

Derivational verbal morphology in Khaling*

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1. Introduction

Of all the Kiranti languages, Khaling is perhaps the one presenting the most complex set of stem alternations. [Jacques *et al.* \(2012\)](#) provide a description of these alternations and a model explaining how to build an abstract root from which all alternations can be predicted.

In addition to this complex inflexional morphology, Khaling also presents a rich system of derivation, which has clear parallels in the Kiranti subfamily. In this paper, only three derivations are described and analysed: applicative, incorporation and anticausative. Other valency alternations such as the reciprocal and causative, which involve periphrastic constructions, as well as the reflexive, which presents a special conjugation, are not discussed here and will be presented in forthcoming work.

The present research is based on a database comprising 648 verb roots. Unless necessary, only root forms are quoted; the reader can refer to [Jacques *et al.* \(2012\)](#) to determine conjugated forms from these roots.

2. Applicative

Of all Sino-Tibetan languages, the $-t$ applicative suffix is best preserved in the Kiranti languages ([Michailovsky 1985](#)). This suffix is also found in various branches of the family, though only in faint traces remain (see [Jacques 2004](#): 410 in Rgyalrong, [Sagart 2004](#) in Chinese for instance; it is unclear whether Tibetan preserves any example of this suffix).

The applicative $-t$ does not appear to be fully productive in Khaling, but it is attested by many examples, which can be classified into three groups.

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2.1. Recipient / experiencer applicative

In these examples, the derivation converts an intransitive verb into a transitive one. The A of the transitive verbs corresponds to the S of the intransitive one, and the O of the transitive verb is either an experiencer/addressee (“to laugh at”, “to call”) or a stimulus (“to be afraid of”, “to be dissatisfied with”).

Table 1 presents all examples of recipient/experiencer applicative in our dictionary.

Table 1: Examples of recipient applicative in Khaling

base form (it)	meaning	applicative (tr)	meaning
ɲur	roar	ɲurt	roar at
bhur	be angry	bhurt	scold
bhrot	shout	bhrott	call
ret	laugh	rett	laugh at
ɲin	be afraid	ɲint	be afraid of
tshil	be frustrated	tshilt	be dissatisfied with
lem	sweet	lemt	coax

Example 1 illustrates the verb |ɲur| whose S does not receive ergative case, and which conjugates intransitively (there is no *-ɯ* in the third singular). The derived verb |ɲurt| with the applicative *-t* suffix is shown in example 2 where the final |*-t*| is realized as /d/. Due to the morphophonological rules described in Jacques *et al.* (2012), this suffix only appears in 123SG→3SG; in all other forms, such as non-singular agent and inverse (see 3), the |*-t*| is not a distinct segment, though indirect effects on stem can be detected.

- (1) *nêr ɲār.*
tiger roar:3SG.NPST
The tiger roars.
- (2) *nêrʔε ghrot ɲārd-ɯ.*
tiger-ERG goat roar.at-3SG→3SG.NPST
The tiger roars at the the goat.
- (3) *khlê:p-ʔε flas ʔi-ɲār-ki.*
dog-ERG people 2/INV-roar.at-1PI
Dogs bark at people.

2.2. Benefactive applicative

There is only one good example of benefactive applicative, |kur| “to carry (vt)” > |kurt| “to carry for so (vt)”. Another possible example is |rep| “to stand (vi)” > |rept| “to respect, to make offerings (vt)”, though if correct this comparison involves extensive semantic changes.

2.3. Causative

Although Khaling has a productive causative construction involving the auxiliary |mutt|, the *-t* suffix is also used to form causative. Although most cases of causative / applicative isomorphism are due to grammaticalization from a common source, without necessarily implying a change causative > applicative or the reverse (Peterson 2007: 64), in this particular case the source of *-t* is not recoverable anymore; both applicative and causative meanings are also found in related languages for cognates of this suffix.

31 examples of causative *-t* have been found; table 2 present some selected representative examples.

Table 2: Examples of causative *-t* in Khaling

base form (it)	meaning	applicative (tr)	meaning
ʔot	come back	ʔott	bring back
ghur	run	ghurt	drive, cause to run
tshe	spread (it)	tshett	expand (vt)
thin	wake up (it)	thint	wake up (vt)
pi	come (level)	pit	bring (level)
bher	fly	bhert	cause to fly

Intransitive verbs with open syllable receive two distinct treatments. Some have a causative in simple *-t* (the motion verbs |pi| “come (level)” > |pit| “bring (level)”¹ and |fi| “come” > |fiot| “bring”). Other ones have double *-tt*: |tshe| “spread (vi)” > |tshett| “expand (vt)”, |ghrɛ| “to light up, to burn” > |ghrett| “to put on (the light)”.

