# The verbal agreement system of four Khām languages

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In this paper a morphemic analysis is given of the verbal agreement systems of four Khām languages[1]. Khām (Nepali: *Khām Kurā*) belongs with Kiranti (Nepali: *Kirāntī*) and Newari (Nepali: *Nevārī*) to the Himalayan subgroup of the Bodic division of Tibeto-Burman. Khām is spoken in the Dhavalāgiri, Rāptī and Karnālī Zones of western Nepal by between 30,000 and 40,000 speakers of the 'Bhuda', 'Gharti' and 'Rokha' subtribes. The 'Pun' subtribe once also spoke Khām, but have long since lost their command of the language and nowadays speak Nepali (Watters & Watters 1973). The area where Khām is spoken lies between the Naudāṇḍā Lekh in the north, the Dhaulāgiri in the east, the Hiūchuli Pātan in the west and the Jaljalā-Nisāṇe Dhuri in the south. The villages are mainly found in the valleys of the Uttar Ganga and the Sānu Bheri (Oppitz 1981:260).

The Khām-speaking people call themselves Māgar and their language Khām, but the relationship between Khām and the Māgar language is not a very close one (van Driem 1993). Like many other small minorities in Nepal, the speakers of Khām identify themselves with a larger and stronger ethnic group to gain in status, in this case with the Māgar, who rank relatively high in the caste hierarchy of Nepal (van Driem 1991b). Oppitz calls them 'Northern Magar' or 'Kham speaking Magar' (Oppitz 1981:260).

Their centre of habitation is the village of 'Taka' (Nepali: *Takā*) in Bāgluṅ district of Dhaulāgiri Zone. Takā is mainly inhabited by members of the 'Bhuda' subtribe. Their language, Takāle Khām, is the most prestigious of all Khām languages and reportedly all speakers of Khām are proficient in it (Watters & Watters 1973). Takāle Khām is also spoken in the 'Sera' village, also in Bāgluṅ district (Watters 1973). There are several other Khām languages, 'Gamale' (Nepali: *Gamāle*) and 'Sheshi'. Some smaller dialect groups are reported, of which 'Mhai', 'Maikot' and 'Nisi-Bhuji' are the most important. Nisi-Bhuji is said to be a descendant of Takāle Khām.

Traditionally the Kham are a pastoral people migrating with their large flocks of sheep and goats. It seems that only recently have they begun growing crops, mainly potatoes and maize (Oppitz 1981: 261-2). According to De Sales (1984), the Kham-Magar still practice transhumance (seasonal movement of livestock).

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[1] If only rough transcriptions of ethnonyms from the Nepali are known, they are given in quotation marks when they first appear, e.g. 'Sheshi'. If a more accurate transcription is known, this is given between parentheses, e.g. (Nepali: *Takāle*).

Until recently the Kham-Magar possessed a shamanistic tradition, in which however the chants were sung in Nepali (De Sales 1984). Michael Oppitz (1981) has also researched the shamanistic traditions of the Kham Magars in the late seventies. Watters, too, has published a paper on Kham shamanism (Watters 1975b), pointing to resemblances between Siberian and Tibeto-Burman shamanistic tradtions.

Watters (1991) reports that these languages are all mutually unintelligible. Each community has its own language, and even within the same language group, going from one village to the next means a change of dialect. The most important differences between the languages are found in their verbal systems. There also seems to be a dichotomy between the south-western group of dialects and the rest, in that south-western dialects, such as Mhai Khām, do not have lexical tone, while other dialects, such as Takāle, have lexical tone. In the tonal dialects, tone is an important indication of the cohesiveness and age of the affixes. However, only for Takāle Khām have the tonal characteristics of the verbal morphology been described, while it is not certain that Mhai Khām is indeed an atonal language (Watters 1975a: 67). Some languages (e.g. Maikot Khām) are phonologically much more innovative than the other languages (e.g. Bhuji Khām) (Watters 1975a:50), as is shown, for instance, in the degree of assimilation of the dual number suffixes to the free pronouns.

A detailed morphemic analysis of the Khām conjugations makes a tentative reconstruction of the verbal morphology of proto-Khām possible. This reconstruction can then be compared to similar reconstructions made for Kiranti and other Tibeto-Burman languages.

## Conventions in this paper

The SIL orthography used in Watters (1973) for the description of Takāle Khām is adapted in this paper to his later transcription. The digraph *ng* is replaced by ŋ. The symbol *x* for schwa is replaced by ə. The translations of the examples have been taken directly from the sources.

*Abbreviations*

| | |
|---|---|
| Σ | verb stem |
| sf | suffixal slot |
| pf | prefixal slot |
| 1 | first person |
| 2 | second person |
| 3 | third person |
| s | singular |
| d | dual |
| ns | non-singular (*more than one*) |

| np | non-plural (*less than three*) |
|---|---|
| p | plural (*more than two*) |
| e | exclusive |
| i | inclusive |
| S | subject of an intransitive verb |
| A | agent of a transitive verb |
| P | patient of a transitive verb |
| T | place of the tense/aspect marker |
| M | place of the mood/aspect marker |
| FUT | future |
| IMP | impending aspect |
| IMPV1 | first imperative |
| IMPV2 | second imperative |
| N-INC | non-inceptive |
| NPT | non-past |
| POT | potential mood |
| PPT | prior past |
| PRS | present |
| PT | past |
| REF | reflexive |
| TRM | terminate past |
| →, ↔ | indicates the direction of a transitive relationship |
| Q | question marker |
| NEG | negation |
| ERG | ergative |
| GEN | genitive |
| LOC | locative |
| COM | comitative |
| MRK | marked scenario |
| GER | gerundive |
| POSS | possessive |

## 1. DATA

Descriptions were available of the north-western language Takāle Khām (Watters 1973 and 1991, Watters & Watters 1973, Hale 1973), of Gamāle Khām (Watters 1991), Sheshi Khām (also Watters 1991) and of the south-western language Mhai Khām (Watters 1975). The verbal agreement system of Takāle Khām has been analysed before by Watters (1973), Weidert (1985) and van Driem (1993). Mhai Khām has previously been analysed by Watters (1975a) and DeLancey (1988). Most of the third person forms of the Mhai Khām transitive paradigm are missing from Watters (1975a), while DeLancey (1988) only gives singular forms, and in two instances incorrect ones. The data presented in Watters (1991) for Takāle Khām differ from the data on the same

language given in Watters (1973). In the description of Gamāle and Takāle, given in Watters (1991), dual patient forms are not given.

## 2. CHARACTERISTICS OF THE KHĀM VERB

Although there are many differences between the verbal systems of the four Khām languages discussed in this paper, some similarities stand out. The most important is the distinction between two modes which is made in all Khām languages. These two modes are variously labelled 'active' and 'passive' (Watters 1973), 'finite' and 'participial' (Watters 1975), 'response elicitation' and 'orientation' (Watters 1978) or 'narrative' and 'parenthetic' (Watters 1991). In this paper, for the sake of consistency, the terms 'narrative mode' and 'parenthetic mode' have been used everywhere, but in view of the use and meaning of this verb form a better name for the parenthetic mode would perhaps be 'participle in -o' or 'relative participle' or 'nominalised finite verb'.

In Khām languages, the basic form of the parenthetic verb has preterite time reference. The parenthetic mode shows fewer tense distinctions than the narrative mode. Parenthetic mode is always indicated by the affixation of a form of the special parenthetic marker <-o> or <-u>, which in all Khām languages is homophonous with the third person singular agent affix. In some cases the parenthetic mode is further indicated by a re-ordering of the agreement affixes.

The parenthetic verb functions as a relative participle. Its semantics seem to be comparable to those of the Nepalese participle in <-eko>, the Hayu participle in <-ji> or Limbu nominalised conjugated simplicia with the suffix <-pa>. The semantic value of the Khām parenthetic mode verb form has not yet been described adequately, however, and it is not at all clear whether the parenthetic mode verb has the same range of uses in all languages of Khām.

Watters (1975a:60) notes some tendencies for the Takāle parenthetic mode verb. It seems that if the parenthetic verb is prefixed by a possessive pronoun its antecedent is an object, otherwise a subject. The prefixed possessive pronoun correlates with the subject. From this description (Watters 1975a) it would appear that parenthetic mode verbs exist both with and without prefixes, although this is mentioned nowhere else.

(Watters 1975a:60, Takāle Khām)
(1)  o-poh-o    (that) which he struck, 'that of his striking'
(2)  poh-o      (he) who struck it

If the antecedent of the participle is an object, the action stands in a genitive relation to the agent, which is indicated by the possessive pronoun. This use of possessive pronouns indicates the nominal nature of the parenthetic verb form. The object of such a possessed parenthetic verb form occurs at the beginning of the whole clause, giving the impression of a passive

construction. Watters (1970:60) postulates the existence of a copular verb with zero expression which is opposed to a negative copular verb.

(Watters 1975a:60, Takāle Khām)
(3) 'ao 'zihm ram-e o-Ø-jə-Ø-o Ø
this house Ram-ERG 3sA-3sP-build-PT-PAR Ø.copula
'This house is of Ram's building, this house was built by Ram.'

(4) 'ao 'zihm ram-e o-Ø-jəy-Ø-o ma:khə
this house Ram-ERG 3sA-3sP-build-PT-PAR NEG.copula
'This house is not of Ram's building, this house wasn't built by Ram.'

The parenthetic mode is also described as giving 'aside information', as being 'a kind of relativised clause which operates as an equative clause at the discourse level' (Watters 1991:20), or as being used to 'set the stage for a narrative or to give information outside the flow of the story' (Watters 1978). These functions would be in keeping with the participial nature of the parenthetic verb form. Carol Genetti (1992:410-411) also analyses the parenthetic mode constructions of Khām in terms of relative clause constructions.

In three of the four Khām languages discussed (namely Takāle Khām, Gamāle Khām and Mhai Khām), transitive verbs show person and number agreement with both agent and patient. Intransitive verbs agree with person and number of the intransitive subject. Sheshi Khām shows only subject agreement, both in intransitive and transitive verbs. *Those Khām languages in* which the transitive verb agrees with the agent as well as with the patient contrast with other pronominalizing languages, such as the Kirāntī languages Hayu and Bahing, in that Khām languages often have discrete agent and patient affixes instead of fused *portemanteau* morphemes.

|  | 1s→2s |  |
|---|---|---|
| Takāle Khām | ŋa-Σ-ni-t | ( <ŋa-> 1sA, <-ni> 2sP ) |
| Hayu | Σ-no | ( <-no> 1s→2 ) |
| Bahing | Σ-ná | ( <-ná> 1s→2 ) |

Where the Kirāntī languages have a single fused affix to express the nature of both actants, Takāle Khām expresses the same meaning by two separate affixes. Khām is also unusual in that it exhibits both a prefixal and a suffixal agreement system. These prefixes have variously been analysed as a secondary development (Watters 1973) or as a retention from Tibeto-Burman (DeLancey 1988). Recently published evidence (Watters 1991) supports the former view rather than the latter.

The agreement systems of the Khām languages do not formally distinguish between all seventy-five possible scenarios, as is also the case with the other pronominalizing Tibeto-Burman languages, even with present-day Bahing (van Driem 1991a). In all Khām languages, widespread syncretism exists among scenarios, especially those with non-singular actants. For example, in Takāle Khām the form $je$-$\Sigma$-$si$-$T$ is used in three different situations, namely 2d→1p, 2p→1d and 2p→1p, as the distinction between second person dual agent and second person plural agent is neutralised in scenarios with a plural first person patient.

Compared to other pronominalizing languages, such as Bantawa Rai and Limbu, the Khām languages show much more differentiation in their third person forms. Bantawa Rai distinguishes between dual and plural number of a third person actant only in the intransitive conjugation (Foltan 1992:9-11) and the Limbu transitive verb differentiates third person dual and plural actants only for third person agents in scenarios with a third person patient (van Driem 1987).

As van Driem (1992) observed for Tibeto-Burman pronominalizing languages, there is a tendency to keep the number of distinctive forms maximal for scenarios with a first person actant. While a hierarchy of distinctness according to person of actant is clearly present in languages such as Kulung (Tolsma 1993), in Khām the most important parameter in determining distinctness is number. Singular actants of all persons are in most cases distinguished from dual or plural actants, while dual and plural actant markers have often merged into a non-singular marker.

## 3. TAKĀLE KHĀM

### 3.1. Data

Takāle Khām is known through two descriptions provided by Watters (1973 and 1991). These descriptions are slightly conflicting and, in their conflict, also shed doubt on the accuracy of the data for Gamāle Khām presented in Watters (1991). These discrepancies mainly involve the conflation of dual and plural patient morphemes. In the later paper, no dual patient forms are given, but some dual patient forms, according to Watters (1973), are given as plural patient forms in Watters (1991), e.g. the 2d→1d form $ji$-$n$-$\Sigma$-$sit$ (1973) becomes 2d→1p (1991), in place of 2d→1p $je$-$\Sigma$-$sit$ (1973). Moreover, in 1973, the 3d→2p and 3p→2p scenarios are expressed by the same form $\Sigma$-$ci$-$T$-$r\partial$, but in 1991 the form $\Sigma$-$ci$-$T$-$r\partial$ is exclusively a 3p→2p form, with the form $\Sigma$-$ci$-$T$-$ni$, not recorded in Watters (1973), used for the 3d→2p scenario. Either genuine new forms have been discovered, or the data in Watters (1991) are somewhat idealised. Below a complete representation of both descriptions is given. The Takāle system is relatively simple compared to Gamāle Khām, but the discrepancies between the two descriptions make an analysis problematic.

Another analysis is presented in van Driem (1993). The present analysis differs from his in the treatment of the parenthetic mode and the segmentation of the verbal complex in slots.

## 3.2 Phonology

Takāle Khām is the only Khām language for which a phonological description exists (Watters 1973, 1978 and Watters & Watters 1973). Twenty-two consonants are distinguished: /p, t, k, ph, th, kh, b, d, g, c, ch, j, s, z, h, r, l, m, ŋ, n, v, w/ and six vowels: /i, e, ə, a, u, o/. Vowels are distinguished for length and, if long, for nasalisation. In the transcription, length is shown by a colon and nasalisation by a following n. Only long vowels can be nasalised.

Takāle Khām is a word-tone language. Tone consists of a combination of pitch pattern and voice register. There are two pitch patterns (high and low) and two voice registers (tense and lax). The lax voice register is marked with an h following the first vowel of a word. Watters does not provide an indication of pitch patterns in his grammatical and morphological descriptions. Only in the lexicon (Hale 1973 and Watters & Watters 1973) is pitch indicated by an apostrophe preceding the syllable indicating tone 1, the high pitch. Since tone-related phenomena give a strong indication of the cohesiveness between the formatives in the affixal string (Watters 1985), information about tones is important for a correct analysis of the diachronic process. Watters (1975) presents some information about the tonal characteristics of some of the affixes of Takāle Khām.

## 3.3 Synopsis of the verbal system

The transitive Takāle verb is obligatorily inflected for agent and patient. The intransitive verb is inflected for subject. Other obligatory flexional categories are tense/aspect and mood.

Nine different pronominal categories are distinguished by person and number: first, second and third person in singular, dual and plural number. In contrast to most other inflecting Tibeto-Burman languages, no Khām language makes a distinction between inclusive and exclusive actants (Watters 1975). Since the Takāle verb agrees according to an accusative pattern, it is illuminating to show the intransitive verb forms next to the transitive verb forms in a table of the whole paradigm. With the exception of the third person singular transitive form $\Sigma$-$T$-$\emptyset$ and forms not distinguishing dual and plural agent, intransitive forms are simply transitive forms without the patient marker.

There are four tenses: past <-ke>, terminate past <-e>, present <-zya> and future <-ya>. The past tense suffix <-ke> assimilates regularly to <-ki> before third person dual agent number <-ni>, illustrating the regular morphophonological assimilation of the vowel of some morphemes to an [i]

when the following morpheme contains an [i], a process which occurs in all Khām languages.

