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WORD FORMATION

IN Kɨstanɨññа

BY

ALEMAYEHU GURMU

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TO THE MEMORIES OF

MY INTIMATE FRIEND BENYAM BOGALE

AND

MY ELDER BROTHER GETACHEW GURMU

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ABBREVIATIONS AND SYMBOLS USED

A, Adj	=	Adjective
Abs	=	Abstract
Aff	=	Affix
B	=	Base
C	=	Consonant; Coda (in Syllables)
Caus	=	Causative
Cf	=	Compare
ELRC	=	Ethiopian Language Research Centre
fem	=	feminine
Instr	=	Instrumental
Intrans	=	Intransitive
N	=	Noun; Nucleus (in syllables)
Nom	=	Nominal
O	=	Onset
OCP	=	Obligatory Contour Principle
Pas	=	Passive
Pl	=	Plural
pst	=	Past
R	=	Root; Rhyme (in syllables)
Res	=	Residual

S	=	Stem
Sth	=	Something
Trans	=	Transitive
U	=	Sign for a morpheme
V	=	Vowel; verb
Voc	=	Vocative
Voc-tier	=	Vocalic tier
W	=	Word
WFR	=	Word-Formation Rule
2nd sg	=	Second person singular
3rd sg mas	=	Third person singular masculine
3mpo	=	Third masculine plural object
3fs	=	Third person feminine singular
3fso	=	Third person feminine singular object
3mss	=	Third masculine singular subject
σ	=	Syllable
≠	=	Delinking of a segment from its respective slot.
/	=	Sign for spreading
—	=	Sign for a stem
=>	=	becomes
|	=	A line that connects a segment to a CV slot.
?	=	Glottal stop

ABSTRACT

This thesis attempts to investigate and explain the word-formation processes of Kɨstanɨññña, one of the Ethio-Semitic languages. The issues raised are nominalization, verbalization, adjectivization, reduplication and compounding. These largely represent the non-inflectional aspects of morphology.

An overview of Kɨstane phonology is included in order to give highlights to the morpho-phonemic processes of the language. The major morpho-phonemic processes are assimilation, insertion and deletion of segments.

Under nominalization, the different nominals are described and their derivation shown. The two major types of nominals are those derived concatenatively such as abstract nominals and those derived non-concatenatively such as action nominals.

In verb-formation, the different verbal patterns are discussed. Roots are the bases for the formation of most verbals, and in some cases, perfective forms of verbs are taken as bases. Reduplication is discussed under verbalization, as it is verbal based and results in verbal outputs.

Adjectivization is also based on roots, stems and words used as inputs. Formally, there are some adjectivizers that are similar to some Kɨstanɨññña nominalizers but with different functions.

Compounding in the Kistane language also takes roots, stems or words as bases. Different lexical categories such as nouns, adjectives, verbs etc. come together to form compound adjectives, verbs and nouns.

Some derivations are governed by word-formation rules and others are demonstrated with the help of morphemic-tier hypothesis which adequately explains Semitic morphology in general.

CHAPTER ONE

INTRODUCTION

1.1. THE KɨSTANE LANGUAGE

Kɨstanɨññña is one of the southern Ethio-semitic languages grouped under the Northern Gurage sub-group (Hetzron, 1968), (Leslau, 1979). Kɨstane, which means 'Christian', is the name of the people and Kɨstanɨññña is the name of the language they speak (Goldenberg, 1968). 'Kɨstane af' is the other option for the name of the language.

1.2. REVIEW OF THE LITERATURE

Regarding the studies made on the language, different scholars have treated different issues ranging from general to specific. In this review, only those works that are related to the present study are mentioned. Among other things, Leslau (1968) has discussed the general overview of the language. In this study, he has touched upon the grammar of the language based on Cohen's (1931) findings. In his (1992) work, Leslau discusses some phonological, morphological and syntactic issues. Both works are helpful for Semitic studies in general and Kɨstanɨññña studies in particular. Hetzron (1968, 1977) discusses the verb system of Kɨstanɨññña by comparing it with other Gurage languages such as Masqan, Gogot and Muher. He also indicates the criteria that help to categorize the verbs in the Gurage languages and groups them accordingly. By so doing he raises phonological, morphological and grammatical issues. The works of Hetzron are too general and hence do not treat specific issues. Goldenberg (1968, 1996) discusses Kɨstane

phonology and grammar along with giving a brief account about the people and the language. His morphological work concentrates mainly on identifying inflectional elements with respect to gender, number and person. He also raises some points on verbal compounds of Kɨstanɨññа. The works of Goldenberg are of great importance to Semitic studies in general and Kɨstanɨññа studies in particular.

Getachew Kidane (1982), in his B.A. thesis, has made a contrastive analysis between Amharic and Kɨstanɨññа inflectional categories that indicate gender and reflexives. He also has compared the pronouns of Amharic and Kɨstanɨññа that are inflected in verbs. Furthermore, he has raised some points with regard to derivations of nouns from verbs. Generally speaking, his contrastive analysis is worth mentioning since it can give fresh impetus to doing morphological research of this sort.

Fisseha Shanko (1985), in his fourth year essay, discusses the morpho-phonemics of nouns and verbs by describing some phonological processes like assimilation, gemination, epenthesis and the like. His area of focus is inflectional affixes of nouns and verbs of Kɨstane language. His work can be helpful to do research on the interface of morphology and phonology.

Admasu Sima (1987), in his senior essay, has discussed the adjectives of Kɨstanɨññа. He has identified different types of adjectives and has given thorough analysis and description. In General, his work is quite exhaustive and contributes to the study of morphology of Kɨstanɨññа.

Mekbib Kassa (1992), in his B.A. thesis, has attempted to discuss the verb morphology of Kɨstanɨññа and has classified the verbs according to their classes based on

certain criteria. In addition to these, he has discussed different sentence patterns in which the verbs behave as constituent elements of the sentences. Mekbib's work is a useful one and can be helpful to other researchers interested in similar areas.

Eventhough some morphological aspects of the language, as mentioned in this sub-section, have been treated at different times by different scholars, none of the works mentioned in the review gives a detailed description of the word-formation processes in the language.

1.3. OBJECTIVES OF THE STUDY

Building upon what has been done so far on Kɨstanɨññña, the present researcher not only tries to describe and analyse Kɨstane word-formation but he also attempts to explain the basic derivational processes. Hence, the general objectives of the present study are to examine the different word-formation processes of Kɨstanɨññña and to determine the word-formation rules that govern them. The specific objectives of the study are thus to examine the processes involved in a) Nominalization, i.e., nominal formation,

b) Verbalization, i.e., verb formation,

c) Adjectivization, i.e., adjective formation

d) Compounding, i.e., composite forms.

In addition to these, as word - formation processes are related to phonological as well as syntactic descriptions, the analysis shows the different processes involved in these boundary areas. That is, it also attempts to show the morpho - phonemic and morpho-syntactic behaviour of the word - formation processes involved.