An important proportion (10 out of 31) of causative verbs in *-t* have a root ending in *-n*. This bias is by no means fortuitous, and requires a detailed explanation.

As shown in Jacques *et al.* (2012), the conjugations of CVC roots and of CVCt roots in Khaling are almost entirely identical: 1d < > 3, 1p < > 3, 2d < > 3 and all inverse forms are identical between the two conjugation classes. Only 1sg > 3, 2sg > 3, and 3 > 3 forms are distinct, as shown for

¹Interestingly, the only known trace of the *-t* suffix in Rgyalrong involves the probable cognates of this pair: *ɣi* “come” (< *wi), *ɣut* “bring” (< *wit) in Japhug Rgyalrong.

instance in table 3 using a minimal pair of transitive verbs with the CVC conjugation in |-op| and the CVCt conjugation in |-opt|.

Table 3: A comparison of some forms of the |op| and the |opt| paradigms, non past direct forms

	mop “grope”	mopt “spill”
1SG > 3	<i>mobu</i>	<i>mɔɔptu</i>
1DI > 3	<i>məpi</i>	<i>məpi</i>
1DE > 3	<i>məpu</i>	<i>məpu</i>
1PI > 3	<i>mɔɔpki</i>	<i>mɔɔpki</i>
1PE > 3	<i>mɔɔpkɔ</i>	<i>mɔɔpkɔ</i>
2SG > 3	<i>ʔimə:bɔ</i>	<i>ʔimɔɔptɔ</i>
2DU > 3	<i>ʔiməpi</i>	<i>ʔiməpi</i>
2PL > 3	<i>ʔimɔɔmni</i>	<i>ʔimɔɔmni</i>
3SG > 3	<i>mə:bɔ</i>	<i>mɔɔptɔ</i>

Thus, analogical leveling could easily lead to the merger of CVC and CVCt conjugation classes. Incidentally, in Khaling, as in Dumi (van Driem 1993), there are not transitive *-n* roots, in other words, all verb roots ending in *-n* are intransitive. If a transitive CVn paradigm had existed, it is possible, mechanically applying the morphophonological rules described in Jacques *et al.* (2012), to predict the expected shapes. In table 4, we present a portion of the transitive |-int| paradigm together with the hypothesized forms of the transitive |-in| paradigm.

Table 4: The |int| paradigm in comparison to the hypothesized transitive |-in| paradigm, non past direct forms

	* thin	thint “wake (vt)”
1SG > 3	<i>*thinu</i>	<i>thāndu</i>
1SG > 3	<i>thī:tsi</i>	<i>thī:tsi</i>
1DI > 3	<i>thī:tsu</i>	<i>thī:tsu</i>
1DE > 3	<i>thājki</i>	<i>thājki</i>
1PI > 3	<i>thājkɔ</i>	<i>thājkɔ</i>
1PE > 3	<i>*ʔithī:nɔ</i>	<i>ʔithāndɔ</i>
2SG > 3	<i>ʔithī:tsi</i>	<i>ʔithī:tsi</i>
2DU > 3	<i>ʔithājni</i>	<i>ʔithājni</i>
2PL > 3	<i>*thī:nɔ</i>	<i>thāndɔ</i>

The two paradigms are identical except for a few forms. Thus, it is probable that the transitive CVn conjugation (which does exist in other Kiranti languages like Limbu) merged with the CVnt conjugation, and that all CVn verbs became CVnt by way of analogical levelling (not sound change).

Now, aside from overt marking, a common means of changing valency in Khaling is simply labiality: many roots can be conjugated either transitively or intransitively. For instance |bhrok| “break” can be conjugated both ways.

Thus, it is likely that some of the apparent “causative” verbs belonging to the CVnt conjugation class (such as |thint| “wake up” presented in table 4) originate from transitive CVn roots, before the two classes were merged, which would explain the over-representation of this conjugation class among causative *-t* verbs. In many of these verbs, the apparent *-t* suffix is only a mirage, and does not reflect a genuine derivation, it is instead a byproduct of labiality and analogical pressure on paradigms.