Both past <-ke> and present <-zya> occur in the same suffixal slot, as does the terminate past <-e>, which has a zero allomorph if another morpheme follows the tense slot. The suffix of the future tense <-ya> occupies the last suffixal slot, suffixal slot 7, after the third person agent suffix slot. The marker of the future therefore occupies a different functional position than the other tenses in Takāle as well as in Sheshi Khām. The future tense marker <əi-> is a prefix in Sheshi Khām, as shown in 1s FUT *əi-Σ-ŋa*, while the past tense marker <-də> is a suffix, as in 1s PT *Σ-də-ŋa*.

Takāle third person agent suffixes fuse with the future tense suffix <-ya> in the following manner: 3s <-o> + FUT <-ya> → <-wa>, 3d <-ni> + FUT <-ya> → <-nya>, 3p <-rə> + FUT <-ya> → <-rya>.

Besides these obligatory categories, numerous optional particles and auxiliaries exist, indicating aspect, modality and so-called 'editorial status', defined by Watters (1973: 93) as expressing 'a number of editorial comments, or identifying the attitude of the speaker concerning the statement, or his attitude toward the listener.' Since these extensions occur after the simple inflected verbal form they have not been taken into account in this paper.

Table 1 gives the Takāle free pronouns, taken from Hale (1973). Table 2 shows the Takāle narrative mode agreement system according to Watters (1991). Table 3 gives the same system as presented in Watters (1973), but with the orthography adapted to Watters (1991). Table 4 gives the Takāle parenthetic mode, derived from Watters (1973:102), but with some important changes in segmentation.

**Table 1. Pronouns of the 'Taka' & 'Sera' (Takāle) Khām language (derived from Hale 1973:308-310)**

| Person | Singular | Dual | Plural |
|--------|----------|------|--------|
| 1 | ŋa: | 'gin | 'ge: |
| 2 | nən | 'jin | 'je: |
| 3 | 'əo, 'no:, 'ho: | əoni, no:ni, ho:ni | əorə, no:rə, ho:rə |

The forms used for third person pronouns are in fact proximal and distal deictics, not real third person pronouns. The dual forms *əoni, no:ni* and *ho:ni* consist of a dual marker <-ni> and the singular forms *'əo, 'no:* and *'ho:*. The plural forms *əorə, no:rə* and *ho:rə* are similarly formed through affixation of the plural morpheme <-rə> to the singular forms. There is a strong indication that singular number in the context of Khām in fact means 'unmarked for number', as is shown in example 5, where *be:h* 'basket' has singular verb agreement, although because of the iterative meaning the translation requires a plural. This is also the norm outside the area of European languages.

(5)  ram-e      be:h    Ø-jəy-Ø-o
     Ram-ERG  basket  3sS-make-TRM-3sA
     'Ram makes baskets (from time to time).'[2]

   According to Watters (1975a) the third person non-singular free pronoun in proto-Khām was *'ya, which combined with the numeral '2' *nis to make a dual form and with one of two competing plural suffixes, *<-ra> or *<-ŋ>, to make a plural. The proto-Khām third person singular free pronoun is posited to be *'ol (Watters 1975a:54). These reconstructed third person pronouns, *'ya and *'ol, and not the modern third person pronouns, are thought by Watters to be the source of the third person affixes in the verbal paradigm.
   In an earlier stage of Khām, first and second person dual free pronouns also consisted of two separate morphemes, namely a non-singular person morpheme and a dual number suffix *<-ni(s)>. In the conservative 'Bhuji' Khām language these pronouns still consist of two separate formatives: 1d ge-nis and 2d je-nis. Here the dual number suffix <-nis> is identical with the numeral '2' nis. In the innovative north-western 'Maikot' Khām language the corresponding forms have been reduced to 1d gī and 2d jī (Watters 1975:54).

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2  English actually permits a similar usage: 'Ram makes a basket from time to time.' [Ed.]

**TABLE 2:**

Takäle agreement morphology (derived from Watters 1991:11-12)

| | Intransitive | 1sP | 1dP | 1pP | 2sP | 2dP | 2pP | 3sP | 3dP | 3pP |
|---|---|---|---|---|---|---|---|---|---|---|
| 1sA/S | ŋa-Σ-T | | | | ŋa-Σ-ni-T | | ŋa-Σ-ci-T | ŋa-Ø-Σ-T | | ŋa-ra-Σ-T |
| 1dA/S | gi-n-Σ-T | | | | gi-n-Σ-ni-T | | gi-n-Σ-ci-T | gi-n-Ø-Σ-T | | gi-n-ra-Σ-T |
| 1pA/S | ge-Σ-T | | | | ge-Σ-ni-T | | ge-Σ-ci-T | ge-Ø-Σ-T | | ge-ra-Σ-T |
| 2sA/S | nə-Σ-T | nə-Σ-na-T | | nə-Σ-si-T | | | | nə-Ø-Σ-T | | nə-ra-Σ-T |
| 2dA/S | ji-n-Σ-T | ji-n-Σ-na-T | | ji-n-Σ-si-T | | | | ji-n-Ø-Σ-T | | ji-n-ra-Σ-T |
| 2pA/S | jɛ-Σ-T | jɛ-Σ-na-T | | jɛ-Σ-si-T | | | | jɛ-Ø-Σ-T | | jɛ-ra-Σ-T |
| 3sA/S | Σ-T-Ø | Σ-na-T-o | | Σ-si-T-o | Σ-ni-T-o | | Σ-ci-T-o | Σ-Ø-T-o | | ya-Σ-T-o |
| 3dA/S | Σ-T-ni | Σ-na-T-ni | | Σ-si-T-ni | Σ-ni-T-ni | | Σ-ci-T-ni | Σ-Ø-T-ni | | yara-Σ-T-ni |
| 3pA/S | Σ-T-rə | Σ-na-T-rə | | Σ-si-T-rə | Σ-ni-T-rə | | Σ-ci-T-rə | Σ-Ø-T-rə | | yara-Σ-T-rə |

## TABLE 3:

### 'Taka' and 'Sera' verbal agreement morphology (based on Watters 1973:96-97)

| | Intransitive | 1sP | 1dP | 1pP3 | 2sP | 2dP | 2pP | 3sP | 3dP | 3pP |
|---|---|---|---|---|---|---|---|---|---|---|
| 1sA/S | ŋa-Σ-T | | | | ŋa-Σ-ni-T | ŋa-Σ-ci-n-T | ŋa-Σ-ci-T | ŋa-∅-Σ-T | ŋa-ni-Σ-T | ŋa-ra-Σ-T |
| 1dA/S | gi-n-Σ-T | | | | gi-n-Σ-ni-T | gi-n-Σ-ci-n-T | gi-n-Σ-ci-T | gi-n-∅-Σ-T | gi-n-ra-Σ-T | gi-n-ra-Σ-T |
| 1pA/S | ge-Σ-T | | | | ge-Σ-ni-T | ge-Σ-ci-T | ge-Σ-ci-T | ge-∅-Σ-T | ge-ra-Σ-T | ge-ra-Σ-T |
| 2sA/S | nə-Σ-T | nə-Σ-na-T | nə-Σ-si-n-T | nə-Σ-si-T | | | | nə-∅-Σ-T | nə-ni-Σ-T | nə-ra-Σ-T |
| 2dA/S | ji-n-Σ-T | ji-n-Σ-na-T | ji-n-Σ-si-T | | | | | ji-n-∅-Σ-T | ji-n-ra-Σ-T | ji-n-ra-Σ-T |
| 2pA/S | jɛ-Σ-T | jɛ-Σ-na-T | jɛ-Σ-si-T | jɛ-Σ-si-T | | | | jɛ-∅-Σ-T | jɛ-ra-Σ-T | jɛ-ra-Σ-T |
| 3sA/S | Σ-T-∅ | Σ-na-T-o | Σ-si-n-T-o | Σ-si-T-o | Σ-ni-T-o | Σ-ci-n-T-o | Σ-ci-T-o | ∅-Σ-T-o | ni-Σ-T-o | ya-Σ-T-o |
| 3dA/S | Σ-T-ni | Σ-na-T-ni | | | Σ-ni-T-ni | | Σ-ci-T-ni | ∅-Σ-T-ni | | yara-Σ-T-ni |
| 3pA/S | Σ-T-rə | Σ-na-T-rə | Σ-si-n-T-rə | Σ-si-T-rə | Σ-ni-T-rə | Σ-ci-n-T-rə | Σ-ci-T-rə | ∅-Σ-T-rə | yara-Σ-T-rə | yara-Σ-T-rə |

## TABLE 4:

### 'Taka' and 'Sera' parenthetic paradigm (based on Watters 1973:101-102)*

|      | 1sP | 1dP | 1pP | 2sP | 2dP | 2pP | 3sP | 3dP | 3pP |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1sA  |     |     |     | ŋa-Σ-ni-T-o | ŋa-Σ-ci-n-T-o | ŋa-Σ-ci-T-o | ŋa-∅-Σ-T-o | ŋa-ni-Σ-T-o | ŋa-ra-Σ-T-o |
| 1dA  |     |     |     | gi-n-Σ-ni-T-o | gi-n-Σ-ci-n-T-o | gin-Σ-ci-T-o | gi-n-∅-Σ-T-o | gi-n-ra-Σ-T-o | gi-n-ra-Σ-T-o |
| 1pA  |     |     |     | ge-Σ-ni-T-o | ge-Σ-ci-T-o | ge-Σ-T-o | ge-∅-Σ-T-o | ge-ra-Σ-T-o | ge-ra-Σ-T-o |
| 2sA  | nə-Σ-na-T-o | nə-Σ-si-n-T-o | nə-Σ-si-T-o |     |     |     | nə-∅-Σ-T-o | nə-ni-Σ-T-o | nə-ra-Σ-T-o |
| 2dA  | ji-n-Σ-na-T-o | ji-n-Σ-si-T-o |     |     |     |     | ji-n-∅-Σ-T-o | ji-n-ra-Σ-T-o | ji-n-ra-Σ-T-o |
| 2pA  | je-Σ-na-T-o | je-Σ-si-T-o |     |     |     |     | je-∅-Σ-T-o | je-ra-Σ-T-o | je-ra-Σ-T-o |
| 3sA  | o-Σ-na-T-o | o-Σ-si-n-T-o | o-Σ-si-T-o | o-Σ-ni-T-o | o-Σ-ci-n-T-o | o-Σ-ci-T-o | o-∅-Σ-T-o | o-ni-Σ-T-o | o-ra-Σ-T-o |
| 3dA  | ni-Σ-na-T-o |     |     | ni-Σ-ni-T-o |     |     | ni-∅-Σ-T-o | ni-ra-Σ-T-o | ni-ra-Σ-T-o |
| 3pA  | ya-Σ-na-T-o | ya-Σ-si-n-T-o | ya-Σ-si-T-o | ya-Σ-ni-T-o | ya-Σ-ci-n-T-o | ya-Σ-ci-T-o | ya-∅-Σ-T-o | ya-ra-Σ-T-o | ya-ra-Σ-T-o |

---

* The paradigm as given here differs in its segmentation from the paradigm as given by Watters (1973). Since it is possible for a parenthetic mode form to have both a tense marker and the parenthetic mode suffix <o>, the parenthetic mode marker cannot occur in the tense slot.

## 3.4. Morphological analysis

In inflected forms of the Takāle Khām verb, four prefixal and seven suffixal slots or functional positions can be identified. These positions can be occupied by any of ten prefixal morphemes and seventeen suffixal morphemes. Table 2 shows fifty-one distinct forms for fifty-one theoretically differentiable scenarios meaning that all possible scenarios are distinguished. In Table 3, fifty-nine distinct forms appear for seventy-two theoretically differentiable scenarios, forty-eight of which are found to correspond to the fifty-one forms of Table 2.

Prefixal slot 1 (pf1) is the position for first and second person agent markers. Prefixal slot 2 (pf2) is the functional position of the first and second person agent/subject dual number marker <n->. Prefixal slot 3 (pf3) is occupied by the negative prefix <ma->. Third person patient morphemes occur in the fourth prefixal slot (pf4). Suffixal slot 1 (sf1) is occupied by first and second person agent morphemes and the reflexive morpheme <-si>. Suffixal slot 2 is occupied by the first and second person dual number suffix <-n>. An optional potential suffix can occupy suffixal slot 3 (sf3). Optional aspectual suffixes occur in suffixal slot 4 (sf4), while obligatory tense morphemes, with the exception of the future, occupy suffixal slot 5 (sf5). Third person agent number markers occupy the penultimate suffixal slot (sf6). The future tense morpheme occupies the last position in the suffixal string (sf7).

The agreement pattern is an accusative one. Intransitive subject and transitive agent are coded with the same morphemes, in opposition to the transitive patient, e.g. intransitive first person singular $\eta a$-$\Sigma$-$T$ versus transitive 1s>2s $\eta a$-$\Sigma$-$ni$-$T$.

### Table 5. Segmentation of the Takāle Khām narrative verb.

| pf1 | pf2 | pf3 | pf4 | Σ | sf1 | sf2 | sf3 | sf4 | sf5 | sf6 | sf7 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2A/S | 1/2d | NEG | 3P | | 1/2P | 1/2d | M | A | T | 3A/S | FUT |
| *ŋa* | *n* | *ma* | *Ø* | | *na* | *n* | *du* | *ri* | *ke* | *Ø* | *ya* |
| 1sA/S | 1/2d A/S | NEG | 3sP | | 1sP | 1/2dP | POT/ PTT | IMP | PT | 3sS | FUT |
| *ge* | | | *ni* | | *si* | | | *ta* | *e ~ Ø* | *o* | |
| 1nsA/S | | | s→3d | | 1nsP | | | N-INC | TRM | 3sA | |
| *nə* | | | *ya~ra* | | *ni* | | | | *zya* | *ni* | |
| 2sA/S | | | 3nsP | | 2sP | | | | PRS | 3dA/S | |
| *je* | | | *yara* | | *ci* | | | | | *rə* | |
| 2nsA/S | | | 3ns→3ns | | 2nsP | | | | | 3nsA/S | |
| | | | | | *si* | | | | | | |
| | | | | | REF | | | | | | |

### 3.4.1 Prefixal slot 1: first and second person agents and subjects

| | |
|---|---|
| <ŋa-> | 1s A/S |
| <ge-> | 1ns A/S |
| <nə-> | 2s A/S |
| <je-> | 2ns A/S |

The first prefixal slot houses the first and second person agent/subject morphemes. The first person singular agent/subject prefix <ŋa-> occurs in all forms with a singular first person agent or subject. The first person non-singular agent/subject prefix <ge-> is found in all forms where the number of the first person agent or subject is not singular and has two allomorphs, /ge/ and /gi/. The second allomorph, /gi/, occurs before the first/second person dual number marker <n->, historically related to the 3dA/S suffix <-ni> and the numeral 'two' nis. The 1nsA/S prefix <ge-> thus conforms to the regular Khām morphophonological process where the vowel of certain morphemes assimilates to an [i] in some following morphemes.

The second person singular agent/subject morpheme <nə-> occurs in all forms with a second person singular agent or subject. The second person non-singular subject/agent prefix <je-> occurs in all scenarios where the number of the second person subject or agent is not singular. It has two regular alternants, <je-> and <ji->. The second alternant occurs only before the first/second person dual number marker <n->, as with the 1nsA/S morpheme <ge->.

First and second person singular and plural agent/subject prefixes are identical to the possessive pronouns affixed to nouns. They are atonal, taking their tonal characteristics from the verbal root (Watters 1975a: 57).