1.4. SIGNIFICANCE OF THE STUDY

As word - formation is one sub - category of morphology, other than inflection (Bauer, 1983), this research treats issues that have not been treated by other researchers. In addition to this, this study tries to treat areas of word - formation which have not been dealt with thoroughly by others. As the description and analysis of different languages is vital to the development of morphology as a discipline, studying Kɨstanɨññа word-formation processes in a more lucid and plausible way will contribute to the study of Semitic linguistics in general and to Kɨstanɨññа studies in particular. This means, the findings would strengthen the already existing assumptions on Semitic linguistics in some respects or would pin point new trends in the area. In addition to these, this work can be of help in the preparation of teaching and learning materials in the language. Moreover, it may help as a source to researchers who are interested in similar issues that involve linguistic related disciplines like Anthropology, Sociology, History, Culture and so on. It can also be helpful in theory formulation in the areas of Semitic morphology. Last but not least, it may serve as an impetus to further linguistic research.

1.5. THEORETICAL FRAME - WORK

Prior to Chomsky, the analysis of morphology was not seen as a discipline on its own. Chomsky's article (1970) 'Remarks on nominalization', has brought a turning point to the study of word - formation processes. In addition to this, Halle's (1973) 'prolegomena to a theory of word - formation' has also become a positive input to setting word - formation process discreetly as a research area on its own.

As a result of these endeavors, two main approaches known as 'strong lexicalist' and 'weak lexicalist' approaches came out. The strong lexicalist approach as discussed by Leiber (1980) and Kiparsky (1982) among others, looks or treats inflection in the lexicon and as a morphological process. On the other hand, the weak lexicalist approach as proposed by Siegel (1974) and Aronoff (1976) among others, assumes that inflections are treated under syntax and still some others believe that they can be treated under phonology (Scalise, 1984).

In the analysis of the present work, the researcher follows the weak lexicalist approach and tries to indentify the different derivational, compounding and reduplication processes the language employs in word - formation processes. In addition to these, the works of McCarthy (1979, 1982 and 1986) are taken as a guide to the non - concatenative morphology of the language, which typifies the nature of Semitic languages in general.

In addition to describing how lexical items are formed from words, stems or roots, this paper looks at the different phonological, morphological and syntactic processes involved in word-formation of the language. When we are referring to a lexical category, it includes the freely existing words of a language, the different affixes, bound morphemes and the words that are derived with the help of word - formation rules. As syntax defines the class of possible sentences in a language, morphology defines the possible words in a language (Aronoff, 1976). As Halle (1973) proposes, when we are dealing with lexical items, we take into account the actual, the possible but non - existent, and the impossible and non - existent words based on the specific language rules. The mere facts that exist in a language after analysis may help to formulate a theory of morphology. Hence, "The goal

of a morphological theory becomes that of defining the "new" words that speakers can form, or more specifically, the "regular" rules by which new words are formed" (Scalise, 1984:41). The other notions discussed in this paper include feature specifications, non - linear approaches to morphology and theory of percolation. Under feature specifications, the different phonological and morphological features are discussed, and in non - linear approaches to morphology, the recent theories held by McCarthy (1979, 1982 and 1986), Katamba (1993), and others are taken as guidelines to treat the word-formation processes. Under feature percolation convention, the relations between a node and immediately following lesser nodes are demonstrated by taking Selkirk (1982) as a term of reference. Generally speaking, when we refer to feature percolation, we mean the passing of syntactic and diacritic features from lesser nodes to higher nodes, which is governed by head and non-head relations in a constituent. Last but not least, one phonological process, assimilation, is discussed in light of feature geometry, one of the recent phonological theories.

In this paper, I shall proceed as follows. In chapter two, the phonology of Kɨstanɨñña is discussed in brief. Knowing the basic facts of the morpho-phonemics of the language is advantageous in understanding the word - formation processes. When this is done, the reader may find it easier to go through the entire paper. In chapter three, issues related to noun formation are raised. The concatenative as well as the non - concatenative noun formation processes are presented with pertinent examples. Chapter four deals with the verb formation or verbalization. Issues related to the different verbal patterns, reduplication processes and other derivative forms are included in this section. Chapter

five attempts to discuss adjective formation, i.e. adjectivization. The possible adjectival patterns are presented in this section. Chapter six investigates compound word - formation in Kɨstanɨñña. The different possible compound word types are presented with relevant examples. All the discussion throughout the entire paper is carried out in light of the theories of word - formation cited in the theoretical frame - work (1.5.) above.

CHAPTER TWO

GENERAL OVERVIEW OF KɨSTANE PHONOLOGY

In this section, I shall present the phonemic inventory of Kɨstanɨññña and will thus show the phonemes of the language together with some phonological features. This part gives an incitement to the phonotactics of the language, the syllable structure and the morphophonemic processes involved in the word - formation processes.

2.1. CONSONANT PHONEMES

In Kɨstanɨññña, there are 23 consonant phonemes (Tesfaye, 1986), as indicated in chart 1. As is observed in the chart, alveolars and alveo-palatals are numerous as compared to other place of articulations. Stops and sonorants occupy a larger place as compared to other manner of articulations. Consider the following chart.

Phonemic inventory of Kɨstanɨññña Consonants

place of articulation

manner of articulation		bi - labial	labio-dental	alveolar	alveo-palatal	palatal	velar	Glottal
Stops	voiceless			t			k	
	voiced	b		d			g	
	ejectives			t'			k'	
Fricatives	voiceless			s	š			h
	voiced		f	z	ž			
Affricates	voiceless				č			
	voiced				ǰ			
	ejectives				č'			
Sonorants	nasals	m		n		ñ		
	liquids			l, r				
	glides	w				y		

Chart 1

2.2. VOWEL PHONEMES

In K̶i̶stan̶i̶ñña there are 6 vowel phonemes, as indicated in chart two below. The high central vowel [ɨ] is epenthetic. It is inserted to break up a sequence of two consonant clusters word initially and three consonant clusters elsewhere. Consider the following chart.

Phonemic Vowel Inventory of K̶i̶stan̶i̶ñña

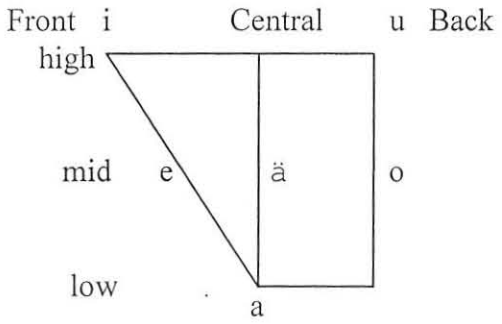


Chart 2

Vowel length and diphthongs do not exist in the language. In a very rare case, a vowel length is observed as in [i:n] 'eye', where there is a compensatory lengthening for the glide /y/. The same holds true for /w/, as in [o:n] 'truth', where it can be taken as [won] having the same meaning.

2.3. PHONOTACTICS

Refers to the coocurrence restriction among the consonant phonemes of the language.

2.3.1. Cluster of Consonants: In Kɨstanɨñña, a cluster of consonant segments of any sort is impermissible at word-initial position. At the phonological level, there is a cluster of stops followed by liquids in this position in a word. But at the surface level this cluster is broken by the epenthetic vowel [ɨ]. Medial consonant clusters are not permissible as the consonants are sequences and not clusters and they therefore belong to different syllables. Final consonant clusters comprising two consonants (C_1 C_2) is permissible, with the exclusion of /w/ in C_2 position. That means all consonant segments can be first as well as second member in C_1C_2, as shown in (1) below. Consider some of the possible clusters.