2.4. Vestigial *-t*

In some cases only the applicative/causative form survives, while the bas intransitive form has disappeared. A good example is provided by |?ipt| “put to sleep (vt)”. No root *|?ip| exists in Khaling (though cognates of it can be found even outside of Kiranti). The simplex verb has been replaced by the reflexive form of |?ipt|, |?ipt-si| “to sleep (vi), whose infinitive is /?λmsine/. Interestingly, this replacement appears to be very old, as all Kiranti languages appear to form their verb “to sleep” with a reflexive form.

In Limbu, its cognate |ips| “to sleep” (Michailovsky 2002) is not transparently a reflexive verb, but its |-s| element is likely to be derived from the |-si| reflexive suffix.²

This lexical replacement (by a derived form of the same root) appears to be a common Kiranti innovation, and must thus be taken into account in studying language classification.

It should also be noted that a vestigial *-t* appears in many deponent verbs (see , syntactically intransitive verbs but morphologically transitive, such as |?opt| “rise (of the sun)”, |?omt| “ripen”, |bhukt| “explode” etc; see Michailovsky 1997 for similar examples in Limbu).

2.5. Other suffixes

We find an isolated example |phet| “exchange, swap (vt)” > |phent| “change (a new one) (vt)” which appears to involve nasalization of the final stop (as mentioned above, the *-nt* transitive root is probably an ancient transitive *-n* root). Without external comparisons, this example is unlikely to be explainable. Examples 4 and 5 illustrate the use of these verbs.

²A detailed investigation of this question is beyond the scope of this paper, and would involve to study in detail the origin of the reflexive forms in Limbu, which present some idiosyncrasies in comparison to those of other Kiranti languages.

- (4) *ʔō:tsu-ʔε* pensil *phes-tu*.
 1DE-ERG pencil swap-1DE:PST
 We exchanged pencils.
- (5) *ʔΛ-gø* *ɖhis-tε-nΛ* *wonjâm gø*
 1SG.POSS-clothes get.wet-3SG:PST-and other clothes
phên-tΛ.
 change-1SG→3:PST
 My clothes got wet and I changed them for another set.

3. Incorporation and denominal verb

Unlike Rgyalrong languages (Jacques 2012b), denominal derivation is not widespread in Khaling; the only common construction available to make an active predicate out of a noun or to borrow verbs from Nepali is to use a light verb construction with verbs such as |mu| “to do” (tr) or |ts^huk| “to happen” (it), as in 6, which illustrates how the Nepali expression *thāhā XXXX* was borrowed.

- (6) *ʔi-sêj-ηΛ-su* *ên-ne* *l̄m-ʔε* t^ha *mɰ-tê-m* *gō:-te*
 2/INV-kill-1SG-DU say-INF 3SG-ERG know do-PST-REL exist-PST
 He knew that they were (planning to) kill him. (Solme and Lamalit2, 89)

The only clear example of a verb deriving from a noun (by zero-derivation) is the intransitive |ti| “to lay eggs” from *ti* “egg”.

There are only two potential examples of incorporation:

1. |l̄m-thi| “to walk (vi)” (with the second person prefix inserted between the incorporated noun and the verb root). *l̄m* is the noun meaning “path, trail”, and |thi| does not appear to exist on its own (there is a verb |thi| meaning “to tumble”, but probably unrelated).
2. |tse-ʔi| “to be bad (vi)” and |tse-nu| “to be nice (vi)”. |ʔi| exists as a verb “to be angry (vi)” and |nu| “to be nice”. The etymology of the |tse| element is unclear. The second person prefix appears before |tse-|, though these forms are very rare.

4. Anticausative

Khaling, like all Kiranti languages and most Sino-Tibetan language, have pair exhibiting voicing alternation, whereby the voiced form is intransitive, and the unvoiced one transitive, for instance |dzhem| “to be lost” and |

tsem| “to lose”. Although some scholars are prone to interpreting such alternations as originating from an “*s- causative prefix” (which devoiced the initial consonant of the transitive form), this is not the only, or the most probable explanation of these alternations.

In Rgyalrong languages, the causative prefix *sur-*, *z-* is not a reconstruction, and is still fully productive (it can even be applied to Chinese loanwords). These languages, however, also present voicing alternations, which are more specifically *anticausative* derivation. The anticausative prenasalization derives an intransitive verb out of a transitive one, which unlike the passive (which also exist in Japhug, see [Jacques 2012a](#)), expresses an action occurring spontaneously and without external agent. The prenasalization even applies to one Tibetan loanword $\chi t\gamma r$ “to scatter (vt)” (from *gtor*) > $\text{ɲnd}\gamma r$ “to get scattered (vi)”.