### 3.4.2. Prefixal slot 2: the first/second person dual number affix <n->

| | |
|---|---|
| <n-> | 1/2dA/S |

The first and second person agent/subject dual number prefix <n-> occurs in all scenarios with a first or second person dual agent or subject, except in the irregular 2d→1p form je-Σ-si-T (Watters 1973). This irregular form is not found in the 1991 representation of the paradigm, where a regular 2d→1p form ji-n-Σ-si-T is found. The 1/2dA/S prefix <n-> indicates duality of subject and agent in the first and second person. The 1/2dA/S prefix <n-> is historically derived from the general dual number suffix <-ni>, which is in this form still found for third person dual affixes, 3dA/S <-ni> and s→3d <ni->.

In other studies the 1/2dA/S prefix <n-> is not separated from the 1nsA/S prefix <ge-> and the 2nsA/S prefix <je->, giving two dual agent morphemes, 1dA/S <gin-> and 2dA/S <jin->. In such an analysis, 1nsA/S

<ge-> is analysed as a first person plural agent/subject marker, but 2nsA/S <je-> must still be analysed as a second person non-singular agent marker, and not as a second person plural agent marker (e.g. van Driem 1993:318), because of the 2d→1p form *je-Σ-si-T*.

### 3.4.3. Prefixal slot 3: the negative morpheme <ma->

        <ma->      NEG

    In prefixal slot 2, the negative morpheme <ma-> may occur. Watters (1973) analyses <ma-> as a question marker. It seems this interrogative use arises out of the negative meaning of <ma->, involving the interpretation of negative sentences as questions when the time reference is present or future.

Examples (from Watters 1973:106)
(6)    nətə    sya    nə-Ø-səyh-ya
       2s-LOC game 2sA-3sP-kill-FUT
       'You'll kill some game up there.'

(7)    nətə    sya    nə-ma-Ø-səyh-ya
       2s-LOC game 2sA-NEG-3sP-kill-FUT
       'Did you kill some game up there?'

(8)    ŋa-**ma**-ra-cyu:
       1sA-NEG-3pP-watch
       'I won't watch them.'

Example 7 is probably better translated as 'Didn't you kill any game up there?'.

### 3.4.4. Prefixal slot 4: third person patient

        <Ø->          3sP
        <ni->         s→3d
        <ya-> ~ <ra->  3nsP
        <yara->      3ns→3ns

    Prefixal slot 4 houses the third person patient morphemes. The third person singular patient prefix <Ø-> occurs in all scenarios with a third person singular patient. The s→3d *portemanteau* prefix <ni-> occurs in all scenarios with a singular agent and a third person dual patient. The third person non-singular patient prefix <ya-> has an allomorph <ra-> when it is not used word-initially and occurs in all scenarios with a third person non-singular patient, except where the distinction between dual and plural number of third

person actant is made by the use of the s→3d *portemanteau* prefix <ni-> or where the 3ns→3ns *portemanteau* prefix <yara-> is used. The 3ns→3ns *portemanteau* <yara-> is used in all 3ns→3ns scenarios. In contrast to the analysis provided by van Driem (1992), I consider this to be a single morpheme filling a single slot, thus dispensing with the need for another slot containing a 3ns→3ns *portemanteau* <ra->, homophonous with the <ra-> allomorph of the 3nsP prefix <ya->.

The third person prefixes form tonal compounds with the verbal stem in the same manner as nominal compounds are made from two lexical stems. (Watters 1975a: 54 and note 4). The 3ns→3ns prefix <yara-> may derive from two 3nsP prefixes <ra-> or from a proto-Khām third person plural pronoun *'ya and a plural marker *<-ra>. The diachronic origin of the other third person patient prefixes is clear. The s→3d prefix <ni-> is related to all nominal, pronominal and verbal dual markers in Takāle Khām, derived from the proto-Khām numeral *nis 'two', while 3nsP <ra-> is related to the nominal, pronominal and verbal marker of the plural <-rə> or <-ra>.

*3.4.5. Suffixal slot 1: first and second person patient morphemes and the reflexive morpheme*

<si> REF
<na> 1sP
<si> 1nsP
<ni> 2sP
<ci> 2nsP

Suffixal slot 1 houses the reflexive marker <-si> and the first and second person patient suffixes. First person singular patients are marked with the 1sP suffix <-na>. Whenever the number of the first person patient is not singular, suffixal slot 1 is filled by the 1nsP suffix <-si>. Second person singular patients are indexed in suffixal slot one with the 2sP suffix <-ni>. Whenever the number of the second person patient is not singular, suffixal slot 1 is occupied by the 2nsP suffix <-ci>. These suffixes are completely regular in distribution.

*3.4.6. Suffixal slot 2: the first/second person dual number suffix <-n>*

<-n>     1/2dP

The first and second person dual number suffix occurs in all forms with a first or second person dual patient, except in the 2d→1d *ji-n-∑-si-T* form. The 1/2dP suffix <-n> thus indicates duality of patient in the first and second person.

*3.4.7. Suffixal slot 3: the potential affix <-du>*

<-du>     POT/PPT

Suffixal slot 3 houses the potential suffix <-du>, which, like the Nepali auxiliary *saknu* expresses both ability/potentiality and a prior or completed past tense event. In many languages there is a relation between past tense and potential mood or irrealis.[3] This relation is notoriously difficult to analyse. (Palmer 1986:210-215)

The potential/prior past suffix <-du> can occur in the past, present, future and terminate past tenses, and in the non-inceptive aspect. I have not found examples where POT/PTT <-du>, the non-inceptive suffix N-INC <-ta> and a tense suffix occur together. Watters (1973:108-110) contends that the POT/PPT <-du> occurs in suffixal slot 4, but since POT/PTT <du-> can occur at the same time as the non-inceptive suffix <-ta> they cannot both occur in suffixal slot 4.

Examples (Watters 1973:109)

(9)     ram    ba-**du**-ke
        Ram    go-pot/ptt-pt
        'Ram already went.'

(10)    ram-e     be:h     Ø-jəy-**du**-ke-o
        ram-ERG   basket   3sP-make-POT/PTT-PT-3sA
        'Ram already made the basket.'

(11)    ŋa: no    han.tə      ŋa-guhm-**du**-e
        I    that  cliff-LOC   1sP-climb-POT/PTT-TRM
        'I can climb that cliff.'

(12)    no-e      zihm    Ø-jəy-**du**-wa
        he-ERG    house   3sP-build-POT/PTT-3sA-FUT
        'He may be able to build a house.'

(13)    ram-e     o-ka:h      ma-Ø-dəy-**du-ta**-o
        Ram-ERG   3sGEN-dog   NEG-3sP-find-POT/PTT-N-INC-3sA
        'Ram has not been able to find his dog yet.'

### 3.4.8. Suffixal slot 4: optional aspectual morphemes

        <-ri>       IMP ·
        <-ta>       N-INC

---

Suffixal slot 4 houses the optional aspect morphemes, viz. the suffix of the impending aspect IMP <-ri> and the suffix of the non-inceptive aspect N-INC <-ta>.

The impending aspect <-ri> occurs with both preterite and present tenses. The combination of preterite tense and impending aspect gives a notion of immediacy, while the combination of present tense and impending aspect indicates that something is sure to happen in the future, though not the near future.

Examples (from Watters 1973:109)
(14)   ram   gyo:h.o   ta-ri-ke-Ø
       Ram   great     become-IMP-PT-3sS
       'Ram is about to become great.'

(15)   ram   gyo:h.o   ta-ri-zya-Ø
       Ram   great     become-IMP-PRS-3sS
       'Ram will be great someday (sure, but distant).'

The non-inceptive aspect marker <-ta> 'yet' can only occur with the negative morpheme <-ma> in the terminate past tense <-e>, and indicates that the action has not yet begun.

Examples (from Watters 1973:109)
(16)   ram   ma-ba-ta-e-Ø
       Ram   NEG-go-N-INC-TRM-3sS
       'Ram hasn't gone yet.'

(17)   ram-e      ŋalay[4]   ma-cyu:-na-ta-o
       Ram-ERG    I-lāī      NEG-see-1sP-N-INC-3sA
       'Ram hasn't seen me yet.'

### 3.4.9. Suffixal slot 5: obligatory tense morphemes
       <-ke>          PT
       <-e> ~ <-Ø>    TRM
       <-zya>         PRS

Suffixal slot 5 is filled with one of the obligatory tense morphemes: past tense <-ke>, terminate past tense <-e> and present tense <-zya>. If the tense is future, the future tense suffix <-ya> is placed last in suffixal slot 5 and suffixal

---

4   The Khām postposition -lay is obviously a loan of the Nepali postposition -lāī, and I gloss it as such.

slot 3 remains empty. Terminate past tense <-e> has a zero allomorph when it is not the last morpheme of the affixal string.

The preterite tense <-ke> indicates that the action or state had its starting point in the past. It may imply that the action is still going on, but it is not clear whether this is an implication arising out of the context, or part of the core meaning of the tense.

Examples (from Watters 1973:101)

(18)  ram   ba-ke-Ø
      Ram   go-PT-3sS
      'Ram went.'


(19)  ŋa-za:        syan.-ke-Ø
      1sGEN-child   sleep-PT-3sS
      'My child slept (and is still asleep).'[5]


The terminate past tense <-e> is not a true tense despite its name. Any temporal reference is dependent upon the context, either in the form of time adverbs or a general temporal frame of reference. According to Watters (1973: 100) terminate past <-e> bears an 'iterative', 'axiomatic' or 'eventive' connotation. It seems to function as an imperfective aspect marker. The terminate past suffix <-e> has a zero allomorph if followed by another morpheme.

Examples (from Watters 1973:100-101)

(20)  kan.   zyu-kə       ka:h-rə   hu-Ø-rə
      food   eat-GER[6]   dog-p     come-TRM-3pA
      'When food is eaten, dogs come.'


(21)  ram-e      ahjyo       nə-be:h          Ø-jəy-Ø-o
      Ram-ERG    yesterday   2sGEN-basket     3sP-make-TRM-3sA
      'Ram made your basket yesterday.'


(22)  ram-e      be:h        Ø-jəy-Ø-o
      Ram-ERG    basket      3sS-make-TRM-3sA
      'Ram makes baskets (from time to time).'

---

[5]  A better translation would perhaps be 'My child has fallen asleep' or 'My child has gone to sleep'.

[6]  The only context in which a verbal suffix <-kə> is mentioned by Watters is as part of a third person hortative marker, which consists of a prefix <gəh-> and a suffix <-kə> (Watters 1973: 120-121). There also seems to be a locative suffix <-kə>, glossed as 'at' (Watters 1973:50). In this example, zyukə is glossed by Watters as 'when eaten', which seems to indicate that a gerundive suffix <-kə> GER also exists, perhaps related to the locative <-kə>.

(23)  ram  nən.sə  ma-ba-e?
Ram  2s-COM  NEG-go-TRM
'Has Ram gone with you?'

The present tense <-zya> indicates that the action is in motion or the state current in the present. According to Watters (1973:101) its meaning ranges from 'recent iterative' to 'present continuous'.

Examples (Watters 1973:101)
(24)  ŋa-zihm       bənəy  yu:-zya-Ø
1sGEN-house  really  leak-PRS-3sS
'My house is really leaking (now). / As of late my house is really leaking.'[7]

(25)  ram  sin.-da     ba-zya-Ø
Ram  wood-for  go-PRS-3sS[8]
'Ram is going for firewood./ As of late Ram has been going for firewood.'

(26)  no-ra-e    zihm   Ø-jəy-zya-rə
3-p-ERG  house  3sP-build-PRS-3sA
'As of late they have been building a house. / They are (now) building a house.'

*3.4.10. Suffixal slot 6: third person agent/subject morphemes*
<-Ø>        3sS
<-o>        3sA
<-ni>       3dA/S
<-rə>       3nsA/S
Suffixal slot 6 is occupied by the third person subject and agent morphemes. Third person singular subject and agent are differentiated, in contrast with the situation for the first and second person subjects and agents. A third person singular intransitive subject is indexed zero. A third person singular transitive agent is indicated by the 3sA suffix <-o>, which occurs in all transitive scenarios with a third person singular agent.

In the description provided in Watters (1973), the third person non-singular agent/subject suffix <-rə> occurs in all scenarios with a third person non-singular agent or subject, except where dual number of third person agent or subject is indicated by the third person dual agent/subject suffix <-ni>, viz. in the 3ds *Σ-T-ni*, 3d→1s *Σ-na-T-ni*, 3d→2s *Σ-ni-T-ni*, 3d→3s *Ø-Σ-T-ni* and 3d→3ns *yara-Σ-T-ni* forms. The paradigm in Watters (1991) is

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[7]  A better translation would perhaps be 'As of late, my house has really been leaking'.
[8]  Since *sin.* is not the grammatical patient, it is not marked in the verb, and the subject does not get the ergative marker <-e>.

different. Here <-ni> is a 3dA/S suffix which occurs in all scenarios with a dual third person agent or subject, and <-rə> is a 3pA/S suffix which occurs in all scenarios with a third person plural agent or subject.

### 3.4.11. Suffixal slot 7: future tense

     <-ya>     FUT

Suffixal slot 5 may be occupied by the future tense morpheme <-ya>, in which case suffixal slot 3 remains empty. The exact semantic value of <-ya> is still unknown. It can be used as an assurance or a warning and may be related to an auxiliary particle, the 'non-immediate imperative tense' <-yo>, which occurs in the imperative and hortative moods.

Examples (Watters 1973:101; 116)
(27)   ram   achim   hu-Ø-ya
       Ram   today   come-3sS-FUT
       'Ram will come today (don't worry).'

(28)   caosə   bəy-yo         boh-Ø-ya
       carefully  take_away-IMPV2  spill-3sS-FUT
       'Take it away carefully; it'll spill.'

(29)   ram   ba-Ø-ya
       Ram   go-3sS-FUT
       'Ram will go.'

Examples of the imperative verb (Watters 1973: 119)
(30)   alə   ja:h-ke
       here   put_in-IMPV1
       'Put it in here (immediate[sic])'

(31)   alə   ja:h-yo
       here   put_in-IMPV2
       'Put it in here (when you get the chance)'

### 3.5. The parenthetic mode

The parenthetic mode is a nominalised finite verb form and functions as a relative participle, in some respects comparable to the Nepalese participle in <-eko>. The parenthetic mode verb is recognisable by the special parenthetic mode suffix <-o>, which is homophonous with the third person singular agent suffix. The parenthetic mode can only occur in the preterite and in the present

tense. Preterite tense is indicated by a zero morpheme, present tense by the suffix <-zya> (PRS). This analysis contrasts with that found in Watters (1973:102):

> " ... all 1st and 2nd person actors (any number) in passive forms are the same as those in active forms both in marking and in ordering. The conversion from active past to passive past is made simply by deleting the tense marker -ke and adding the passive marker -o. For example, given the active form nga-poh-ni-ke 'I hit you' the passive would be nga-poh-ni-o."

In the parenthetic mode, the third person agent morphemes <o-> (3sA), <-ni> (2dA), <-rə> (3pA) are prefixed instead of suffixed. Other than this there are no changes in order of affixes, nor in the meaning of the agreement morphemes. Four prefixal and four suffixal slots with thirteen prefixal markers and eight suffixal markers can be identified in the verbal system of the parenthetic mode. This system is represented in table 6 below.

**Table 6. Segmentation of the Takāle Khām parenthetic mode verb.**

| pf1 agent | pf2 1/2d | pf3 NEG | pf4 3P | Σ | sf1 1/2P | sf2 1/2d | sf3 T | sf4 PAR |
|---|---|---|---|---|---|---|---|---|
| ŋa 1sA/S | n 1/2dA | ma NEG | Ø 3sP | | na 1sP | n 1/2dP | Ø PT | o PAR |
| ge 1nsA | | | ni s→3d | | si 1nsP | | zya PRS | |
| nə 2sA | | | ya 3nsP | | ni 2sP | | | |
| je 2nsA | | | yara 3ns→3ns | | ci 2nsP | | | |
| o 3sA | | | | | | | | |
| ni 3dA | | | | | | | | |
| rə 3nsA | | | | | | | | |

Examples (Watters 1973:103)

(32)  ao   zihm ram-e        o-Ø-jəy-o
       this  house Ram-ERG 3sA-3sP-build-PAR
       'This house was built by Ram.'