(1)	/godš /	'You$_{fem.}$ poured sth'
	/wač'š/	'You$_{fem.}$ swallowed sth'
	/wawy/	'to cry'
	/gurz/	'old'
	/art'/	'flour'

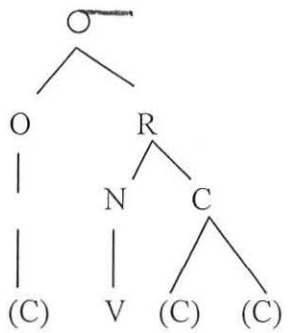
2.3.2. Gemination: Gemination is phonemic in the language. The following examples can demonstrate this fact.

(2)	/godo/	'he poured'
	/goddo/	'he was hurt'
	/tona/	'sit!' 2nd sg mas
	/tonna/	'he sat'

2.4. SYLLABLE STRUCTURE

The syllable structure of the language comprises an optional non-branching onset (O), an obligatory non-branching nucleus (N), and an optional branching coda (C), comprising a sequence of two consonants at word-final position only. Onset and coda are optional in the minimal syllable structure. However one is absent when the other is present in the other structures. All appear in the maximum syllable template as well as in CVC syllable structure. The following is the syllable template of Kɨstanɨñña .

(3)



A syllable type ranging from a vowel alone to CVCC occur in the language. The two main syllable types in the language are CV and CVC. The maximum syllable template is CVCC in word - final position (Rose, 1997). As Leslau (1992) argues, syllable initially, a branching onset comprising a stop and a sonorant is allowed, but further investigation by other scholars reveals that there is an epenthetic vowel [ɨ] in between the segments to break them. Hence, a branching onset is not allowed in the language.

2.5. MORPHO-PHONEMIC PROCESSES

Major morphophonemic processes are assimilation, deletion and insertion, 'major' being defined in terms of their relevance to the objective of this study.

2.5.1. Assimilation: A consonant segment assimilates to the consonant segment that follows it, in place or manner of articulation or voicing.

2.5.1.1. Place of Articulation: A segment assimilates in place of articulation to the immediately following segment as shown in (4).

(4) a. /k'dam sänbät/ => [k'ɬädan sämbät] 'Saturday'

b. /at-giddälo/ => [aggiddälo] 'Cause to kill'
3rd sg mas.

In both examples the segments /m/ and /n/ in (a) and /t/ in (b) assimilate to the following segment triggered by the feature of the latter. The assimilation is regressive in both cases but is partial in (a), and is complete in (b) above.

Note that as palatalization is considered as place assimilation, it can be incorporated under this sub-section. What is observed here is that, an alveolar segment becomes palatal before a high front vowel as in;

c. /wäk'aṣ-i/ => [wäk'aš] 'criticizer'

d. /käsas-i/ => [käsaš] 'accuser'

2.5.1.2. Manner of Articulation: A consonant assimilates to the following consonant in its manner of articulation as in the following.

(5) a. /at-zibbäro/ => [azzibbäro] 'he got it back'

b. /kit-sänbät/ => [kissämbät] 'two weeks'

In short, /t/ assimilates to /z/ as in (5a) and /t/ assimilates to /s/ as in (5b).

Note that the homorganic nasal assimilation that took place in (5b) is raised in (2.5.1.1.) above.

2.5.1.3. Voicing: A consonant segment is triggered by the following segment to assimilate to it in voice at morpheme boundary. Consider the following examples.

(6) a. /angät/ + /ge/ => [angädge] 'a name of a place'
'neck' 'house'

b. /at-dibbäl-o/ => [addibbäl-o] 'Cause to add'
3^{rd}_{sg} mas.

2.5.2. Deletion: When two vowels occur at morpheme boundary, the first vowel is deleted as in the following.

(7) a. [wɨssa] + [o] => [wɨssa + o] => [wɨsso] 'you - dog!'
'dog' 'voc marker'

b. [wäzäla] + [alman] => [wäzälalman]
'Job' 'without' 'Jobless'

In both cases the vowel /a/ is deleted from the structure when it is followed by the vowels /o/ and /a/ respectively.

2.5.3. Insertion: A vowel or a glide is inserted in between morphemes to make the conjoining of the morphemes possible.

2.5.3.1. Vowel Insertion: A vowel /ä/ is inserted in between morphemes as a linker as in the following examples.

(8) a. [äǰ] + [t'äbbab] => [äǰ-ä-t'äbbab]
'hand' 'narrow' 'a kind of shirt'

b. [kärs] + [bättät] => [kärs-ä-bättät]
'belly' 'wide' 'tolerant'

Note that the motivation in both cases (a and b) is morphological and it can be interpreted as having a genitive role showing possession.

2.5.3.2. Glide insertion: A glide is inserted to break succession of vowels at morpheme boundaries. The motivation for the insertion of the glide is hiatus in between vowels and with regard to their distribution, [y] is inserted before a front vowel and [w] before a back vowel. Consider the following examples.

(9) a. [ge] + [-i] => [geyi]
'house' 'the' 'the house'

b. [ge] + [-očč] => [gewočč]
'house' 'pl-marker' 'houses'

Note that among others, /-očč/ is one of the plural markers in the language. This suffices to show the morpho-phonemic processes of the language which has direct relevance to the objective of the present study, namely, to show word-formation processes in K~~i~~stan~~i~~ññ̃a as exemplified in chapter three through six.

CHAPTER THREE

NOMINALIZATION

Nominalization is a process of forming nouns from nominal, adjectival and verbal bases. As the process is analysed in terms of base and additional entities, one would consider categorical or feature differences between the input and the output. Hence, in this chapter, I shall discuss how Kɨstanɨññа nominals are formed. In Kɨstanɨññа there are two processes of nominalizations: (1) concatenative and (2) non-concatenative. Each will be presented below with examples.

3.1. CONCATENATIVELY DERIVED NOMINALS

These are nominals that are derived by adding affixes to nominal bases. Under this, there are abstract, vocative, residual and group identity nominals.

3.1.1. Abstract nouns: are nominals that designate [non-concrete] entities. Such nominals are formed from nominal, or adjectival bases by suffixing [-nnät] as in the following.