The Rgyalrong parallel thus makes it more likely to analyze the voicing alternations in Khaling as the remnants of anticausative prenasalization, though as we will see this explanation may not hold true for all forms.

In Khaling, we find seven verb pairs with an alternation between an unvoiced (aspirated or non aspirated) stop/affricate and a voiced aspirate one (Table 5; the last example is doubtful).

Table 5: Alternation between unvoiced and voiced aspirated verb roots in Khaling

Transitive	Meaning	Intransitive	Meaning
tsem	lose	dzhem	be lost
tsep	be able to do (sth)	dzhep	be possible
kik	tie	ghik	hang oneself by accident on a rope (of a goat)
phuk	wake up	bhukt	ferment (of alcohol)
kent	make a hole	ghen	get a hole
kukt	bend	ghuk	be bent
phrok	untie	bhrok	break

The pair of examples 8 and 7 illustrate the use of the voicing alternation.

- (7) $\text{ʔu}\eta\lambda$ tsabi *tsem-ut*.
 1SG:ERG key lose-1SG→3.PST
 I lost the key.
- (8) *thū:nem-bi bāi dzhêm-tɛ*.
 forest-LOC cow be.lost-3SG.PST
 The cow got lost in the forest.

Some of these pairs have cognates in other Sino-Tibetan languages. |kukt| / |ghuk| is cognate to Japhug *kxy* “to bend”, *ngxy* “to be bent” (*-ɔk), and |kik| / |ghik| to Chinese 繫 *kejH* < *k^ʰek-s, 系 *fejH* < *g^ʰek-s.³

The comparison with Japhug shows that the voiced aspirated form corresponds well to the anticausative prenasalization, and therefore that these examples should not be accounted for by assuming the existence of a causative prefix *s- in the transitive form.

In addition to these forms, the anticausative verbs |ghuk| and |ghen| derive causatives in -t |ghukt| and |ghent|, whose meaning are nevertheless different from the base transitive verbs. Thus, while |kukt| can mean “bend a bamboo into a tweezer” and “hurt people’ feelings”, |ghukt| has a more predictable meaning “to bend” (as the snow bends a branch for instance); while |kent| means “bore, drill (wood)”, |ghent| rather means “make a hole (as a rat gnawing through a sack of rice)”.

These secondary causative derivations occur with anticausative verbs derived from transitive verbs with CVCt roots; there are however too few examples to determine whether a correlation exists between the possibility of double derivation and the fact that the base verb have CVCt roots.

These verb pairs suggest that the contrast between plain voiced and voiced aspirated in Khaling might be of some importance to the reconstruction of proto-Kiranti: plain voiced would come from proto-Kiranti voiced stops, and voiced aspirated from proto-Kiranti prenasalized stops.⁴

Aside from these examples, we find the pair |plum| “to rinse in water” and |blum| “to sink”. This pair differs from the preceding ones in two ways; First, the alternation is between unvoiced stop and *plain voiced*, instead of voiced aspirated. Second, the verb |blum| is actually transitive, but can only be used in inverse forms (as illustrated by example 9; this verb cannot be conjugated as the corresponding intransitive form *blum-ATA sink-1SGS/O.PST).

- (9) *ku-ʔe* *ʔi-blum-ATA*
 water-ERG INV-sink-1SGS/O.PST
 I sank in the water.

This example, unlike the previous one, cannot be analyzed as a anticausative derivation; its exact origin is difficult to ascertain without external comparanda in non-Kiranti languages; it is possible that here |blum| is the base verb and that |plum| is derived from it by *s- prefixation.

³Baxter Sagart (to appear) reconstruct these forms slightly differently; we use here reconstructions which represent a later stage of Old Chinese, and which are not committal to any particular theory of Old Chinese reconstruction.

⁴Note that an additional series of voiced stops should be reconstructed, where Northern Khaling dialects have plain voiced, and southern Khaling dialects have voiced aspirated, as the word for “meet” |dum| in Northern Khaling and |dhum| in Southern Khaling.

5. Conclusion

The applicative/causative and the anticausative forms are of great antiquity, and of considerable value for reconstructing proto-Sino-Tibetan morphology. Neither are productive, as they have been replaced by transparent periphrastic constructions. The productive reflexive, reciprocal, causative and benefactive constructions will be studied in forthcoming work.

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