(33)  ao   zihm ram-e        o-Ø-jəy-zya-o
       this  house Ram-ERG 3sA-3sP-build-PRS-PAR
       'This house was being built by Ram.'

(34)  ao   sohmlo  ŋa:   ŋa-ra-en-o
       this three    I    1sA-3pP-shear-PAR
       'These three were sheared by me.'

(35)  ao   sohmlo  ŋa:   ŋa-ra-en-zya-o
       this three    I    1sA-3pP-shear-PRS-PAR
       'These three were being sheared by me.'

## 4. GAMĀLE KHĀM

The only available description of Gamāle is Watters (1991). The material is very limited, but it is clear that there are great differences between the agreement systems of Takāle and Gamāle Khām. The Gamāle agreement system is much more complicated and convoluted than the Takāle system. There is more paradigmatic homonymy, and the affixes are not so neatly separable.

Watters (1991) gives variant forms for several scenarios:

| | | | | |
|---|---|---|---|---|
| 1s→2s NPT | $a$-$\Sigma$-$kə\tilde{\varepsilon}$-$T$ | ~ | $a$-$\Sigma$-$ə\tilde{\varepsilon}$-$T$ |
| 1s→2s PT | $ye$-$\Sigma$-$kə\tilde{\varepsilon}$ | ~ | $ye$-$\Sigma$-$ə\tilde{\varepsilon}$ |
| 1s→3s | $a$-$\Sigma$-$\eta$-$\emptyset$-$T$ | ~ | $a$-$\Sigma$-$\emptyset$-$T$ |
| 1s→3p | $a$-$\Sigma$-$\eta$-$rə$-$T$ | ~ | $a$-$\Sigma$-$rə$-$T$ |
| 2s→1s | $nə$-$\Sigma$-$kə\eta$-$T$ | ~ | $nə$-$\Sigma$-$\eta$-$T$ |
| 3s→1p | $T$-$\Sigma$-$si$-$wo$ | ~ | $T$-$\Sigma$-$si$-$u$ |
| 3s→2s | $T$-$\Sigma$-$kə\tilde{\varepsilon}$-$o$ | ~ | $T$-$\Sigma$-$ə\tilde{\varepsilon}$-$o$ |
| 3s→3p | $T$-$\Sigma$-$o$-$rə$ | ~ | $T$-$\Sigma$-$o$ |

These variant forms have also been taken into account in the analysis of the verbal agreement system.

### 4.1. Synopsis of the verbal system

The transitive Gamāle verb is obligatorily inflected for agent and patient. The intransitive verb is inflected for subject. Other obligatory flexional categories are tense and aspect. About other categories that may be marked on the verb, such as negation or mood, nothing is known at present.

Gamāle Khām distinguishes first, second and third person and singular, dual and plural number. As with Takāle Khām, no inclusive-exclusive distinction is made in Gamāle Khām. Although Watters does not present forms with a dual patient, he explicitly acknowledges the existence of such forms (Watters 1991:13). The actants of some scenarios are marked twice on the verb, for example in the 2s→1s form $n\vartheta\text{-}\Sigma\text{-}k\vartheta\text{-}\eta\text{-}T$ form the first person patient is marked both by the first plural agent and non-third singular <-kə> and by the marker of first person singular subject/patient <-ŋ>.

At least four tense-aspect distinctions are made in Gamāle: a preterite tense, a future tense, an iterative/habitual aspect and a continuous aspect. The preterite tense is either marked by the suffix of the preterite <-khẽ>, third person preterite *portemanteau* prefix <ya->, by zero in scenarios where a first person singular is the most agentive actant, and possibly by other morphemes as yet undescribed. The iterative/habitual tense is marked by a zero morpheme. The continuous tense is indicated by a suffix <-ja>, which occurs directly after the verbal root. The future tense suffix <-ke> occurs in the same suffixal slot as the preterite suffix <-khẽ>, unlike Takāle, where the future tense occupies a different slot than the other tense markers.

Examples of the tenses (Watters 1991:7-9):

| | | |
|---|---|---|
| (36) | *a-hna-ŋ-Ø* | I go (iterative/habitual) |
| (37) | *a-hna-ja-ŋ* | I am going (continuous) |
| (38) | *a-hna-ŋ-ke* | I will go (future) |
| (39) | *ye-hna-ŋ* | I went (preterite) |
| (40) | *nə-hna-əɛ̃-khẽ* | you[s] went (preterite) |
| (41) | *ya-hnə-kə-ŋ-wo* | he looked at me (preterite) |

## TABLE 7:

## Gamāle Khām verbal agreement system (Watters 1991:10-11)

|  | Intrans. | 1sP | 1dP | 1pP | 2sP | 2dP | 2pP | 3sP | 3dP | 3pP |
|---|---|---|---|---|---|---|---|---|---|---|
| 1sA/S | a-Σ-ŋ-T | *(shaded)* | *(shaded)* | *(shaded)* | a-Σ-(k)-æ̃-T |  | a-Σ-si-T | a-Σ-(ŋ)-Ø-T |  | a-Σ-(ŋ)-rə-T |
| 1dA/S | ye-Σ-Ø-T |  |  |  | ye-Σ-Ø-T |  | ye-Σ-Ø-T | ye-Σ-Ø-Ø-T |  | ye-Σ-Ø-rə-T |
| 1pA/S | ye-Σ-æ̃-T |  |  |  | ye-Σ-k-æ̃-T |  | ye-Σ-k-æ̃-T | ye-Σ-k-æ̃-Ø-T |  | ye-Σ-k-æ̃-rə-T |
| 2sA/S | nə-Σ-æ̃-T | nə-Σ-(kə)-ŋ-T |  | nə-Σ-T | *(shaded)* | *(shaded)* | *(shaded)* | nə-Σ-Ø-T |  | nə-Σ-T |
| 2dA/S | ye-Σ-si-T | ye-Σ-si-ŋ-T |  | ye-Σ-si-T |  |  |  | ye-Σ-si-Ø-T |  | ye-Σ-si-T |
| 2pA/S | ye-Σ-rə-T | ye-Σ-sə-ŋ-T |  | ye-Σ-si-T |  |  |  | ye-Σ-sə-Ø-T |  | ye-Σ-sə-rə-T |
| 3sA/S | T-Σ-Ø | T-Σ-kə-ŋ-o |  | T-Σ-si-wo/u | T-Σ-(k)-æ̃-o |  | T-Σ-so | T-Σ-Ø-o |  | T-Σ-o-(rə) |
| 3dA/S | T-Σ-ɲi | T-Σ-kə-ŋ-ɲi |  | T-Σ-si-ɲi | T-Σ-k-æ̃-ɲi |  | T-Σ-si-ɲi | T-Σ-Ø-ɲi |  | T-Σ-ɲi |
| 3pA/S | T-Σ-rə | T-Σ-kə-ŋ-rə |  | T-Σ-si-rə | T-Σ-k-æ̃-rə |  | T-Σ-sə-rə | T-Σ-Ø-rə |  | T-Σ-rə |

Note that in the preterite tense, all first person singular forms are made with the first person singular/preterite *portemanteau* prefix <ye->, in which case the tense slot remains empty.

## 4.2. Morphological analysis

In inflected narrative forms of the Gamāle verb one prefixal and six suffixal slots can be identified. These positions can be occupied by any of four prefixal and sixteen suffixal morphemes. Table 7 shows thirty-five different forms for fifty-one theoretically possible different scenarios, indicating the extent of the homonymy in the Gamāle paradigm.

The first prefixal slot (pf1) houses first and second person morphemes, first person tensed *portemanteaux* and third person tensed *portemanteaux*. The first suffixal slot (sf1) contains the marker of continuous aspect. Suffixal slot 2 (sf2) contains morphemes indicating first and second person actants, as does suffixal slot 3 (sf3). Both suffixal slot 4 (sf4) and suffixal slot 5 (sf5) contain third person morphemes. Suffixal slot 6 (sf6) houses first and second person tense/aspect suffixes.

### 4.2.1. Slots and morphemes:

**Table 8. Segmentation of the Gamāle narrative mode verb.**

| pf1 1/2; 3tense | Σ | sf1 CONT | sf2 1/2 | sf3 1/2 | sf4 3 | sf5 3 | sf6 1/2tense |
|---|---|---|---|---|---|---|---|
| a | ja | kə | ŋ | o | Ø | khẽ | |
| 1sA/S/NPT | CONT | 1pA/n3sP | 1s | 3sA | 3sS/P | 1/2PT | |
| ye | | Ø | əɛ̃ | ŋi | rə | ke | |
| n3A/S | | 1dA/S | 1pA/S/2sS/P | 3dA/S | 3ns | 1/2FUT | |
| nə | | si | | | | Ø | |
| 2sA/S | | 1pP | | | | 1/2HAB | |
| ya | | sĩ | | | | Ø | |
| 3A/S/PT | | 2dA/S | | | | 1sPT | |
| | | sə | | | | | |
| | | 2p | | | | | |

*4.2.2 Prefixal slot 1: first and second person agent/subject markers and tensed portemanteaux*

| | |
|---|---|
| <a-> | 1sA/S/NPT |
| <nə-> | 2sA/S |
| <ye-> | n3A/S |
| <ya-> | 3A/S/PT |

The first prefixal slot houses the first and second person agent/subject prefixes and tensed *portemanteaux*. The first person singular agent/subject non-preterite *portemanteau* prefix <a-> occurs in all scenarios with a first person singular agent or subject in any non-preterite tense and is identical to

the first person singular possessive pronoun prefix <a->, as in *a-kwi* 'my hand'. When the tense is preterite, first person singular agent or subject is not formally marked by a prefix, but the non-third agent/subject prefix <ye-> marks general involvement of a non-third agent or subject. In first person singular preterite scenarios the suffix of the preterite <-khẽ> which normally occurs in suffixal slot 6, does not occur.

The second person singular agent/subject prefix <nə-> occurs in all scenarios with a second person singular agent or subject. It is identical to the second person singular possessive pronoun prefix <nə->, as in *nə-kwi* 'your hand'.

The non-third agent and subject prefix <ye-> occurs in all scenarios with a first or second person agent or subject except in the first person singular agent/subject non-preterite tense forms, where the first person actant is marked with the first person singular non-preterite prefix <a->, and in second person singular forms where the second person singular prefix <nə-> occurs. Watters (1991:9-10) supposes that in an older situation all first and second person scenarios were marked by an evidential prefix *<ye->, which is presently being replaced by other prefixes, such as first singular agent/subject non-preterite <a-> and second singular agent/subject <nə->.

The third person agent/subject preterite tensed *portemanteau* prefix <ya-> also occurs in prefixal slot 1. Watters (1991:10-11) mentions that if the agent or subject is a third person, the tense morphemes occur in prefixal slot 1. He gives one example of a preterite form with a third person agent, *ya-hna-kəŋ-wo* 'He looked at me' (Watters 1991:19), which shows that this third person preterite morpheme is different from the first and second person preterite morpheme <-khẽ> which occurs in suffixal slot 6.

### 4.2.3 Suffixal slot 1: continuous tense
    <-ja>    CONT

Suffixal slot 1 is occupied by the suffix of the continuous tense <-ja>. Only one example of this tense is given, *a-hna-ja-ŋ* (Watters 1991:9) which may be translated as 'I am going'.

### 4.2.4 Suffixal slot 2: first and second person actants
    <-kə>    1pA/n3sP
    <-Ø>    1dA/s
    <-si>    1pP
    <-sī>    2dA/s
    <-sə>    2p

Even when a scenario involves two actants both possibly indicated by one of the morphemes that occur in suffixal slot 2, only one of those actants is actually marked in suffixal slot 2.

The suffix <-kə> occurs in all scenarios with a first person singular patient, a first person plural agent or a second person singular patient, except when another suffix occurs in suffixal slot 2, viz. the 2d→1s form *ye-Σ-siŋ-T*, the 2p→1s form *ye-Σ-səŋ-T* and the 1d→2s form *ye-Σ-Ø-T*. The morpheme <kə> thus marks a plural first person agent and a singular non-third patient. The 1pA/n3nsP suffix <-kə> appears to be optional in the following four forms, judging from the different forms presented by Watters (1991) in different parts of his paper:

- 2s→1s      *nə-Σ-kə-ŋ-T*
- 1s→2s/NPT      *a-Σ-k-əẽ-T*
- 1s→2s/PT      *ye-Σ-k-əẽ*
- 3s→2s      *T-Σ-k-əẽ-o*.

Suffixal slot 2 is also occupied by the first person dual agent/subject zero suffix <-Ø>, the first person plural patient morpheme <-si>, the second person dual subject/agent suffix <-sĩ> and the second person plural actant marker <-sə>. The first person dual agent/subject zero suffix occurs in all scenarios with a first person dual agent or subject, effectively blocking the slot. The first person plural patient suffix <-si> occurs in all scenarios with a first person plural patient except when suffixal slot 2 is occupied by the second person dual agent morpheme <-sĩ>. The first plural patient suffix <-si> also does not appear in the irregular 2s→1p form *nə-Σ-T*.

The second person dual subject/agent suffix <-sĩ> occurs in all scenarios with a second person dual subject or agent. When second dual agent/subject <sĩ-> is followed by the velar first person singular marker <-ŋ> its nasalised quality is neutralised. The second dual agent/subject marker <-sĩ> has originated from the combination of a second person non-singular marker *<-sə> and a dual morpheme *<-ni>. The dual marker has been reduced to mere nasalisation, but the vowel of the preceding morpheme still has the [i] alternant which a following dual regularly induces. This process can also be seen in the free pronouns of Maikot where the first person dual form is *gĩ* and the second person dual is *jĩ*. This feature alone would seem to be enough to classify Gamāle as an innovative Khām language, instead of a conservative one, as claimed by Watters (1991:2).

The second person plural marker <-sə> occurs in all scenarios with a second person plural subject, agent and patient, except in the 2p→1p form *ye-Σ-si-T*, where suffixal slot 2 is occupied by the first person plural patient morpheme <-si>, in the 1d→2p form *ye-Σ-Ø-T*, where suffixal slot 2 is occupied by the first person dual agent/subject zero morpheme, and in the 1p→2p form *ye-Σ-k-əẽ-T* where suffixal slot 2 is occupied by the 1pA suffix <-k>. The second plural suffix <-sə> does not indicate the nature of the involvement of the second person actant. The vowel of the second person plural morpheme <-sə> adapts itself to the vowel of some following morphemes. When followed by the third

person singular agent suffix <-o>, second plural <-sə> assimilates with the /o/ to /so/. The second person plural morpheme <-sə> assimilates to <-si> when followed by the third person dual marker <-ŋi>, following the general assimilation rules of Khām, where the vowel of a morpheme always assimilates to a following dual marker. The alternate form <-sī> of the second person plural suffix <-sə> in the 1s→2p form *a-Ʃ-sī-T* is curious. The nasalisation may indicate the residual presence of a first person singular nasal suffix <-ŋ>, but the [i] vocalisation is inexplicable, and the correspondence with the second person dual agent/subject marker <-sī> suggests that the form is misplaced in the table in Watters (1991:11) and belongs to the 1s→2d scenario.

### 4.2.5. *Suffixal slot 3: first and second person actants*

    <-ŋ>        1s
    <-əɛ̃>      1pA/S/2sS/P

Suffixal slot 3 can be filled by one of two morphemes: first person singular <-ŋ> or the first plural agent/subject and second singular subject/patient marker <-əɛ̃>.

