'.

None of the above bases are present in the Thavung lexicon, but the extrapolated forms and their hypothesized meanings are in most instances clearly corroborated by the cognate material.

In the following list, the bases cannot be formulated either because the cognates reveal no indication of a verbal base or because there is no cognate presently available. We also cannot be sure that the presyllable is not a component of the root.

In other cases, the base cannot be formulated because the cognates reveal no indication of a verbal base or there is no cognate presently available. We also cannot be certain that the presyllable is not a component of the root. None of the many forms cognate to Thavung phaləəm[1] 'sangsue d'eau', for example, has either a verbal sense or a reflex of the instrumental infix.

Thus we cannot be sure which is the root, *plǝǝm or *prlǝǝm.

The third variant of the Khmu? instrumental affix is /-n-/, which is employed in clusters containing the liquid as second element. The derivative of pru? 'sécher au feu', for example, is pnru? 'séchoir', phonetically [pndru?]. In §3 seven proto-forms with */-dr-/ were presented, and it was stated that this cluster is the reflex of an older */-nr-/ . In five of the seven, it would further appear that the hypothesized nasal was actually the instrumental infix. These five are listed again below, with the forms reconstructed above now designated Late Pre-Thavung and the bases shown here as Early Pre-Thavung:

	Base			Derivative	
Late PT	*Early PT*		*Late PT*		*Early PT*
---	(*pram 'five')		*dram 'five'		(*pnram)
---	(*craŋ 'row')		*cdraŋ 'straight'		(*cnraŋ)
---	(*cruuŋ 'to cage')		*?adruuŋ 'cage'		(*cnruuŋ)
---	(*prɔŋ 'sunshine')		*pdrɔŋ 'to be hot'		(*pnrɔŋ)
---	(*krɔɔŋ 'back')		*kndrɔɔŋ 'turtleshell'		(*knrɔɔŋ)

The structure of (*cruuŋ) is suggested by VN chuồng 'cage'; cf. also Pacoh crúng 'to imprison, cage'. The vocalic alternation of the cognates of (*prɔŋ), namely VN nóng này 'to be hot (weather)' and nắng 'sunshine', suggests reduplication, and it is not presently clear whether (*prɔŋ) or (*praŋ) was the Vietic root.

The pre-Thavung */-rn-/ infix had clearly an instrumental function, for most of the cited derivatives are instruments or results of actions denoted by the base form. The infix occurs in Khmu? primarily as a modifier of verbal bases, but is not restricted to them. The same freedom is noted in pre-Thavung, but the derivatives of nonverbal bases are not properly instrumental in some cases. They represent a specialized, or perhaps intensified, sense of the base's general meaning. (*knrɔɔŋ), for example, is a particular type of 'back', i.e. 'turtleshell', while (*krɔɔŋ) is evidently 'back' in a broader sense. Somewhat differently, *jrŋaay 'far' is evidently a specialized adjectival sense of (*jŋaay 'distant point'). These points may be moot, for the word in Southeast Asian languages often has verbal as well as other grammatical functions. Thus (*jŋaay) may have been 'to be a distant point' and *jrŋaay 'far', the result of that state. This seems also to be true of the *tuu : *trnuu pair.

Determining whether presyllables with liquid nuclei are prefixal morphemes and, if so, what their grammatical function was is not so easy as with the instrumental affix. The surface form in which the latter is visible is typically nominalized, while here it usually has verbal meaning.

In two items */kr-/ apparently formed verbs from nominal roots. Both of these roots would appear to be onomatopoeic, but the semantic shift in Thavung and some cognates makes this uncertain. This prefix seems to equate to the Middle Khmer /kr-/, which was used to form attributive verbs.

Base	*Verb*	*Thavung*
(*ʔɔʔ)	* krʔɔʔ	khaʔɔɔ[3] 'uriner'

    Cf. VN u̯a, Pacoh ti-ôq 'to vomit', Ngeq qooq 'to defecate'.

| (*ʔaak) | *krʔaak | khaʔaak[1] 'cracher' |

    Cf. Khmer k'ak 'to cough', VN khạc, Pakatan kə̆hak 'to spit'.

In her discussion of Pacoh verbal affixation, Saundra K. Watson stated that the reciprocal affix tar- means 'to do something to each other' and sometimes carries the idea of antagonism.[21] It would appear that the presyllable of *trlik (cf. Thavung thalik[1] 'se défaire (de soi-même)' and lik[1] 'défaire, dénouer') carries the latter nuance. With regard to the first meaning, it has a reflexive rather than reciprocal connotation.

In the following two examples, prefixes may have been used to give a specialized meaning, in which case they might be termed intensifiers. But it is just as likely that the instrumental infix was applied to the bases *pyɔŋ and *kmaay to bring about the same qualification.

| (*yɔŋ) | *pryɔŋ | phayɔŋ[1] 'jeune homme' |

    Cf. Khmuʔ yong 'father', Middle Mon gayoñ 'husband'.

| (*maay) | *krmaay | khamaay[1] 'jeune fille' |

    Cf. VN mái 'female (birds)', Pacoh tarmai 'daughter-in-law'.

In the following items, presyllables */kr-, dr-/, etc., were possibly used to form verbs, but in only one instance is there

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[20]Watson, 1966: 20.

any inkling as to whether a base existed and to what its original meaning was. If the reconstruction *kryit holds, the presyllable can be recognized as the attributive verb prefix.

Thavung		Pre-Thavung
khalOOt^2	'ronger (un os)'	*grloot
kha?əəy^1	'se promener'	*kr?əəy
thanuu^2	'péter'	*drnuu
khamayh^1	'rire'	*krmayh
tahɔɔp^1	'bâiller'	*sr?ɔɔp
khiat^1	'affûter'	*kryit

7. Conclusion

The pre-Thavung liquid consonant has had an unusual and interesting history. From its strong influence on neighboring phonemes, it had unusual characteristics as well. Li described the proto-Tai */r/ as probably a tongue-tip vibrant or trill requiring some breath to achieve.[22] This description seems ready-made for the pre-Thavung phoneme, and it is quite possible that its manner of articulation was a result of Daic or Vietic contact. That contact perhaps created a period of instability, with rivalry between a socially prestigious vibrant or trill allophone and a less dramatic allophone of the old Vietic */r/ which ended with complete mutation of the liquid consonant. The general area trend to monosyllabism also undoubtedly played its mysterious role in some changes, particularly in those involving presyllabic */r/.

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[21]Lee, 1977: 142.

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