(10)	Base (nominal)		Derived forms	
a.	[säb]	'man'	[säb-ɨ-nnät]	'manhood'
	[gäräd]	'daughter'	[gäräd-ɨ-nnät]	'daughterhood'
	[wussa]	'dog'	[wussa-nnät]	'doghood'

	Base (nominal)		Derived forms	
	[nägda]	'stranger'	[nägd-i-nnät]	'strangehood'
	[bayy]	'boy'	[bayy-i-nnät]	'boyhood'
	[mišt]	'woman'	[mišt-i-nnät]	'womanhood'
	[zämmi]	'brother'	[zämmi-nnät]	'brotherhood'
	[ätit]	'sister'	[ätit-i-nnät]	'sisterhood'
	[wälläho]	'neighbour'	[wälläho-nnät]	'neighbourhood'

	Base (adjectival)		Derived forms	
b.	[must]	'ugly'	[must-i-nnät]	'ugliness'
	[maläs]	'small'	[maläs-i-nnät]	'smallness'
	[kufta]	'open'	[kufta-nnät]	'openness'
	[mult'a]	'naked'	[mult'a-nnät]	'nakedness'
	[t'änk'^{w}ara]	'deaf'	[t'änk'^{w}ara-nnät]	'deafness'
	[bättät]	'wide'	[bättät-i-nnät]	'wideness'

As we can see from the examples in (10a and b), the affix [-nnät] is attached to the base to derive the nominals. The word-formation rule applied is the following:

WFR: 1

$$\left\{ \begin{matrix} N \\ A \end{matrix} \right\}_{-abs} + \left\{ \text{Aff} \right\}_{+abs} \Rightarrow \left\{ \text{Nom} \right\}_{+abs}$$

As adjectives and nouns are [+N] categories, the above rule can be generalized to read as follows:

$$\left\{+N\right\}_{-abs} + \left\{ Aff \right\}_{+abs} \Rightarrow \left\{ +N \right\}_{+abs}$$

The rule states that a concrete noun or adjective becomes abstract or [-concrete] when a suffix having the feature [+abstract] or [-concrete] is added to it.

In relation to this, Aronoff (1976:21) says "A new word is formed by applying a regular rule to a single already existing word. Both the new word and the existing one are members of the major lexical categories."

Relevant to this saying, one can observe the existing concatenative word-formation processes in the language. Affixes are attached to base words to form derivatives. All the derived forms, i.e., the [-concrete] outputs, are the combination of the [+concrete] bases and the [-concrete] affixes. [zämmi-nnät] 'brotherhood' is, for example, the combination of [zämmi] 'brother' and [-nnät] 'hood'. The feature of the derived word is the feature of the affix.

As can be seen from the above tables (10a and b), the affix is [-nnät] and [ɨ] is inserted between the stem and the suffix to avoid impermissible sequences of consonants. (See section. 2.2. on the general overview of the phonology of Kɨstanɨññña).

3.1.2. Vocative nominals[1] are nominals that refer to attributes and are used as or instead of proper names. They are derived from base nouns with the suffix [-o].

If the base is one that ends in a vowel, the final vowel of the base is dropped. This is demonstrated in the following examples.

(11)	**Base nominal**		**Derived nominal**	
	[bayy]	'child'	[bayy-o]	'you-child!'
	[ätit]	'sister'	[ätit -o]	'you-sister!'
	[mɨss]	'husband'	[mɨss-o]	'you-husband!'
	[mɨšt]	'wife'	[mɨšt-o]	'you-wife!'
	[wɨssa]	'dog'	[wɨss-o]	'you-dog!'[2]

The attributes that call for the use of such forms as [wɨsso] 'you dog!' are the way the person behaves to others. These nominals are different from others mainly in their inflectional processes. They do not take the plural marker [-očč] as other nominals do. Instead, the prefix [nä-] is attached to them. This prefix shows groups that have the same behaviour. They are similar to proper names in taking this affix initially. Consider the following example.

(12). Example

[n-	ätit - o	mät't'ä- m-um	näbbär]
pl-	sister-voc	come-pst-3mpo	be-pst

'sister and others came'

The rule that derives such nominals can be represented as follows:

WFR:2

$$\{N\}_{-VOC} + \{Aff\}_{+VOC} \Rightarrow \{N\}_{+VOC}$$

Rule 2 states that a non-vocative noun becomes vocative with the suffix [-o].

The derived nominals in (11) can occur as subjects or objects in syntactic structures as in the following examples.

(13) a. [ätit-o fät'än mät't'a-ti]

sister-voc. quickly came-3fs.

'Sister came quickly'

b. [ädi mät'af-i y-ätit-o ab-ku-nnat]

I book-the to-sister-voc gave-I-3fso.

'I gave the book to sister'

In 13 (a), the nominal is serving as subject, and in (b) as object. In (b), mät'af-i 'the book' is the direct object and ätit-o 'sister-voc' is the indirect object. The non-vocative form is listed under the base nominal (11) and the attachment of [-o] to the base nominals result in the formation of vocatives.

3.1.3. Residual nominals are those which refer to things that are left as residues of certain actions or results of actions (Baye, 1994:112). The formation of such

nominals is as follows. A suffix [-očča] is attached to the base nominal to derive the residual nominal.

(14)	Nom base		Residual nom	Gloss
	[tˈɨrragi]	'collection of sweep'	[tˈɨrrag-očča]	'the residue of the sweep'
	[lɨkˈkˈami]	'collection of pick'	[lɨkˈkˈam-očča]	'the residue of the pick'

As these are very few in number, one may not find many examples in this group. The rule that generates these nominals is as follows.

WFR:3

$$\{\text{Nom}\}_{\text{-Res}} + \{\text{Aff}\}_{\text{+Res}} \Rightarrow \{\text{Nom}\}_{\text{+Res}}$$

As vowel succession or diphthong is not allowed in the language, the final vowel of the base is deleted.

3.1.4. Group Identity nominals[3] refer to members of a certain group or activity. They are formed by the attachment of the suffix [-äññä] or [-ätäññä] as in the following.

(15)		nom base		derived form	gloss
	a.	[färäz]	'horse'	[färäz-äññä]	'horse man'
		[bɨšä]	'mourning'	[bɨš-äññä]	'mourner'

	nom base		derived form	Gloss
b.	[ɨddɨr]	'an association for mutual benefits'	[ɨddɨr-ätäññä]	'member of ɨddɨr'
	[ɨk'k'ub]	'economic association'	[ɨk'k'ub-ätäññä]	'member of ɨk'k'ub'

The distribution of the affixes is determined semantically, i.e., the form that takes the suffix [-ätäññä] be taken as an association or a group whereas the form that takes the suffix [-äññä] is an elsewhere condition. The term group identity itself here implies that the derived forms are considered as referring to a certain group or activity. The nominalizers in this group are similar in form with some adjectivizers discussed under chapter five. Their difference lies in the fact that the adjectivizers do result in the formation of adjectives and the nominalizers form nominals. As a result in a sentence or a phrase the adjectives do precede nominals as modifiers where as the nominals do not.

3.2. NON-CONCATENATIVELY DERIVED NOMINALS

In the preceding section, we have seen word formation processes involving affixation. In this section, we shall consider the morphemic tier hypothesis of McCarthy (1979, 1982), Katamba (1993), to analyze the Kɨstanɨñña morphology in relation to word formation processes which can not be handled by traditional theories (Spencer, 1991:133).

The autosegmental theory treats derivational morphology differently in Semitic languages. The constituents of non-concatenatively derived items are named tiers and they are linked together to form derived words. One of the tiers is the root tier, which consists of consonants forming the lexeme. Each root tier represents a specific lexeme. For

example, the root g-d-l in Kɨstanɨñña represents the equivalent meaning 'kill' in English. Another tier is the skeletal tier, which is also called the CV-tier. It is associated with a particular meaning that represents the consonant and vowel form of a lexeme. The CV tier for the perfective form of the verb 'kill' in Kɨstanɨñña is CVCCVC-, i.e., gäddäl-. Still another tier is the vocalic tier (vowel melody tier) which provides the information related to aspect, tense, number and the last tier is an affix (Katamba, 1993:166). For example, in the form /gädal-i/ 'killer', [-ä-a-i-] represent the agentive nominal in Kɨstanɨñña and the ultimate vowel is an affix. With this background, we shall see the non-concatenative nominalization in Kɨstanɨñña as follows. (For details see Katamba 1993, Spencer 1991).