The marker of the first person singular <-ŋ> occurs in all scenarios where a first person subject or patient is involved. It may optionally occur in scenarios with a third person patient indicating a first person singular agent. It is possible that the 1s suffix <-ŋ> also occurs in scenarios with a second person patient, but is not realised overtly because of the nasal final vowel of the preceding morpheme <-əɛ̃>. In a comparable situation however, it is the nasalisation that gives way to the nasal suffix, viz. in the 2d→1s form *ye-Ʃ-si-ŋ*, where the second dual agent/subject suffix <-sī> is denasalised, so an assimilation of first singular <-ŋ> with second singular agent/subject <əɛ̃-> to /əɛ̃/ is not likely.

It is not clear whether the optional occurrence of first singular <-ŋ> as an agent marker is a vestige of an older situation where first singular <-ŋ> simply indicated involvement of first person actant, of an older marking strategy where first and second person actants are marked in preference to third person actants, or of a recent development where first singular <-ŋ> will gain the function of an obligatory first person singular actant marker.

The first person plural agent/subject and second person singular subject/patient marker <-əɛ̃> occurs in all scenarios with first person plural agent or subject and in all scenarios with a second person singular subject or patient, except for the irregular 1d→2s form *ye-Ʃ-Ø-T*.

### 4.2.6. *Suffixal slot 4: third person actants*

    <-o>      3sA
    <-ŋi>     3dA/S

Suffixal slot 4 is occupied by morphemes indicating a third person agent or subject. The third person singular agent morpheme <-o> occurs in all

scenarios with a third person singular agent. It has an alternant <-wo> or <-u> after the first person plural patient suffix <-si>. The third person dual agent/subject suffix <-ŋi> occurs in all scenarios with a third person dual agent or subject except for the irregular 3ns→1p form *T-Σ-si-rə*.

### 4.2.7. Suffixal slot 5: third person actants
    <-Ø>      3sS/P
    <-rə>    3ns

Suffixal slot 6 also contains morphemes indicating a third person actant, viz. the third person singular subject/patient zero marker and the third person non-singular marker 3ns <-rə>. These morphemes occur in the suffixal string *after* the other third person morphemes, as is shown by the 3s→3p form *T-Σ-o-rə*, for which however an alternative form *T-Σ-o* is also noted.

A third person singular subject or patient is always marked by zero in contrast to a third person agent, which is marked by third singular agent <-o>. The third person non-singular actant marker <-rə> occurs in all scenarios with a non-singular third person, except where duality of third person actant is formally marked by the third dual agent/subject suffix <-ŋi>, which occurs in suffixal slot 4, viz. in the third person dual intransitive form *T-Σ-ŋi*, the 3d→1s form *T-Σ-kə-ŋ-ŋi*, the 3d→2s form *T-Σ-kə̀-ə̃ẽ-ŋi*, the 3d→2p form *T-Σ-si-ŋi*, the 3d→3 form *T-Σ-ŋi*, and except where third person patient is not formally marked, viz. in the 2s→3p form *nə-Σ-T*, in the 2d→3p form *ye-Σ-sĩ-T* and in the 3d→3p form *T-Σ-ŋi*. The suffix of third person non-singular involvement is not specified as to the role of that involvement.

### 4.2.8. Suffixal slot 6: first and second person tense suffixes
    <-khẽ>    1/2-PT
    <-ke>     1/2-FUT
    <-Ø>      1/2-HAB

Suffixal slot 7 contains the tense markers in scenarios where the most agentive actant is not a third person. The suffix of the preterite, <-khẽ>, does not appear in preterite scenarios with a first person singular agent or subject. Examples (Watters 1991:6-9):

(42)   *ye-hna-ja-ŋ*          I went.
(43)   *ye-hna-ə̃ẽ-khẽ*    We went.
(44)   *ye-hna-sə-khẽ*     YouP went.
(45)   *nə-hnə-kəŋ-khẽ*   YouS looked at me.
(46)   *ya-hnə-kə-ŋ-wo*   He looked at me.

The suffix of the future, <-ke>, may occur together with the first person singular agent/subject non-preterite *portemanteau* prefix <a->, as in the following example:

(47)   *a-hna-ŋ-ke*        I will go.

The iterative/habitual tense is formally unmarked and can also co-occur with the first person singular agent/subject non-preterite *portemanteau* prefix <a->, as in the following example:
(48)   *a-hna-ŋ-Ø*                I go.
If the most agentive actant is a third person, then the tense morphemes occur in prefixal slot 1. These third person tense prefixes do not have the same form as the corresponding first and second person tense suffixes, as can be seen from the comparison between *ya-hna-kəŋ-wo* 'He looked at me' and *nə-hna-əɛ̃-khɛ̃* 'you$^s$ went'.

### 4.3 Parenthetic mode

Watters (1991:20) gives a few parenthetic mode forms. The narrative forms he compares with the parenthetic forms do not all correspond to the narrative forms he presents in his overview of the paradigm.

**Table 9. Gamāle parenthetic mode verb forms.**

| scenario | parenthetic form | narrative form |
|----------|------------------|----------------|
| 1s→2s | a-Σ-əɛ̃-(o) | a-Σ-(k)-əɛ̃-T |
| 1s→3s | a-Σ-ŋ-(o) | a-Σ-(ŋ)-Ø-T |
| 2s→1s | nə-Σ-ŋ-(o) | nə-Σ-(kə)-ŋ-T |
| 2s→3 | nə-Σ-(o) | nə-Σ-Ø-T |
| 3s→1s | ə-Σ-ŋ-(o) | T-Σ-kə-ŋ-o |
| 3s→2s | ə-Σ-əɛ̃-(o) | T-Σ-(k)-əɛ̃-o |
| 3s→3s | ə-Σ-(o) | T-Σ-Ø-o |
| 3s→3p | ə-Σ-(o)-rə | T-Σ-o-(rə) |

The process of forming parenthetic mode verbs entails the placement of a parenthetic mode marker <-o> in suffixal slot 4. This parenthetic mode suffix is homophonous to the third person agent suffix <-o>, which also occurs in suffixal slot 4. Third person agent markers are then prefixed to the verb, presumably in prefixal slot 1. The third person singular parenthetic mode prefix is <ə->.

## 5. SHESHI KHĀM

Sheshi Khām is only known through the description provided by Watters (1991:13-15). No other studies of Sheshi Khām exist. Watters (1991) gives full paradigms for three tenses, the parenthetic mode paradigm and the free personal pronouns.

## 5.1. Free pronouns

Like other Khām languages, Sheshi Khām distinguishes nine pronominal categories. There is first, second and third person in singular, dual and plural number. First and second person dual pronouns are formed through the affixation of a dual number marker <-ni> to the plural pronoun. Before the development of the dual distinction the first person plural pronoun *ge* and the second person plural pronoun *je* would have had a *non-singular* meaning. As in the other Khām languages, the dual number marker <-ni> forces an assimilation of the vowel of the preceding morpheme to [i].

Third person dual and plural pronouns are formed through the affixation of a dual or plural number marker to the unmarked or singular third person form *o*. The question whether third person singular *o* is marked for singular number or unmarked for number cannot be resolved with the information that has been published to date. As in Takāle Khām, the third person pronoun *o* does *not* assimilate to a following dual morpheme <-ni>. This indicates a difference in phonological status between the first and second person dual pronouns and the third person dual pronoun.

### Table 10. Overview of the Sheshi pronouns (Watters 1991:13-15).

|  | *singular* | *dual* | *plural* |
|---|---|---|---|
| *first person* | ŋa | gi-ni | ge |
| *second person* | nəŋ | ji-ni | je |
| *third person* | o | o-ni | o-yaŋ |

## 5.2 Synopsis of the verbal system

Sheshi Khām is the third large dialect nucleus in Khām. It diverges from other Khām languages in that there is no agreement with the patient. The Sheshi verb only agrees with the most agentive actant, the subject for intransitive verbs and the agent for transitive verbs.

Watters (1991) reports three tense/aspect distinctions: past tense <-də>, future tense <əi-> and continuous aspect <-jya>. Sheshi Khām, like the other Khām languages discussed in this paper, distinguishes two modes, narrative and parenthetic.

**Table 11. Sheshi Khām verbal conjugations (Watters 1991:13-15).**

|     | past narrative | future narrative | continuous narrative | parenthetic |
|-----|----------------|------------------|----------------------|-------------|
| 1s  | Σ-də-ŋa        | əi-Σ-ŋa          | Σ-jya-ŋa             | ŋa-Σ-ŋ-(u)  |
| 1d  | Σ-də-cya       | əi-Σ-cya         | Σ-jya-cya            | gi-ni-Σ-ci-(u) |
| 1p  | Σ-də-ya        | əi-Σ-ya          | Σ-jya-ya             | ge-Σ-y-(u)  |
| 2s  | Σ-də-na        | əi-Σ-na          | Σ-jya-na             | nə-Σ-n-(u)  |
| 2d  | Σ-də-ci-na     | əi-Σ-ci-na       | Σ-jya-ci-na          | ji-n-Σ-ci-n-(u) |
| 2p  | Σ-də-cya       | əi-Σ-cya         | Σ-jya-cya            | je-Σ-ci-(u) |
| 3s  | Σ-da           | əi-Σ-wa          | Σ-jya-w              | a-Σ-(u)     |
| 3d  | Σ-də-niya      | əi-Σ-niya        | Σ-jya-w-ni           | Ø-ni-Σ-(u)  |
| 3p  | Σ-də-ra        | əi-Σ-ra          | Σ-jya-w-aŋ           | ə-ra-Σ-(u)  |

## 5.3 Morphological analysis

Segmentation of the Sheshi conjugational system requires positing two prefixal slots and five suffixal slots, occupied by eight prefixes and ten suffixes.

Prefixal slot 1 is occupied by the marker of the future tense and the parenthetic mode actant affixes. Dual number morphemes and the third person plural number prefix occur in the parenthetic mode in prefixal slot 2. Suffixal slot 1 is occupied by the other tense morphemes. Suffixal slot 2 houses actant markers. Second and third person markers occur in suffixal slot 3. Suffixal slot 4 houses the non-singular number morpheme <-ya>. Suffixal slot 5 is occupied by markers indicating the mode of the verb. In his presentation of the Sheshi conjugations, Watters (1991) indicates that the parenthetic mode suffix <-u> is optional. There is some confusion, however, as to the correct interpretation of his table on page 15. As it stands it may mean that in the parenthetic mode a parenthetic suffix <-u> may optionally be affixed, but that the ending /a/ of the narrative mode verb is never present, whether <-u> is affixed or not, or, alternatively, the parenthetic mode verb endings are the same for first and second person scenarios as the narrative mode verb endings, and <-u> may be affixed to indicate parenthetic mode, but is optional. In the first case, a narrative mode suffix <-a> must be isolated, which contrasts with a parenthetic mode suffix <-u ~ Ø>. In the second case, an optional parenthetic mode suffix <-u> can be identified which contrasts with a zero expression of the narrative mode.

## Table 12. Segmentation of the Sheshi Khām verb
## (narrative and parenthetic mode).

| pf1 | pf2 | Σ | sf1 | sf2 | sf3 | sf4 | sf5 |
|---|---|---|---|---|---|---|---|
| *əi* | *ni ~ n* | | *də ~ da* | *ŋa* | *ra ~ aŋ* | *ya* | *u* |
| FUT | dPAR | | PT | 1s | 3p | ns | PAR |
| *ŋa* | *ra* | | *jya* | *ci* | *na* | | |
| 1sPAR | 3pPAR | | CONT | 1d/2ns | 2np | | |
| *ge* | | | | *w~wa~Ø* | *ni* | | |
| 1nsPAR | | | | 3 | 3d | | |
| *nə* | | | | | | | |
| 2sPAR | | | | | | | |
| *je* | | | | | | | |
| 2nsPAR | | | | | | | |
| *a~ə~Ø* | | | | | | | |
| 3PAR | | | | | | | |

*5.3.1. Prefixal slot 1: parenthetic actant prefixes and the future morpheme <əi->*

| <əi-> | FUT |
|---|---|
| <ŋa-> | 1sPAR |
| <ge-> | 1nsPAR |
| <nə-> | 2sPAR |
| <je-> | 2nsPAR |
| <a- ~ ə- ~ Ø> | 3PAR |

The first prefixal slot is occupied by the future tense morpheme <əi-> and by morphemes indexing the actant in the parenthetic mode. A first person singular actant is indicated by the prefix <ŋa-> and a first person non-singular actant by the morpheme <ge->. The first person non-singular prefix <ge-> has a regular allomorph <gi-> when followed by the dual number morpheme <ni->.

A second person singular actant in the parenthetic mode is indicated by the prefix <nə->, a second person non-singular actant by <je->. The second person non-singular prefix <je-> has a regular allomorph <ji-> when followed by the dual number morpheme <n->.

A third person actant in the parenthetic mode is indexed by the third person prefix <a->. Number of third person actant is not indicated by a syncretised person/number morpheme, like the first and second person morphemes, but by a number affix (dual <ni-> or plural <ra->) in prefixal slot 2. The third person prefix <a-> has two allomorphs, namely zero before the dual morpheme <ni->, and <ə-> before the third person plural morpheme <ra->. This analysis of the third person markers as a singular marker followed by a dual or a plural marker is analogous to the organisation of the free pronominal paradigm.

### 5.3.2. Prefixal slot 2: number

    &lt;ni- ~ n-&gt;    dPAR

    &lt;ra-&gt;        3pPAR

The dual number suffix &lt;ni-&gt; occurs in prefixal slot 2 in all cases where the number of the actant in the parenthetic mode of the verb is two. It has an allomorph &lt;n-&gt; after the second person non-singular prefix &lt;je-&gt;, which itself has an allomorph &lt;ji-&gt; before the dual marker &lt;n- ~ ni-&gt;.

The prefix &lt;ra-&gt; occurs when the number of the third person actant is plural and the mode of the verb is parenthetic.

### 5.3.3. Suffixal slot 1: tense

    &lt;-də ~ -da&gt;  PT

    &lt;-jya&gt;      CONT

The first suffixal slot contains tense morphemes. The tense morphemes only occur in narrative mode. Past tense is indicated by the PT suffix &lt;-də&gt;. The preterite suffix &lt;-də&gt; has an allomorph &lt;-da&gt; if it is the last overt morpheme in the affixal string, i.e. in the third person singular preterite tense form $\Sigma$-da. The continuous aspect is indicated by &lt;-jya&gt;.

### 5.3.4. Suffixal slot 2: actant

    &lt;-ŋa&gt;          1s

    &lt;-ci&gt;           1d/2ns

    &lt;-w ~ -wa ~ Ø&gt;  3

Suffixal slot 2 is occupied by three morphemes indicating the actant. A first person singular actant is indexed by &lt;-ŋa&gt;, a first dual and second non-singular actant by &lt;-ci&gt;, and third person actant by &lt;-w ~ -wa ~ Ø&gt;.

The first dual and second non-singular suffix &lt;-ci&gt; combines with either the second person non-plural suffix &lt;-na&gt; or the non-singular suffix &lt;-ya&gt; to indicate the number of second person actant and also combines with the non-singular suffix &lt;-ya&gt; to indicate a dual first person actant.

The third person suffix &lt;-w&gt; does not occur in the parenthetic mode and has a zero allomorph in third person non-singular future tense forms and in the past tense. The third person suffix &lt;-w&gt; also has an allomorph &lt;-wa&gt; in the third person singular future form ai-$\Sigma$-wa.

### 5.3.5. Suffixal slot 3

    &lt;-ra ~ -aŋ&gt;  3p

    &lt;-na&gt;        2np

    &lt;-ni&gt;         3d

Three morphemes occur in suffixal slot three. The suffix of the third person plural &lt;-ra ~ -aŋ&gt; occurs in all scenarios with a third person plural actant. In the continuous tense, when 3p &lt;-ra ~ -aŋ&gt; is preceded by the third

person actant marker <-w>, the allomorph <-aŋ> occurs. The suffix <-na> occurs in all scenarios with a second person singular or dual actant and indicates second person non-plural actant. When 2np <-na> co-occurs with the 1d/2ns suffix <-ci>, the whole form can only indicate the intersection of non-plurality and non-singularity and so indexes a dual second person actant. The suffix <-ni> indicates a third person dual actant.

