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Derivational verbal morphology in Khaling 卡岭语动词的派生形态*

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Abstract: This work describes the -t applicative/causative, the voicing alternation as well as a few other residual morphological processes in Khaling, and discusses their relevance to Sino-Tibetan historical comparison.

Keywords: Khaling, Kiranti, Applicative, Anticausative, Causative, Incorporation, Analogy

提要：本文描写卡岭语动词的几种派生形态，包括应用态/使动态的-t 后缀以及表示反使动态的声母清浊交替，并讨论这些派生形态对原始汉藏语构拟的贡献。

关键词：卡岭语、基兰提语支、应用态、反使动、使动态、名词并入、类推

1. Introduction

In the Sino-Tibetan family, the Kiranti languages are among those with the most complex verbal morphology. This morphology is both typologically unusual (Bickel et al. 2007) and potentially ancient (Jacques 2012a, DeLancey 2014). A detailed description of the verbal morphology of Kiranti languages is therefore of potential interest to both typologists and comparative linguists.

Of all the Kiranti languages, Khaling presents perhaps 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.

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In addition to this complex inflexional morphology, Khaling also presents a rich system of derivation, which has a number of clear parallels in the Kiranti subfamily. In this paper, three derivations are described and analyzed: applicative/causative, 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 a forthcoming work.

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

2. Applicative

Of all the 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 faint traces remain (see [Jacques 2004](#): 410 for Rgyalrong, [Sagart 2004](#) for Chinese; it is unclear whether Tibetan preserves any examples of this suffix).

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

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”).

The example “to coax” is problematic; however, if this comparison is correct, this verb underwent a considerable semantic change.

Table 1: Examples of recipient applicative in Khaling

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

2.2. Benefactive applicative

There is only one good example of a 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 this is 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 causatives. Although most cases of causative/applicative isomorphism are due to grammaticalization from a common source, without necessarily implying a change of causative > applicative or the reverse (Peterson 2007: 64). In this particular case the source of *-t* is not recoverable anymore; both the 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 |
|----------------|----------------|------------------|---------------------|
| <i>ʔot</i> | come back | <i>ʔott</i> | bring back |
| <i>ghur</i> | run | <i>ghurt</i> | drive, cause to run |
| <i>tshɛ</i> | spread (intr) | <i>tshett</i> | expand (vt) |
| <i>thin</i> | wake up (intr) | <i>thint</i> | wake up (vt) |
| <i>pi</i> | come (level) | <i>pit</i> | bring (level) |
| <i>bher</i> | fly | <i>bhert</i> | cause to fly |

Intransitive verbs with open syllables receive two distinct treatments. Some have a causative form with the simple *-t* suffix (the motion verbs |*pi*| “come (level)” > |*pit*| “bring (level)”¹ and |*ho*| “come” > |*hot*| “bring”). Others have a double *-tt* suffix: |*tshɛ*| “spread (vi)” > |*tshett*| “expand (vt)”, |*ghrɛ*| “to light up, to burn” > |*ghrett*| “to put on (the light)”.

An significant proportion (10 out of 31) of causative verbs with the *-t* suffix 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 \longleftrightarrow 3, 1P \longleftrightarrow 3,

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

2d \leftarrow 3 as well as all inverse forms, are identical between the two conjugation classes. Only 1SG \rightarrow 3, 2SG \rightarrow 3, and 3 \rightarrow 3 forms are distinct, as shown 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

| | - <i>op</i> “grope” | - <i>opt</i> “spill” |
|---------------------|--|--|
| 1SG \rightarrow 3 | <i>mobu</i> | <i>moσptu</i> |
| 1DI \rightarrow 3 | <i>mσpi</i> | <i>mσpi</i> |
| 1DE \rightarrow 3 | <i>mσpu</i> | <i>mσpu</i> |
| 1PI \rightarrow 3 | <i>moσpkι</i> | <i>moσpkι</i> |
| 1PE \rightarrow 3 | <i>moσpkλ</i> | <i>moσpkλ</i> |
| 2SG \rightarrow 3 | <i>?im$\bar{\sigma}$:b\mathfrak{u}</i> | <i>?imσpt\mathfrak{u}</i> |
| 2DU \rightarrow 3 | <i>?imσpi</i> | <i>?imσpi</i> |
| 2PL \rightarrow 3 | <i>?imoδmnι</i> | <i>?imoδmnι</i> |
| 3SG \rightarrow 3 | <i>m$\bar{\sigma}$:b\mathfrak{u}</i> | <i>moσpt\mathfrak{u}</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 no transitive *-n* roots. In other words, all verb roots ending in *-n* are intransitive. If a transitive CVn paradigm did exist, it would be possible to mechanically apply 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