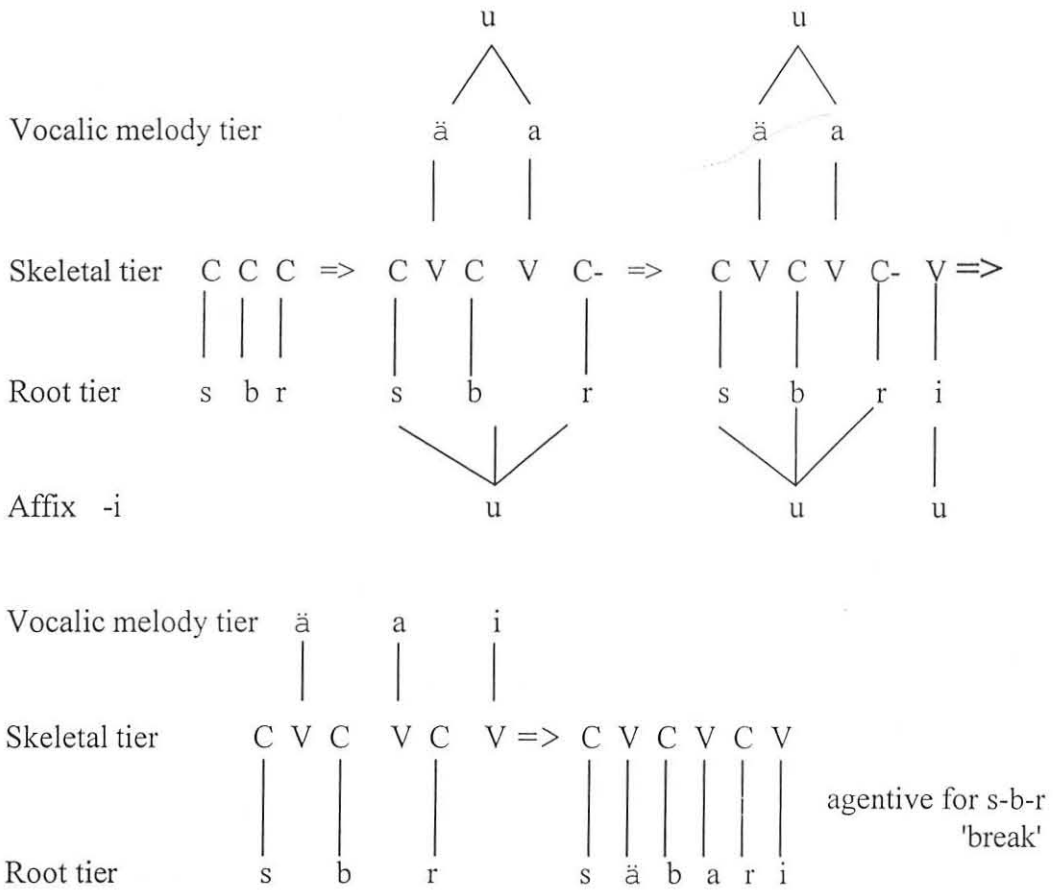
3.2.1. Agentive nominals refer to the doers of actions designated by verbs as in the following examples.

(16)	**Root**	**Derived Stem**	**Derived Agent**	
	n-t'-k'	/nät'ak'-/	/nät'ak'-i/	'snatcher'
	g-f-f-	/gäfaf-/	/gäfaf-i/	'excoriator'
	s-d-b	/sädab-/	/sädab-i/	'insultor'
	s-b-r	/säbar-/	/säbar-i/	'breaker'
	g-d-l	/gädal-/	/gädal-i/ [gäday]	'killer'
	k-s-s	/käsas-/	/käsas-i/ [käsaš]	'accuser'
	w-k'-s	/wäk'as-/	/wäk'as-i/ [wäk'aš]	'criticizer'

The stem is derived from the root, and then becomes the input for the dirivation of the agent nominals. The agentive affix /-i/ is attached to this stem, to form the nominals. Based on McCarthy (1982), the derivation of such nominals is illustrated with the agentive form of s-b-r 'break'.

(17) Agentive nominals tier representation.

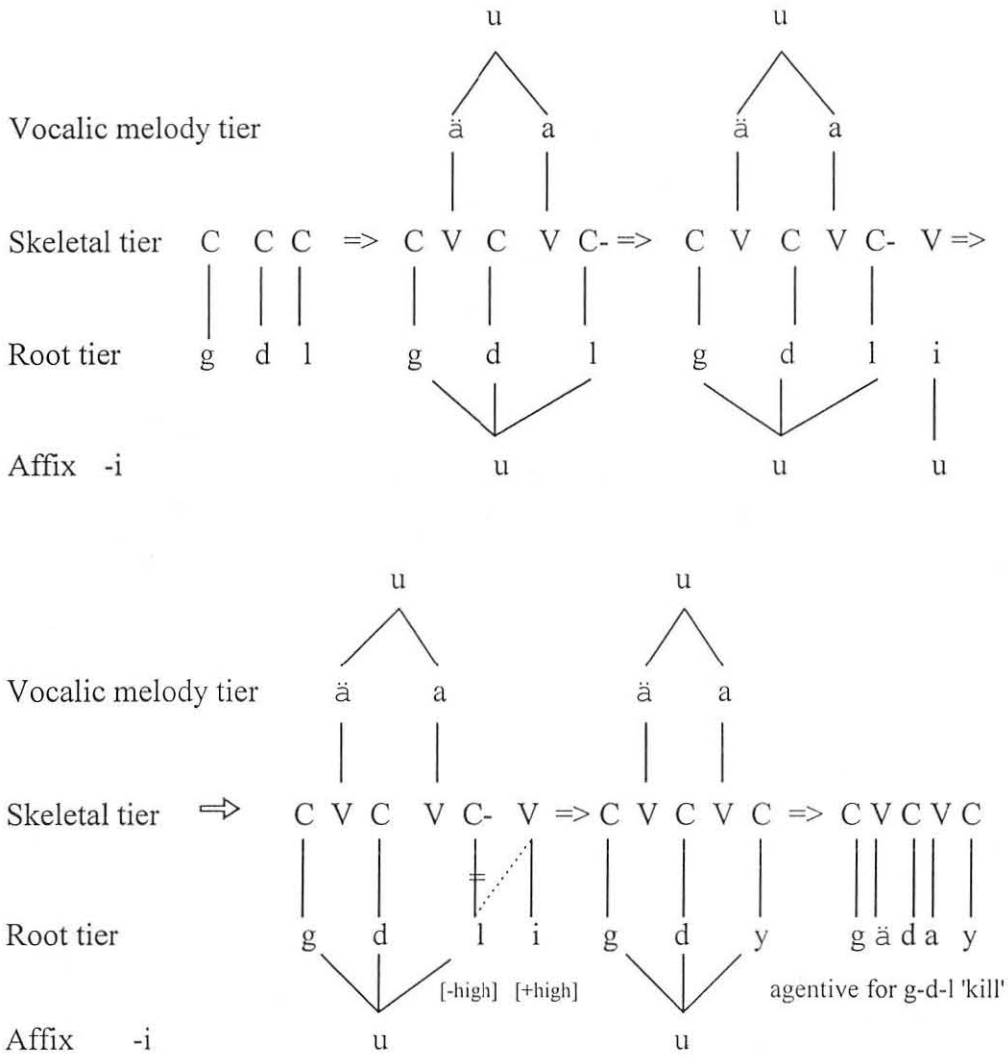
a. Agentive form for s-b-r 'break'.