### 5.3.6. Suffixal slot 4: non-singular number
<-ya>        ns

The suffix <-ya> occurs in first person dual and plural, second person plural and third person dual forms, and indicates non-singular number of actant. It does not occur in second person dual forms, or in the third person continuous form $\Sigma$-jya-w-ni, probably because there is a restriction in Sheshi Khām which limits the total number of person-markers in the suffixal string to two. Diachronically, non-singular <-ya> is derived from a plural number marker.

### 5.3.7. Suffixal slot 5: mode
<-u>        PAR

The parenthetic mode suffix <-u> seems to be optional. It may co-occur with all actants, but not with tense morphemes. The involvement of a third person actant is in the parenthetic mode not indicated by a suffix, but only by the parenthetic mode third person prefixes.

## 6. MHAI KHĀM

### 6.1. Data

In Watters (1975a) an almost complete paradigm of the Mhai Khām transitive verb was presented. Watters (1975a) was the basis for the analysis presented in DeLancey (1988), which unfortunately contains some errors in the data.

The verbal agreement systems of Takāle Khām and Mhai Khām, when superficially examined, look very much alike. A closer examination, however, reveals many differences in structure. Takāle is organised along simple, nominative-accusative marking lines. Mhai shows a much more complicated system, where the first person actant in 1→2 scenarios is marked with different morphemes than the first person markers in 1→3 scenarios. First person singular patients are marked if the agent is a third person, but not when the agent is a second person. Because the material is so incomplete, the following morphemic analysis cannot be very thorough. It is unlikely that an analysis of the complete paradigm would present so many *portemanteau* morphemes.

## 6.2 Synopsis of the verbal system

The transitive Mhai verb is obligatorily inflected for number and person of agent and patient and for tense. Like all Khām languages, nine pronominal categories can be distinguished: first, second and third person in singular, dual and plural number. Again, there is no inclusive-exclusive opposition.

Watters (1975) gives one tense marker, <-kə>, which, judging from his translations, indicates preterite time reference.

## TABLE 13:

### Mhai Khām verbal agreement system (derived from Watters 1975).

| | Intr. | 1sP | 1dP | 1pP | 2sP | 2dP | 2pP | 3sP | 3dP | 3pP |
|---|---|---|---|---|---|---|---|---|---|---|
| 1sA/S | ŋə-Σ-T-n | | | | ŋa-Σ-T-n | ŋa-Σ-T-ci-n | ŋa-Σ-T-ci | Ø-Σ-T-ŋ | ya-n-Σ-T-n | ya-ra-Σ-T-ŋ |
| 1dA/S | ji-n-Σ-T-ci | | | | gi-n-Σ-T-n | gi-n-Σ-T-ci-n | ge-Σ-T-ci | Ø-Σ-T-ci | ya-ra-Σ-T-ci | |
| 1pA/S | jɛ-Σ-T-ci | | | | ge-Σ-T-n | ge-Σ-T-ci-n | | Ø-Σ-T-e | ya-ra-Σ-T-e | |
| 2sA/S | | nə-Σ-T-n | nə-Σ-si-T-n | | | | | nə-Ø-Σ-T-n | nə-na-Σ-T-n | nə-ra-Σ-T-n |
| 2dA/S | | ji-n-Σ-T-ci-n | | | | | | ji-n-Ø-Σ-T-ci-n | ji-n-na-Σ-T-ci-n | jɛ-ra-Σ-T-ci-n |
| 2pA/S | | jɛ-Σ-T-ci | jɛ-Σ-si-T-ci | | | | | jɛ-Ø-Σ-T-ci | jɛ-ra-Σ-T-ci | |
| 3sA/S | Σ-T-ŋu | Σ-T-ŋ-u | Σ-si-T-u | | Σ-T-n-u | | Σ-T-c-u | Ø-Σ-T-u | ya-n-Σ-T-u | ya-ra-Σ-T-u |
| 3dA/S | | | | | | | | Ø-Σ-T-ni | ya-ra-Σ-T-ni | |
| 3pA/S | Σ-si-T-m | | Σ-si-T-m | | | | | Ø-Σ-T-m | ya-ra-Σ-T-m | |

## 6.3. Morphological Analysis

As far as can be inferred from the data given in Watters (1975a), in inflected forms of the Mhai verb, three prefixal and five suffixal slots can provisionally be identified. These positions can be occupied by any of nine prefixal and eleven suffixal morphemes. No doubt the total number of morphemes will increase when more information about Mhai Khām becomes available. Table 13 shows thirty-seven distinct forms for forty-nine different scenarios.

Prefixal slot 1 is occupied by morphemes indicating first and second person agents and *portemanteaux*. Prefixal slot 2 is the functional position of the first and second person dual number marker <n->. Third person patient morphemes occur in prefixal slot 3. Suffixal slot 1 is occupied by the first person non-singular patient suffix <-si>. The preterite tense morpheme <-kə> occurs in the next slot, suffixal slot 2. Suffixal slot 3 houses morphemes indicating a first or second person actant and *portemanteaux*. Suffixal slot 4 is occupied by the second person dual number affix <-n>. The last slot in the suffixal string is occupied by third person agent morphemes.

**Table 14. Segmentation of the Mhai Khām narrative mode verb.**

| pf1 | pf2 | pf3 | Σ | sf1 | sf2 | sf3 | sf4 | sf5 |
|------|------|------|---|------|------|------|------|------|
| 1/2A | 1/2d | 3P | | 1nsP | T | 1/2 | 2d | 3A |
| *ŋa* | *n* | Ø | | *si* | *kə* | *ŋ* | *n* | *u* |
| 1s→2 | 1/2dA | 3sP | | 1nsP | PRT | 1s↔3 | 2d | 3sA |
| *ge* | | *nə~n~na* | | | | *ci* | | *ni* |
| 1ns→2 | | 3dP | | | | 12ns | | 3dA |
| *nə* | | *ra* | | | | *e* | | *m* |
| 2sA | | 3nsP | | | | 1p→3 | | 3nsA |
| *je* | | | | | | *n* | | |
| 2nsA | | | | | | 2s | | |
| *ya* | | | | | | | | |
| 1/3→3ns | | | | | | | | |

*6.3.1. Prefixal slot 1: first and second person agents and portemanteaux*

      <ŋa->    1s→2
      <ge->    1ns→2
      <nə->    2sA
      <je->    2nsA
      <ya->    1/3→3ns

The first prefixal slot houses the first and second person agent morphemes and *portemanteaux*. The 1s→2 *portemanteau* <ŋa-> occurs in all scenarios with a first person singular agent and a second person patient. The

1ns→2 *portemanteau* prefix <ge-> occurs in all first person agent scenarios where the number of the first person agent is not singular and where the patient is a second person. It has two allomorphs, <ge-> and <gi->. The second allomorph, <gi->, occurs before the first/second person dual number marker <n-> in prefixal slot 2, viz. in the 1d→2s *gi-n-Σ-T-n* and 1d→2d *gi-n-Σ-T-ci-n* forms.

The second person morphemes occurring in prefixal slot 1 are not *portemanteaux* like the first person morphemes, but occur in all scenarios with a second person agent. The second person singular agent morpheme <nə-> occurs in all scenarios with a second person singular agent. The second person non-singular agent prefix <je-> occurs in all scenarios where the number of the second person agent is not singular. Like the 1ns→2 *portemanteau* <ge->, 2nsA <je-> has two regular allomorphs, <je-> and <ji->. The second alternant, <ji-> occurs only in forms where the first and second person dual number morpheme <n-> occurs in prefixal slot 2, viz. 2d→1np *ji-n-Σ-T-ci-n*, 2d→3s *ji-n-Σ-T-ci-n*, and 2d→3d *ji-n-nə-Σ-T-ci-n*.

The 1/3→3ns *portemanteau* morpheme <ya-> occurs in all scenarios with either a first or a third person agent and a third person non-singular patient. It is probably historically derived from the same morpheme as the Takāle third person non-singular prefix <ya->, namely the proto-Khām third person plural pronoun *'ya.

### 6.3.2. Prefixal slot 2: the first and second person dual agent number affix <n->

<n->        1/2dA

The first and second person dual agent number prefix <n-> occurs in all scenarios where a first or second person dual agent is marked by a prefix, except in the 1d→2p form *ge-Σ-T-ci*, and in the 2d→3p form *je-ra-Σ-T-ci-n*. The prefix <n-> indicates duality of agent in the first and second person.

### 6.3.3. Prefixal slot 3: third person patient morphemes

<∅->                    3sP
<nə- ~ n- ~ na->        3dP
<ra->                   3nsP

Prefixal slot 3 houses the third person patient morphemes. A third person singular patient is always marked by zero, as in the other Khām languages.

The third person non-singular patient prefix <ra-> occurs in all scenarios with a third person non-singular patient, except where the paradigm formally differentiates dual and plural third person patients with the third person dual patient prefix <nə- ~ n- ~ na->, viz. in the 1s→3d form *ya-n-Σ-T-ŋ*, 2s→3d form *nə-na-Σ-T-n*, the 2d→3d form *ji-n-nə-Σ-T-ci-n* and the 3s→3d form *ya-n-Σ-T-u*. The conditioning of the allomorphy of the third person dual patient prefix <nə- ~ n- ~ na-> remains unclear. The basic morph may be <n-> and the alternant

<nə-> might be explained by the preceding first and second person dual morpheme <n->, necessitating an epenthetic vowel /ə/, but this is by no means clear. The <na-> allomorph cannot be explained.

### 6.3.4. Suffixal slot 1: the first person non-singular patient marker <-si>
    <-si>    1nsP

Suffixal slot 1 houses the first person non-singular patient suffix <-si>, which occurs as far as is known in all scenarios with a first person non-singular patient, except for the irregular 2d→1d form *ji-n-Ʃ-T-ci-n*.

### 6.3.5. Suffixal slot 2: tense
    <-kə>    PT

The preterite morpheme <-kə> has the following allomorphs:

| | |
|---|---|
| <-kə> | before a morpheme consisting of a consonant only, the second person dual suffix <-cin> and the second person plural suffix <-ci>. |
| <-ku> | before the third person agent suffix <-u> if there is an intervening consonant, such as first person singular patient <-ŋ>, second person singular patient <-n>, or second person plural patient <-c>. |
| <-k> | before a suffix consisting only of a vowel, such as 1p→3 <-e> or third person agent <-u>. |
| <-ki> | before third person dual agent <-ni>. |

### 6.3.6. Suffixal slot 3: first and second person markers and portemanteaux
    <-ŋ>    1s↔3
    <-ci>    12ns
    <-e>    1p→3
    <-n>    2s

Suffixal slot 3 is occupied by morphemes indicating the presence of a first or second person actant. Three of the suffixes that occur in this slot are unspecified as to the grammatical role of the actant they index, and two must be regarded as *portemanteaux*.

The first person singular and third person *portemanteau* suffix 1s↔3 is unspecified as to the direction of the relation between the first person actant and the third person actant. The direction of the relation between the actants indexed by 1s↔3 <-ŋ> is determined by the affixes with which the 1s↔3 morpheme co-occurs.

When 1s↔3 <-ŋ> co-occurs with one of the third person patient morphemes, viz. third singular patient <Ø->, third dual patient <n-> or third plural patient <ra->, the nature of the first person involvement is agency. When 1s↔3 <-ŋ> co-occurs with the third person singular agent suffix <-u>, the nature of

the first person involvement is patiency. Whether 1s↔3 <-ŋ> also occurs with third person dual or plural agent markers is not known.

The 1p→3 *portemanteau* suffix <-e> occurs in all scenarios with a first person plural agent and a third person patient and indicates a transitive relation between a first person plural agent and a third person patient.

The second person singular actant morpheme <-n> occurs in all scenarios with a second person singular actant and is unspecified as to the grammatical nature of that actant.

The suffix <-ci> marks the involvement of a non-singular first or second person actant and is unspecified as to the nature of that involvement. The non-singular first and second person suffix <-ci> occurs in all scenarios where a second person actant is involved whose number is not singular, in the 1d→3s form *Ø-Ʃ-T-ci*, and in the 1d→3ns form *ya-ra-Ʃ-T-ci*. In these last two cases plural number of first person agent is formally marked by the 1p→3 suffix <-e>, leaving only the dual agent scenario for the non-singular marker <-ci>.

The first and second non-singular suffix <-ci> has an allomorph <-c> before the third person singular agent suffix <-u>, in a process similar to the disappearance of the vowel of the preterite marker <-kə> before third singular agent <-u>, demonstrating the phonological rule /V/ → [Ø]/_V.

### 6.3.7. *Suffixal slot 4: second person dual marker*

      <-n>    2d

The suffix <-n> occurs in all scenarios with a second person dual actant suffix and indicates duality of a second person actant.

### 6.3.8. *Suffixal slot 5: third person agent suffixes*

      <-u>    3sA
      <-ni>    3dA
      <-m>    3nsA

The last slot in the suffixal string, suffixal slot 5, is occupied by morphemes indicating involvement of a third person agent.

The third person singular agent suffix <-u> occurs in all scenarios with a third person singular agent. I differ from previous analyses (Watters 1975 and DeLancey 1988) in the segmentation of forms with a third person singular agent. I segment the form *pohkuŋu* 'He hit me' into a root <poh->, a preterite tense suffix <ku-> (an allomorph of preterite <kə->), a first person singular suffix <-ŋ> and a third person singular agent suffix <-u>, instead of into a root <poh->, a preterite suffix <-k>, a third person singular agent suffix <-u> and a first person singular patient suffix <-ŋu>, making possible a much simpler and regular analysis of the whole agreement system.

The third person non-singular suffix <-m> occurs in all scenarios with a third person non-singular agent, except where the paradigm differentiates dual and plural number of a third person agent through the third person dual agent

suffix <-ni>, which is found in the 3d→3s form *Ø-Σ-T-ni* and the 3d→3d form *ya-ra-Σ-T-ni*, and possibly in other forms with a third person dual agent, which are as yet unpublished.

### 6.4. The parenthetic mode

The parenthetic mode material is extremely limited, but some forms at least are presented in Watters 1975a, scattered throughout the paper, enabling a provisional analysis of the Mhai parenthetic mode verb.

**Table 15. Mhai Khām parenthetic mode verb forms.**
(Derived from Watters 1975)

| scenario | narrative mode | parenthetic mode |
|---|---|---|
| 1s→2s | ŋa-Σ-T-n | ŋa-Σ-n-u |
| 1s→2d | ŋa-Σ-T-ci-n | ŋa-Σ-ci-n-u |
| 1s→2p | ŋa-Σ-T-ci | ŋa-Σ-c-u |
| 3s→1s | Σ-T-ŋ-u | o-Σ-ŋ-u |
| 3s→2s | Σ-T-n-u | o-Σ-n-u |
| 3s→2p | Σ-T-c-u | o-Σ-c-u |

The verbal system undergoes the same changes as in Takāle Khām. Third person agent morphemes are now prefixed, and a special parenthetic mode marker, homophonous to the third person singular agent marker, is suffixed to the simple verb.

### 7. DEVELOPMENT OF THE KHĀM VERBAL MORPHOLOGY

When Bauman (1975:86-87) wrote his *Pronouns and Pronominal Morphology in Tibeto-Burman*, the only Khām language about which descriptions were available was Takāle. The Takāle agreement system is very innovative and Bauman was forced to conclude that Khām '...more than any other language seems to overstep the norms'. Any direct comparison between Takāle Khām and other, non-Khām, pronominalizing Tibeto-Burman languages is extremely hazardous. Various scholars have proposed solutions to this problem. Bauman (1975) rests the case and views Khām as an exception. Watters (1975) argues for a system which originally had only suffixes, expressing subject agreement. DeLancey (1988) views the prefixes as reflexes of an original Tibeto-Burman prefixal paradigm.