| | * - <i>thin</i> | - <i>thint</i> “wake (vt)” |
|---------------------|--|--|
| 1SG \rightarrow 3 | * <i>thinu</i> | <i>th$\bar{\lambda}$ndu</i> |
| 1DI \rightarrow 3 | <i>th$\bar{\iota}$:tsι</i> | <i>th$\bar{\iota}$:tsι</i> |
| 1DE \rightarrow 3 | <i>th$\bar{\iota}$:tsu</i> | <i>th$\bar{\iota}$:tsu</i> |
| 1PI \rightarrow 3 | <i>th$\bar{\lambda}$jkι</i> | <i>th$\bar{\lambda}$jkι</i> |
| 1PE \rightarrow 3 | <i>th$\bar{\lambda}$jkλ</i> | <i>th$\bar{\lambda}$jkλ</i> |
| 2SG \rightarrow 3 | * <i>?ith$\bar{\iota}$:n\mathfrak{u}</i> | <i>?ith$\bar{\lambda}$nd\mathfrak{u}</i> |
| 2DU \rightarrow 3 | <i>?ith$\bar{\iota}$:tsι</i> | <i>?ith$\bar{\iota}$:tsι</i> |
| 2PL \rightarrow 3 | <i>?ith$\bar{\lambda}$jnι</i> | <i>?ith$\bar{\lambda}$jnι</i> |
| 3SG \rightarrow 3 | * <i>th$\bar{\iota}$:n\mathfrak{u}</i> | <i>th$\bar{\lambda}$nd\mathfrak{u}</i> |

These 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 verbs by way of analogical levelling (not sound change).

Now, aside from overt marking, a common means of changing valency in Khaling is simply lability: 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) originated 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 lability and analogical pressure on paradigms.

2.4. Vestigial *-t*

In some case,s only the applicative/causative form survives, while the base intransitive form has disappeared. A good example is provided by |*?ipt*| “put to sleep (vt).” No root *|*?ip*| exists in Khaling (though cognates of this verb can be found even outside of Kiranti, as exemplified by the Japhug possessed noun *-zuβ* “sleep” < **jiβ*; see Matisoff 2003 for further examples). The simplex verb has been replaced by the reflexive form of |*?ipt*|, |*?ipt-si*| “to sleep (vi),” whose infinitive is /*?amsine*/. 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 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 thus must be taken into account in studying language classification.

It should also be noted that a vestigial *-t* appears in many deponent verbs (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*

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

root). Without external comparisons, however, this example is unlikely to be explicable.

3. Incorporation and denominal verb

Unlike Rgyalrong languages (Jacques 2012c), denominal derivations are not widespread in Khaling. The only clear example of a verb deriving from a noun (by zero-derivation) is the intransitive |*tɨ*| “to lay eggs” from *ti* “egg.”

There are only two potential examples of incorporation:

1. |*lɛm-thi*| “to walk (vi)” (with the second person prefix inserted between the incorporated noun and the verb root). *lɛm* 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 it is probably unrelated). The second person prefix appears after the incorporated noun (*lɛm-ʔi-thi* ‘you walk’).
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 |*ts-*| in the reflexive form (*ʔi-tseʔi-nsi* 2/INV-be.unpleasant-REFL ‘you are embarrassed’)

4. Anticausative

Khaling, like all Kiranti languages and most Sino-Tibetan languages, have verb pairs 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 for these alternations.

In Rgyalrong languages, the causative prefix *su-/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 an *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 2012b), expresses an action occurring spontaneously and without an external agent. The prenasalization even applies to one Tibetan loanword *χtɻr* “to scatter (vt)” (from *gtor*) > *ɛndɻr* “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 unvoiced (aspirated or non aspirated) stops/affricates and voiced aspirate ones (Table 5; the last example is doubtful).

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

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

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

The comparison with Japhug shows that the voiced aspirated form corresponds to the anticausative prenasalization; therefore 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 meanings are nevertheless different from the base transitive verbs. Thus, while |*kukt*| can mean “bend a bamboo into a tweezer” and “hurt people’s feelings,” |*ghukt*| has a more predictable meaning of “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 involves 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

³Baxter & Sagart (2014) 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 voice stops should be reconstructed, where Northern

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 1; this verb cannot be conjugated as an intransitive form **blum-AtA* (sink-1SGS/O.PST) without the inverse prefix *?i-*).

- (1) *ku-?ε* *?i-blum-AtA*
 water-ERG 2/INV-sink-1SGS/O.PST
 I sank in the water.

This example, unlike the previous one, cannot be analyzed as an 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.

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 works.

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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.

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