In (17a) there are the root tier, the skeletal tier, the vocalic melody tier and the affix. They are separate tiers which merge to derive the agentive nominal [säbari] 'breaker'. In

the derived form, the constituents are not seen separately as they form a whole. That is why the affix becomes part of the word and is labelled in the vocalic tier in the final analysis.

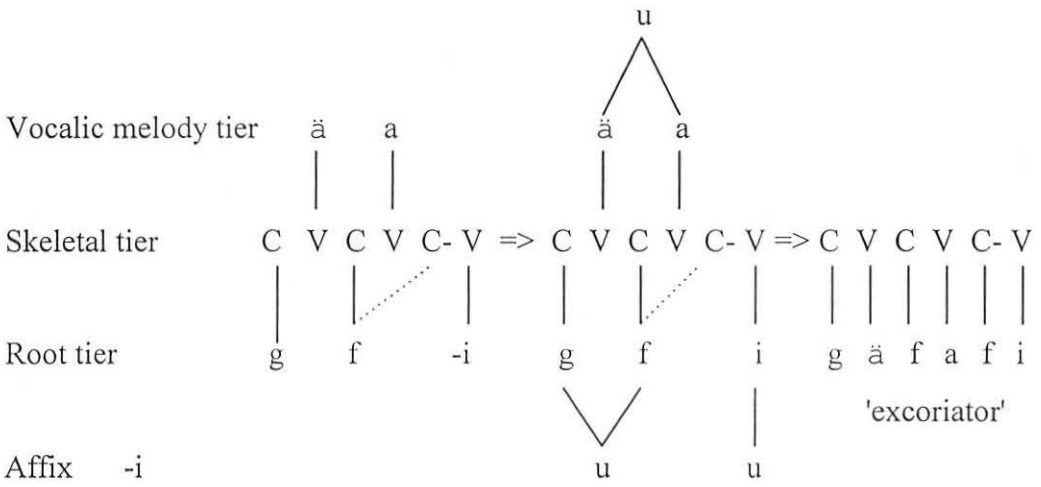
b. Agentive form for g-d-l 'kill'.



The underlying representation in (17b) is the same as that in (17a), but in (17b) there is a process of palatalization. This is observed in the output shown in the final representation under (17b). This process is applicable to all agentive nominals involving palatalization.

The forms g-f-f for 'excoriator' and k-s-s, 'accusr' consist of consonants the last two which are identical. They are underlyingly represented as follows.

c. Agentive form of second radical spreading.



The spreading of the second consonant is subject to the OCP (obligatory contour principle), which states that, at the melodic level, adjacent identical elements are prohibited (McCarthy 1986 as quoted in Katamba 1993:170).

3.2.2. Action nominals refer to actions designated by the verb. Their forms are similar to infinitivals suggesting that they are basically verbals. There are two patterns of such nominals in the language. The first consists of tri-radical roots that appear both underlyingly and in the surface representation as shown below.

(18)		Root	Action nom	Gloss
	a.	l-b-s	[wo-lbɨs]	'to wear'
		m-r-t'	[wo-mrɨt']	'to choose'
		n-g-s	[wo-ngɨs]	'to be a king'
		f-r-k	[wo-frɨk]	'to have patience'
		n-f-s	[wo-nfɨs]	'to blow'
		d-r-s	[wo-drɨs]	'to dance'
		l-g-d	[wo-lgɨd]	'to touch'
		g-r-z	[wo-grɨz]	'to be old'
		s-b-r	[wo-sbɨr]	'to break'

In the above forms, the affix /wo-/ is attached to the root to derive the action nominal, and the epenthetic vowel [ɨ] is inserted between the ultimate and the penult radicals in the surface form. (The morphemic tier representation is depicted on following pages).

The situation is different with intransitive bases. The affix is attached to the Jussive form as shown below.

	Root	Action nom	Gloss
b.	m-w-t	[wo-mut]	'to die'
	r-w-t'	[wo-rut']	'to run'
	?-l-f	[wo-läf]	'to go'
	m-t'-?	[wo-mt'a]	'to come'

	Root	Action nom	Gloss
	d-k'-?	[wo-dak']	'to laugh'
	l-k'-?	[wo-lak']	'to grow up'

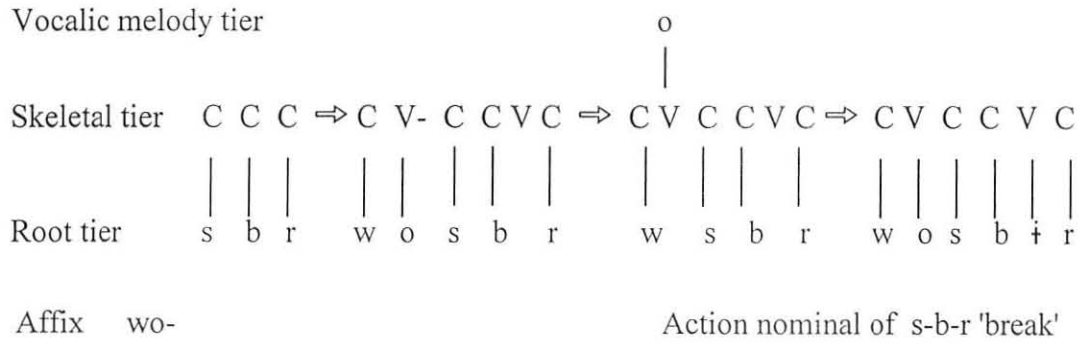
This pattern is similar to some of the transitive bases. Observe the following examples.

	Root	Action nom	Gloss
c.	g-w-d	[wo-gud]	'to pour'
	b-l-?	[wo-bla]	'to eat'
	n-s-?	[wo-nsa]	'to pick'
	s-t'-y	[wo-sč']	'to drink'

The items in (18b) and (18c) look similar in their underlying as well as surface representations because both share the same feature; i.e., in both forms a radical is missing and the missing radical is not represented in the surface structure. The patterns discussed under (18b) and (18c) are underlyingly tri-radicals though they appear biradicals. The following are their derivations.