Recently more information about other Khām languages has become available, and it is now possible to construct a tentative model of proto-Khām, and to compare this model with similar models for other Tibeto-Burman language groups, such as Kiranti.

Little is known as yet about the relations between the different dialects or languages of the Khām group. The differences between Takāle and Gamāle are very large. Cognacy is reported to be high, between 92% and 96% of all lexical items, but the phonological forms of the cognates vary widely, as can be inferred from the difference between Takāle *khyo* 'long' versus Gamāle *hlu* 'long'. Both words are said to be derived from a proto-form *slo 'long' (Watters 1991:4). The lack of knowledge about the sound laws of the languages under examination hampers any attempt to set up formal correspondences between morphemes, and this holds for any endeavour in the field of Tibeto-Burman morphological reconstruction. If enough caution is exercised, however, a comparison of obviously relatable forms may nonetheless yield testable results.

Four sources of evidence are important in examining the Khām agreement system: the free pronouns, the tonal evidence on the cohesiveness of the affixes, the order of the functional positions in the affixal string, and the form and semantic value of the affixes themselves.

## 7.1 Free pronouns

In order to be able to identify similarities between the free pronouns and pronominal affixes an examination of the free pronouns is necessary. Such information as is available is shown in table 16.

### Table 16. Khām free pronouns

|     | Takāle | Sheshi | Bhuji | Maikot | Proto-Khām |
|-----|--------|--------|-------|--------|------------|
| 1s  | ŋa:    | ŋa     |       |        | *ŋa        |
| 1d  | 'gin   | gini   | ge nis | gī    |            |
| 1p  | 'ge:   | ge     | ge    |        | *ge (ns)   |
| 2s  | nən    | nəŋ    |       |        | *nəŋ       |
| 2d  | 'jin   | jini   | je nis | jī    |            |
| 2p  | 'je:   | je     | je    |        | *je (ns)   |
| 3s  | 'əo, 'no:, 'ho: | o |     |        | *o         |
| 3d  | 3s+<-ni> | oni  |       |        |            |
| 3p  | 3s+<-rə> | oyaŋ |       |        | *'ya/*'yaŋ |

It is safe to reconstruct a first person singular pronoun *ŋa and a second person singular pronoun *nəŋ, which happen to be identical to Benedict's (1972:93) Proto-Sino-Tibetan reconstructions *ŋa and *nəŋ.

Bauman (1975:114, 149) argues for the reconstruction of two other Proto-Tibeto-Burman roots, a first person pronoun *gya and a second person pronoun *kya. In Khām these roots are reflected as non-singular pronouns. The palatalisation of the second person plural form to *je seems to be present in all Khām languages. Accordingly, a first person non-singular free pronoun is reconstructed as *ge and a second person non-singular free pronoun as *je. It

is clear that no vestiges of an original dual-plural distinction remain in the free pronouns of any Khām language. While all Khām languages differentiate between dual and plural, these forms are recent innovations, as is shown by Bhuji Khām. It is not necessary to reconstruct distinct dual pronouns for Proto-Khām, though of course synthetic dual forms, made with a suffix derived from the numeral *nis 'two', may well have been present. Only in the verbal affixes do some traces of an original dual remain, in the form of modern reflexes of the proto-Khām first and second person verbal dual suffix *<-ci>.

As pointed out above, in the description of the Takāle free pronouns (Table 1), Watters (1975:54) reconstructs a third person singular pronoun *'ol, a third person non-singular pronoun *'ya, and two competing third person plural suffixes *-ra and *-ŋ. He does not make explicit his reasons for reconstructing a lateral approximant in the third person singular form, and on the basis of the Sheshi evidence I would reconstruct a protoform *o. The plural suffix *<-ra> may simply be the non-word-initial allomorph of the non-singular third person pronoun *'ya, as it is still in the Takāle verb, which subsequently developed into a plural marker *ra or *rɔ, used with all nouns and third person pronouns. On the basis of Sheshi 3p *oyaŋ* a third person plural suffix *yaŋ may be reconstructed, perhaps consisting of plural morpheme *ya and a generalized dual marker *ŋ, developed out of *ŋi < *ni. The verbal third person dual marker 3dA/S <-ŋi> in Gamāle may also give support to this hypothesis.

## 7.2 The tonal cohesiveness of the Takāle verbal complex

The tonal system of Takāle Khām, the only dialect about which such information is available, is reportedly based on the word as the domain of tone. A lexical stem carries two tones, a stem-tone and a suffix-tone. The suffix-tone is realised on the affixes appended to the stem. Affixes do not have an independent tone. When two lexical stems form a compound their tones also compound, the second stem taking the stem-tone of the first stem but giving its own suffix tone to the affixes appended to the whole compound. If two lexical stems are juxtaposed without affixes in between and without forming a compound, their tones undergo sandhi, but the two stems still keep their own stem tone.

The first and second person agent and subject singular and plural prefixes have no independent tone, but take their tone from the verbal stem. Dual prefixes consist of two morphemes, the pronoun and a dual marker <n-> developed out of Proto-Tibeto-Burman *<g-ni-s> 'two'. This dual marker had an independent tone, which has been preserved in the dual affixes. The tone of the dual affixes forms a compound with the verbal stem. This seems to indicate that at the time of the affixing of the dual prefixes the dual prefixes still consisted of two separate morphemes. All first and second person prefixes are identical with the possessive pronouns prefixed to nouns. The parenthetic mode verb is a nominalised finite construction and as such can be preceded by

possessive pronouns, indicating the agent of the action. The first and second person possessive prefixes then spread to the non-nominalised finite verb forms.

Third person patient prefixes still have some tonal characteristics of their own and form a tonal compound with the verbal stem which indicates their relative phonological independence.

All verbal suffixes have their own stem tones, and undergo sandhi with adjacent stem-tone bearing morphemes. Verbal suffixes thus do not depend for their tonal quality on the verb stem, but form independent phonological entities. Although this loose phonological bond means that suffixes can easily change places, the suffixes are syntactically bound to the verb in fixed positions in the affixal string. This calls to mind the system of fixed pronominal clitics envisaged by van Driem (1990:28) for Proto-Kiranti. The lack of phonological integration seems to indicate that the affixal system of Khām is a relatively recent development. While the present-day verbal agreement system of Takāle Khām looks very much like something that could have been ancestral to the other pronominalizing languages, the system itself does not have to be very old.

### 7.3. Agreement system

A synthesis of the correspondences which will be discussed in this section is given in Table 17:

**Table 17. The proposed proto-Khām verbal agreement system**

|       |     |   |     |         | *ŋa*   |      | *u*   |       |
|-------|-----|---|-----|---------|--------|------|-------|-------|
|       |     |   | *si*| *t/ke*  | 1s     |      | 3s    |       |
| *ye?* | *ma*| Σ | REF | PT      | *na?*  | *i*  | *m*   | *yəi* |
| MS    | neg |   | *si*| *jya*   | 1s→2   | 12p  | 3nsA  | FUT   |
|       |     |   | 1ns | PRS/CONT| *ci*   |      | *u*   |       |
|       |     |   | *kə?*|        | 2ns    |      | PAR   |       |
|       |     |   | 2   |         | *n*    |      |       |       |
|       |     |   |     |         | 2s     |      |       |       |

*7.3.1. Prefixes*

The actant prefixes of Takāle, Mhai and Sheshi are clearly nothing but possessive pronouns which were originally affixed to the parenthetic mode verb and later spread to the narrative mode verb forms. In Sheshi Khām the prefixes still occur only in the parenthetic mode. In Takāle and in Mhai these parenthetic mode actant prefixes have been reanalysed as agent markers in the case of first and second person prefixes and as patient markers in the case of third person prefixes. Whether the third person prefixes also originate in the possessive pronominal paradigm cannot be decided. Their position differs from

the position of the first and second person prefixes, while in Sheshi all traces of third person suffixes vanish in the parenthetic mode, while the first and second person suffixes remain in place. These facts indicate a basic difference between first and second person pronominal affixes and third person pronominal affixes.

The Gamāle prefixes are difficult to analyse. As is the case in Sheshi Khām, some tense morphemes occur as prefixes. In Sheshi Khām this is limited to the future prefix <əi->. In Gamāle, tense markers occur in prefixal slot 1 in all third person agent scenarios. Gamāle has tensed *portemanteaux* in first person singular agent/subject scenarios in prefixal slot 1 as well. Both Takāle and Gamāle have two suffixal tense slots and it may be that the Sheshi future prefix <əi-> was originally a suffix, since Sheshi has only one suffixal tense slot. A separate prefixal tense slot thus does not seem very likely for proto-Khām.

Two of the actant marking prefixes in Gamāle are possessive pronouns as in the other Khām languages, viz. the 1SA/S/NPT prefix <-a> and the 2SA/S prefix <-nə>. But the non-third person agent/subject prefix <ye-> does not occur in any pronominal paradigm. Two hypotheses for the origin and development of this Gamāle Khām prefix are possible.

According to the first hypothesis, the non-third agent/subject prefix could be cognate to the marked scenario prefix *<ta- ~ na-> or the second person prefix <kɛ-> which van Driem reconstructs for Proto-Tibeto-Burman (van Driem 1993:326). Elsewhere (Rempt 1993) I argue that these two proto-morphemes should be reconstructed as one second person marker. Watters connects the Gamāle prefix n3A/S <ye-> with a Proto-Tibeto-Burman evidential or second person marker *<te-> (Watters 1991:7-8).

The most likely hypothesis however, is that the non-third agent/subject prefix <ye-> is the result of a merger of weakened forms of the first person non-singular possessive pronoun *<ge-> and the second person non-singular possessive pronoun *<je->, originally prefixed to parenthetic mode verbs. If this were the case, then the first person singular agent/subject preterite tense *portemanteau* prefix <a-> and the second person singular agent/subject prefix <nə-> are not recent innovations, but vestiges of an earlier system very much like the Mhai and Takāle systems. Gamāle would then be innovative instead of conservative.

Other possible indications of the innovativeness of Gamāle Khām are the development of a second person dual marker <-sĩ> out of a second non-singular morpheme *<-sə> and a dual morpheme *<-ni> and the development of the first person plural and second person singular suffix <-əɛ̃> out of the second person singular suffix *<-n>, which may be reconstructed for proto-Khām. The etymology [əɛ̃] < *[n] is given in Watters (1991:8), though he does not give evidence for this development.

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No Khām-internal comparative evidence for a proto-Khām etymology of the Takāle negative prefix <ma-> is available, but since cognates occur in almost all Tibeto-Burman languages, it can safely be reconstructed for Proto-Khām.

In summary, arguments can be given for the reconstruction of only one prefix: the negative prefix *<ma->. A reconstruction of a prefix *<ye->, possibly indicating a marked scenario, may be correct, but is very uncertain in view of the innovative nature of Gamāle.

### 7.3.2. Suffixes

The only information we have about Khām reflexive forms stems from Takāle Khām. The Takāle reflexive suffix <-si> occurs immediately adjacent to the verbal root, in suffixal slot 1. This seems to agree with the reconstruction made by van Driem (1990, 1991a, 1992 and 1993) of a reflexive morpheme *<-nši> occurring in the most anterior position of the suffixal string. Accordingly, a reflexive proto-morpheme *<-si> is postulated for proto-Khām, occurring in first position in the suffixal string.

All Khām languages show a reflex of a nasal first person suffix in an anterior part of the suffixal string:

| | | | |
|---|---|---|---|
| Takāle | 1sP | <-na> | sf1 |
| Gamāle | 1s | <-ŋ> | sf3 |
| Sheshi | 1s | <-ŋa> | sf2 |
| Mhai | 1s↔3 | <-ŋ> | sf3 |

Takāle <-na> may either be a development from a velar nasal, or else a reflex of Proto-Tibeto-Burman 1s→2 *<-nya>. Gamāle, Sheshi and Mhai all point to a velar nasal first person singular proto-morpheme, unmarked for grammatical role. Accordingly, a morpheme *<-ŋ> or perhaps *<-ŋa> can be reconstructed, at a position in the first part of the suffixal string.

First and second person non-singular morphemes are reflected in all Khām languages:

| | | | |
|---|---|---|---|
| Takāle | 1nsP | <-si> | sf1 |
| | 2nsP | <-ci> | sf1 |
| Gamāle | 1pP | <-si> | sf3 |
| | 2ns | <-sə> | sf3 (< 2d <-si> (< 2ns <-sə> + d *<-ni>) & 2p <-sə>) |
| Sheshi | 1d/2ns | <-ci> | sf2 |
| Mhai | 1nsP | <-si> | sf1 |
| | 2ns | <-ci> | sf3 |

Both Gamāle 1pP <-si> and 2ns <-sə >, and Sheshi 1d/2ns <-ci> seem to argue for an original first and second person non-singular morpheme, but Takāle and Mhai show that two separate morphemes must be reconstructed for Proto-Khām, a first person non-singular marker <-si> or <-sə> and a second

person non-singular marker <-ci>. In Mhai Khām the first person non-singular affix <-si> occurs in the first position in the affixal string, earlier than the second person non-singular affix <-ci>. This suggests that the first non-singular proto-morpheme must also be located closer to the stem than the second non-singular morpheme.

The Gamāle second person dual suffix <-sī> originally consisted of a second person non-singular morpheme <-sə> and a dual number affix *<-ni>. The dual number suffix <-ni> has left its mark on the vowel of the second dual agent/subject marker in the form of the [i] vocalisation and the nasalisation. The 2ns affix <-sə> was subsequently reanalyzed as a second person plural affix. The Sheshi Khām first person dual and second person non-singular suffix <-ci> would seem to be the result of a merger between a first person non-singular and a second person non-singular suffix.

Only Mhai and Sheshi seem to have retained a reflex of the Proto-Tibeto-Burman first and second person plural suffix *<-i>:

| | | | |
|---|---|---|---|
| Sheshi | ns | <-ya> | sf4 |
| Mhai | 1p→3 | <-e> | sf3 |

The Sheshi non-singular suffix <-ya> seems originally to have had a plural meaning, which was extended to cover non-singular meaning.

A suffix which has reflexes in all the languages under examination is the second person singular suffix:

| | | | |
|---|---|---|---|
| Takāle | 2sP | <-ni> | sf1 |
| Gamāle | 1pAS/**2sSP** | <-əɛ̃> (< *<-n>) | sf3 |
| Sheshi | 2np | <-na> | sf3 |
| Mhai | 2s | <-n> | sf3 |

The Gamāle first person plural agent/subject and second person singular subject/patient suffix <-əɛ̃> is the result of a merger of a second person singular suffix *<-n> and a dual number suffix *<-n>. Of the two suffixes, the second singular *<-n> is the older. It is not clear whether any vowel is associated with this suffix. The position of the proto-morpheme 2s <-n> will be near the stem, though after the first person plural suffix *<-si>, as reflected by Mhai Khām.

Takāle, Gamāle and Mhai, but not Sheshi, show reflexes of a dual number suffix *<-n>:

| | | |
|---|---|---|
| Takāle | 12dP | <-n> |
| Gamāle | **1pAS**/2sSP | <-əɛ̃> < *<-n> |
| Mhai | 2d | <-n> |

As discussed above, the Gamāle 1pAS/2sSP is the result of a merger of two morphemes, a second singular *<-n> and a dual *<-n>. The nasal dual morphemes are developments of the Proto-Tibeto-Burman numeral *<-g-ni-s>

'two', and are in fact recent accretions to the verbal paradigm and not retentions from Proto-Tibeto-Burman. Since Sheshi does not show traces of a related first or second person dual number affix, it does not seem correct to reconstruct a dual affix *<-n> for proto-Khām.

As mentioned, Sheshi, Gamāle and Takāle all have two tense slots. Since only one tense of the Mhai verb paradigm is available, it remains uncertain whether Mhai also possesses two tense slots. Sheshi Khām has one prefixal tense slot and one suffixal slot. Takāle has two suffixal tense slots, like Gamāle Khām. Gamāle in addition marks tense by *portemanteaux* in prefixal slot one.

### Table 18. Khām tense morphemes

| | | |
|---|---|---|
| *Future* | Takāle | <-ya> sf7 |
| | Gamāle | <-ke> sf6 |
| | Sheshi | <-əi> pf1 |
| *Preterite* | Takāle | <-ke> sf5 |
| | Gamāle | <-khẽ> sf6 |
| | Sheshi | <-də> sf1 |
| | Mhai | <-ke> sf2 |
| *Continuous/* | Takāle | <-zya> sf5 |
| *present* | Gamāle | <-jya> sf1 |
| | Sheshi | <-jya> sf1 |
| *Terminate past* | Takāle | <-e> sf5 |

Thus, two tense slots must be postulated, one close to the verbal root, one at the other extremity of the affixal string, as reflected by the Takāle and Gamāle suffixal tense slots. It seems that in Sheshi Khām the future tense morpheme <-əi>, which occurs in the prefixal tense-slot, is cognate to the Takāle future tense <-ya>, which occurs in the most anterior position of the affixal string. Since morphemes occurring further from the verbal root are less fixed in their positions in the affixal string than morphemes occurring closer to the root (cf. Bybee 1985), it is not unlikely that an originally posterior suffixal future morpheme changed its place to a prefixal position in Sheshi Khām, which means that Sheshi also supports the reconstruction of two suffixal tense slots.

The first tense slot contains the preterite tense suffix *<-ke> or *<-de>, as reflected by the Mhai preterite <-ke>, Sheshi preterite <-də> and Takāle preterite <-ke>. A dental-initial form would fit in with van Driem's (1993: 320) reconstruction of a Proto-Tibeto-Burman preterite morpheme *<-tɛ>. The first tense slot also may have contained a present/continuous marker *<-jya> or *<-zya>, as can be inferred from Takāle present <-zya>, Gamāle continuous <-jya> and Sheshi continuous <-jya>.

The second tense slot may have contained a future marker *<-yəi> or *<-ya>, reflected by the Sheshi future <əi-> and the Takāle future <-ya>. This future tense may be connected with an imperative or a reassuring particle.

The morphemes in the Gamāle second tense slot, sf6, pose some problems. If we accept Watters' (1991: 8) tentative sound law for Gamāle Khām, the original form of the preterite <-khē> would have been *<-khen>. There does not appear to be a cognate form of this morpheme in any other Khām language that I know of. The future tense suffix <-ke> looks like a cognate to PT *<-ke>, but both slot and meaning are wrong, though the form is right. Perhaps a new morpheme *khen with preterite time reference, originating in an auxiliary, was appended to the end of the simple verb. This caused a semantic shift in a preterite suffix *<-ke> from preterite to future, which was followed by a shift in the affixal string to the place of the original future morpheme, i.e. at the end of the suffixal string. In Gamāle subsequently many changes in tense marking occurred, resulting in the tensed *portemanteaux* found in prefixal slot 1. If correct, the development of the tense markers indicates once again the innovativeness of Gamāle Khām.

The ubiquitous Gamāle 1pA/n3P suffix <-kə> has no obvious cognates and may well stem from a reanalysed preterite suffix *<-ke>. Alternatively Gamāle <-kə> might be seen as a suffixal reflex of the morpheme van Driem (1993) reconstructs for proto-Tibeto-Burman as the second person prefix *<kɛ->, in which case a reconstruction of a second person suffix *<-kə> may be placed anterior to the other second person morphemes, possibly even before the tense marker, to reflect the anterior position of the morpheme in Proto-Tibeto-Burman.

While the modern languages have not preserved the original third person suffixes very well, it is not true that 'third person indexation tends to be a rather haphazard matter,' as DeLancey (1988:52-53) claims. Very definite patterns and developments can be recognised:

| Takāle | 3SA | <-o> | sf6 |
| Gamāle | 3SA | <-o ~ -wo ~ -u> | sf4 |
| Sheshi | 3S | <-w ~ wa ~ Ø> | sf2 |
| Mhai | 3SA | <-u> | sf5 |

In the allomorphy of the Gamāle affixes the development of the third person singular affixes can still be seen. The original proto-Khām third person affix was *<-u>, a reflex of Tibeto-Burman 3P <-u>. Later, the third person singular free pronoun *<-o> became suffixed in Takāle and Gamāle. In Takāle Khām the old third person singular suffix *<-u> disappeared, while in Gamāle traces still remain. Sheshi third person <-w ~ wa ~ Ø> and Mhai third person singular agent <-u> also reflect the original suffix *<-u>.

Although all daughter languages show a reflex of a third dual suffix, this suffix should not be reconstructed for proto-Khām:

| Takāle | 3dA/s | <-ni> | sf6 |
| Gamāle | 3dA | <-ŋi> | sf4 |
| Sheshi | 3d | <-ni> | sf3 |
| Mhai | 3dA | <-ni> | sf5 |

It is clear that all these morphemes are reflexes of the proto Tibeto-Burman numeral \*<-g-ni-s> 'two', and thus new formations, and not retentions from Proto-Tibeto-Burman. It is entirely likely that proto-Khām did not distinguish between dual and plural number of third person actant.

| Takāle | 3nsA/s | <-rə> | sf6 |
| Gamāle | 3ns | <-rə> | sf5 |
| Sheshi | 3p | <-ra ~ -aŋ> | sf3 |
| Mhai | 3nsA | <-m> | sf5 |

Only Mhai Khām seems to have retained a reflex of an original third plural affix \*<-m>, in a posterior position in the affixal string. Proto-Khām \*<-m> seems cognate to the proto-Kiranti third plural agent prefix \*<-me> and Proto-Tibeto-Burman plural agent \*<-m> (van Driem 1991b and 1993). The many prefixal cognates of a third plural agent morpheme \*<-me> in other languages may mean that the suffixal position of 3nsA in Mhai is an innovation.

It seems from this comparison of third person affixes that in the modern languages the old affixes, of Proto-Tibeto-Burman provenance, are being replaced by suffixes based on the third person free pronouns.

Since in all Khām languages under review here the parenthetic mode suffix has the same form as the third person singular suffix, it is reasonable to reconstruct for proto-Khām a parenthetic mode marker \*<-u>, with the same form as the reconstructed third person singular affix \*<-u>.

## 8. CONCLUSION

The most serious problem in comparative Tibeto-Burman linguistics is the dearth of dependable data. Khām forms no exception. Although a sub-group on the level of Kiranti, very little has been published to date on Khām languages. All material has been gathered by one man, David Watters. The situation for Kiranti is a little better. About The Xīfān languages in China almost no information is available. The Kuki-Chin-Naga languages remain virtually undescribed. Consequently, any conclusions reached on the basis of the presently available material are tentative.

It can be demonstrated that the conjugations of the Khām languages reflect an earlier agglutinative verbal agreement system with suffixes indicating person and number of actant but not grammatical role. This system of affixes can be compared with the reconstructions reached for Proto-Tibeto-Burman. The reconstruction made by Bauman (1975) differs a great deal from both the

reconstruction made by van Driem (1993) and the reconstruction reached for Khām in this paper, but many affixes that can be reconstructed for Khām seem cognate to affixes found in the reconstruction made by van Driem.

While it seems that the elements of the conjugations of the Khām languages are retentions from a Proto-Tibeto-Burman agreement system, the possibility of an independent parallel development cannot be ruled out completely. Just as French developed its emphatic and clitic pronouns as in *moi, je te l'ai donné* '*I* gave it you' independently of the Romanian emphatic and clitic forms as in *ți le-am dat ție* '[I] gave it *you*', the conjugational systems of Khām and Kiranti may have developed independently but in parallel fashion from an original situation where some or even most pronominal matter was independent from the verbal form, to a situation where pronouns were fixed to the verb.

Still, it is much more likely that these conjugations date back to Proto-Tibeto-Burman, but only when more Tibeto-Burman languages are described in more detail, facilitating a thorough comparative analysis of both morphology and phonology, can questions about the origin and development of the conjugational systems be answered.

**APPENDIX 1. Takāle Khām intransitive verb paradigm 'to dance'** (derived from Watters 1973:99):

| | |
|---|---|
| 1s | *ŋa: ŋasyake* |
| 1d | *gin ginsyahke* |
| 1p | *ge: gesyahke* |
| 2s | *nən. nəsyake* |
| 2d | *jin jinsyahke* |
| 2p | *je: jesyahke* |
| 3s | *no syahke* |
| 3d | *noni syahkini* |
| 3p | *norə syahkerə* |

**APPENDIX 2. Takāle Khām reflexive verb paradigm 'to hit'** (derived from Watters 1973:97-98):

| | |
|---|---|
| 1s | *ŋa: ŋapohsike* |
| 1d | *gin gin ginpohsike* |
| 1p | *ge: ge: gepohsike* |
| 2s | *nən. nəpohsike* |
| 2d | *jin jin jinpohsike* |
| 2p | *je: je: jepohsike* |
| 3s | *no pohsike* |
| 3d | *ni ni pohsikini* |
| 3p | *ya ya pohsikerə* |

**APPENDIX 3. Takāle Khām transitive verb paradigm 'to hit'** (derived from Watters 1973:97-98):

Narrative mode

| | |
|---|---|
| 1s→2s | *ŋa: nən.lay ŋapohnike* |
| 1s→2d | *ŋa: jinlay ŋapohcinke* |
| 1s→2p | *ŋa: jelay ŋapohcike* |
| 1s→3s | *ŋa: nolay ŋapohke* |
| 1s→3d | *ŋa: nonilay ŋanipohke* |
| 1s→3p | *ŋa: noralay ŋarapohke* |
| 1d→2s | *gin nənlay ginpohnike* |
| 1d→2d | *gin jinlay ginpohcinke* |
| 1d→2p | *gin jelay ginpohcike* |
| 1d→3s | *gin nolay ginpohke* |
| 1d→3d | *gin nonilay ginrapohke* |
| 1d→3p | *gin noralay ginrapohke* |
| 1p→2s | *ge: nən.lay gepohnike* |
| 1p→2d | *ge: jinlay gepohcike* |
| 1p→2p | *ge: jelay gepohcike* |

| | |
|---|---|
| 1p→3s | ge: nolay gepohke |
| 1p→3d | ge: nonilay gerapohke |
| 1p→3p | ge: noralay gerapohke |
| 2s→1s | nən. ŋalay nəpohnake |
| 2s→1d | nən. ginlay nəpohsinke |
| 2s→1p | nən. gelay nəpohsike |
| 2s→3s | nən. nolay nəpohke |
| 2s→3d | nən. nonilay nənipohke |
| 2s→3p | nən. noralay nərapohke |
| 2d→1s | jin ŋalay jinpohnake |
| 2d→1d | jin ginlay jinpohsike |
| 2d→1p | jin gelay jepohsike |
| 2d→3s | jin nolay jinpohke |
| 2d→3d | jin nonilay jinrapohke |
| 2d→3p | jin noralay jinrapohke |
| 2p→1s | je: ŋalay jepohnake |
| 2p→1d | je: ginlay jepohsike |
| 2p→1p | je: gelay jepohsike |
| 2p→3s | je: nolay jepohke |
| 2p→3d | je: nonilay jerapohke |
| 2p→3p | je: noralay jerapohke |
| 3s→1s | noe[9] ŋalay pohnakeo |
| 3s→1d | noe ginlay pohsinkeo |
| 3s→1p | noe gelay pohsikeo |
| 3s→2s | noe nən.lay pohnikeo |
| 3s→2d | noe jinlay pohcinkeo |
| 3s→2p | noe jelay pohcikeo |
| 3s→3s | noe nolay pohkeo |
| 3s→3d | noe nonilay nipohkeo |
| 3s→3p | noe noralay yapohkeo |
| 3d→1s | noni ŋalay pohnakini |
| 3d→1d | noni ginlay pohsinkerə |
| 3d→1p | noni gelay pohsikerə |
| 3d→2s | noni nən.lay pohnikini |
| 3d→2d | noni jinlay pohcinkerə |
| 3d→2p | noni jelay pohcikerə |
| 3d→3s | noni nolay pohkini |
| 3d→3d | noni nonilay yarapohkini |
| 3d→3p | noni noralay yarapohkini |
| 3p→1s | norae ŋalay pohnakerə |

---

9 Note that only the third person singular and the third person plural are marked with the ergative postposition <-e>.

| | |
|---|---|
| 3p→1d | *norae ginlay pohsinkerə* |
| 3p→1p | *norae gelay pohsikerə* |
| 3p→2s | *norae nən.lay pohnikerə* |
| 3p→2d | *norae jinlay pohcinkerə* |
| 3p→2p | *norae jelay pohcikerə* |
| 3p→3s | *norae nolay pohkerə* |
| 3p→3d | *norae nonilay yarapohkerə* |
| 3p→3p | *norae noralay yarapohkerə* |

**APPENDIX 4. Mhai Khām transitive verb paradigm 'to hit'** (derived from Watters 1975):

Narrative mode

| | |
|---|---|
| 1s→2s | *ŋapohkən* |
| 1s→2d | *ŋapohkəcin* |
| 1s→2p | *ŋapohkəci* |
| 1s→3s | *pohkəŋ* |
| 1s→3d | *yanpohkəŋ* |
| 1s→3p | *yarapohkəŋ* |
| 1d→2s | *ginpohkən* |
| 1d→2d | *ginpohkəcin* |
| 1d→2p | *gepohkən* |
| 1d→3s | *pohkəci* |
| 1d→3d | *yarapohkəci* |
| 1d→3p | *yarapohkəci* |
| 1p→2s | *gepohkən* |
| 1p→2d | *gepohkəcin* |
| 1p→2p | *gepohkəci* |
| 1p→3s | *pohke* |
| 1p→3d | *yarapohke* |
| 1p→3p | *yarapohke* |
| 2s→1s | *nəpohkən* |
| 2s→1d | *nəpohsikən* |
| 2s→1p | *nəpohsikən* |
| 2s→3s | *nəpohkən* |
| 2s→3d | *nənapohkən* |
| 2s→3p | *nərapohkən* |
| 2d→1s | *jinpohkəcin* |
| 2d→1d | *jinpohkəcin* |
| 2d→3s | *jinpohkəcin* |
| 2d→3d | *jinnəpohkəcin* |
| 2d→3p | *jerapohkəcin* |
| 2p→1s | *jepohkəci* |
| 2p→1d | *jepohsikəci* |

| | |
|---|---|
| 2p→1p | *jepohsikəci* |
| 2p→3s | *jepohkəci* |
| 2p→3d | *jerapohkəci* |
| 2p→3p | *jerapohkəci* |
| 3s→1s | *pohkuŋu* |
| 3s→1p | *pohsiku* |
| 3s→2s | *pohkunu* |
| 3s→2p | *pohkucu* |
| 3s→3s | *pohku* |
| 3s→3d | *yanpohku* |
| 3s→3p | *yarapohku* |
| 3d→3s | *pohkini* |
| 3d→3d | *yarapohkini* |
| 3d→3p | *yarapohkəm* |
| 3p→1p | *pohsikəm* |
| 3p→3s | *pohkəm* |
| 3p→3d | *yarapohkəm* |
| 3p→3p | *yarapohkəm* |

Parenthetic mode

| | |
|---|---|
| 1s→2s | *ŋapohnu* |
| 1s→2d | *ŋapohcinu* |
| 1s→2p | *ŋapohci* |
| 3s→1s | *opohŋu* |
| 3s→2s | *opohnu* |
| 3s→2p | *opohcu* |

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