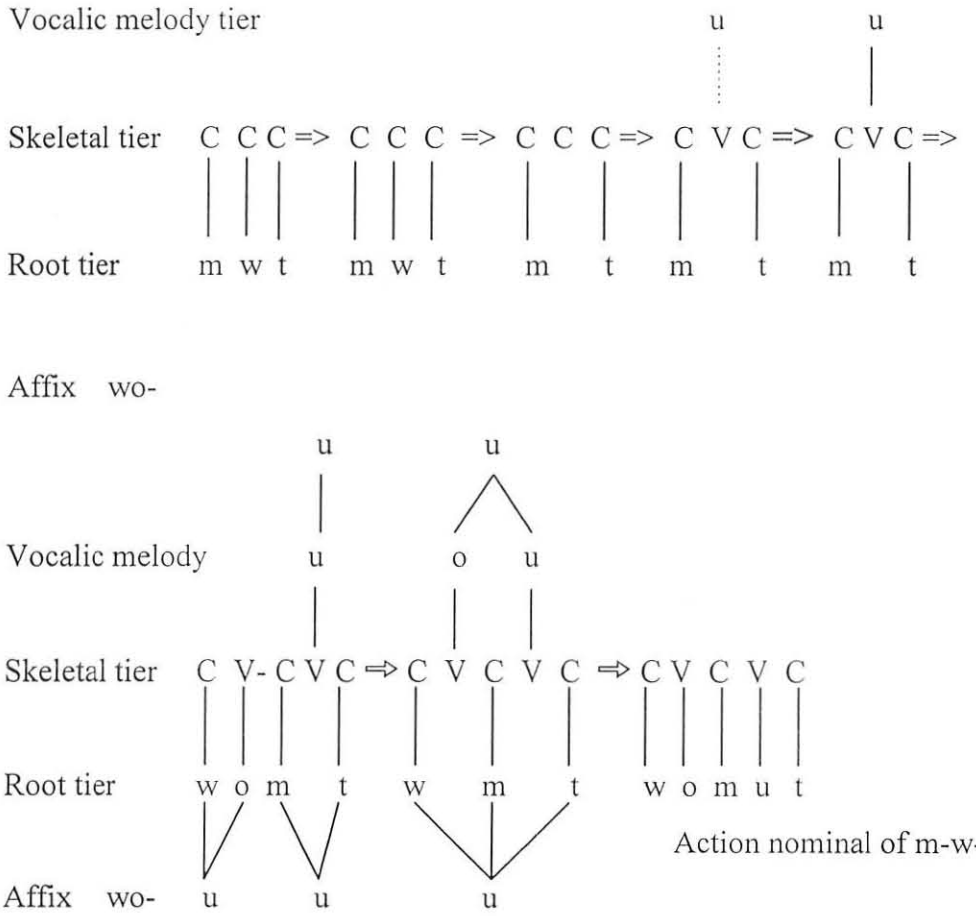
(19) Tier representation of action nominals.

a. Action nominal of transitive bases.



In the input, s-b-r is in a separate tier as it is a root morpheme. To this, the nominalizer [wo-] is prefixed and the epenthetic [ɨ] is inserted to avoid cluster of consonants. The vowel of the affix becomes part of the resultant nominal and is labelled in the vowel melody tier as shown above in the output.

b. Action nominals of intransitive bases.



Action nominal of m-w-t 'die'.

In the above representation, the root is m-w-t 'die' from which the second radical /w/ is delinked and a vowel /u/ is inserted to form the base /mut/ and the affix /wo-/ is attached to it. A segment delinked from its respective slot is deleted from the structure as in (19b)

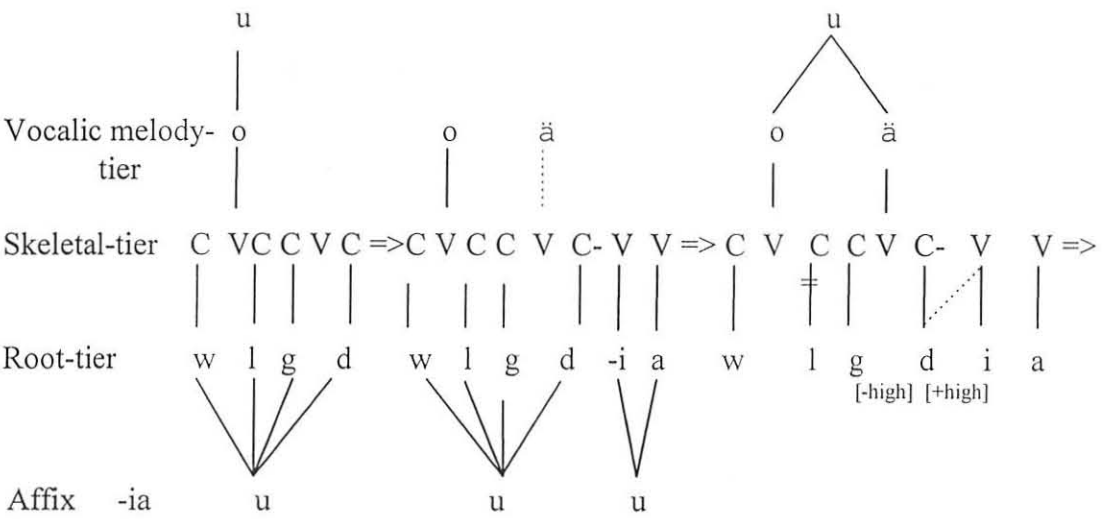
where [w] is deleted from the structure. The tier representation of the radical missing bases of the transitives is similar with the above (19b).

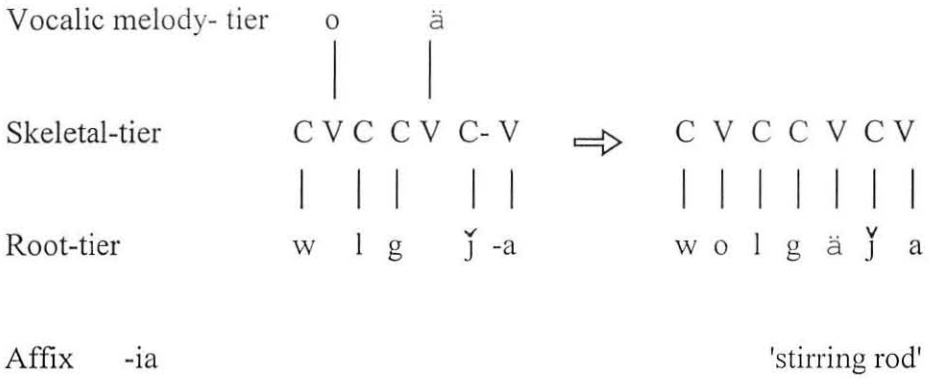
3.2.3. Instrumental nominals are nominals that denote the means by which the action designated by a verb is performed or carried out. The process of forming such nominals takes action nominal stems as bases as in the following.

(20)	**Action nom**	**Instr. nom**	**Gloss**
	[wolgɨd]	[wolgäj-a]	'stirring rod'
	[wodamt']	[wodamäč'-a]	'material for smoothing cotton'
	[wofɨnt]	[wofänč-a]	'entrance of a house'
	[woftɨl]	[wofty-e]	'spindle'
	[wonfa]	[wonaf-o]	'bellows'
	[wosif]	[wosif-ä]	'awl'

The instrumental nominals above are formed with the suffix /-ia/. This triggers palatalization as in the first four examples. As we can see in the other two examples, there is no palatalization. That is the suffix also has the forms [o and-ä] as shown in the last two examples. The tier representation of such nominals is the following.

(21)





Affix -ia 'stirring rod'

As the action nominal is taken as a base for the formation of instrumental nominals, the instrumental nominalizer suffix /-ia/ is attached to this base. Underlyingly, the form is /wolgäd-ia/. The /i/ of the suffix triggers palatalization and palatalizes the immediately preceding sound [d] to [ǰ], that is changing it from [-high] to [+high] as represented in the tier representation (21) above. The output is an instrumental nominal. Similar instrumental nominalization is found in Chaha[4], (Degif, 1997.)

3.2.4. Result nominals[5] refer to the outcome of actions. They show the results of an activity. There are two patterns in this type of nominals.

(22)

a. The first pattern has a template CVCCVC- and an affix.

Root	**Result nom**	**Gloss**
g-r-f	[gɨrrɨf-at]	'whip'
g-r-z	[gɨrrɨz-at]	'circumcision'
s-b-r	[sɨbbɨr-at]	'break'

Root	Result nom	Gloss
b-d-l	[bɨddɨl-at]	'ill-treatment'
m-r-?	[mɨrrɨ?-at]	'blessing'
b-l-?	[bɨllɨ?-at]	'happiness'
b-r-s	[burrɨš-at]	'yearning for'

b. The second has the form CVC- template as a base and an affix.

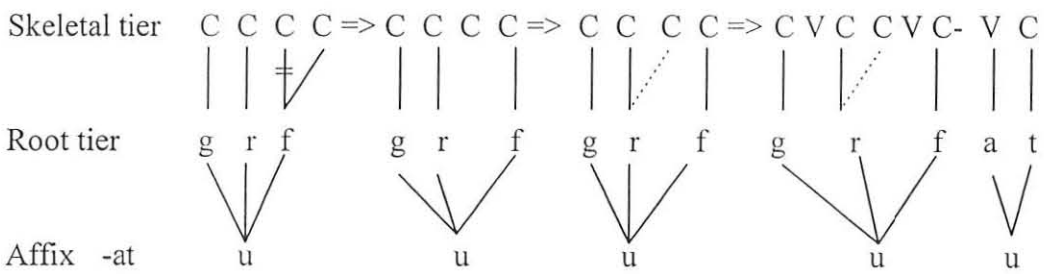
Stem	Result nom	Gloss
[mɨk-]	[mɨk-at]	'problem'
[gɨr-]	[gɨr-at]	'satiety'
[kɨs-]	[kɨs-at]	'becoming skinny'
[sɨm-]	[sɨm-at]	'urine'
[kuč-]	[kuč-at]	'fear'

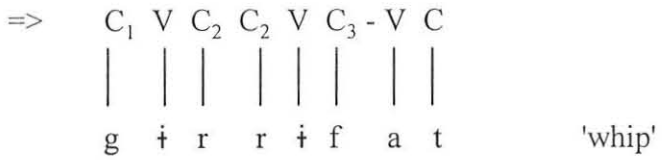
The morphemic tier analysis of both types are presented below.

The first type of result nominals shown above has the following tier representation and derivation.

(23)

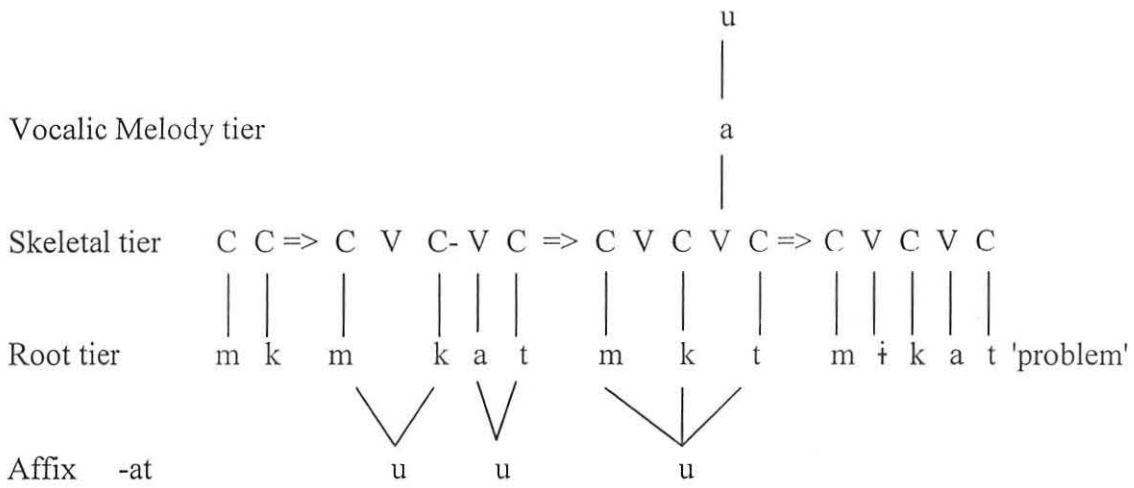
a. Vocalic Melody-tier





In this representation, after the delinking of the ultimate radical to the third slot, a spreading rule operates on the second radical, resulting in gemination and then the attachment of the suffix [-at]. The epenthetic vowel [ɨ] is inserted in contexts where clusters are not permissible.

b. The second type has the following tier representation.

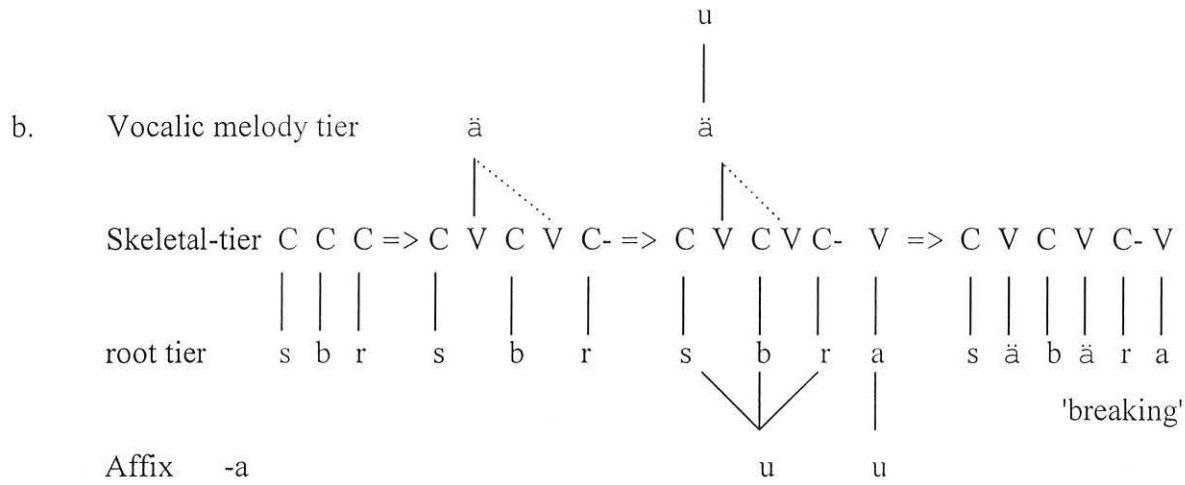


In this representation, the base stem consists of two radicals to which the affix [-at] is attached. The epenthetic vowel is inserted in between the first and the second radicals, as initial clustering is not allowed. [ɨ] is represented in the surface structure and the vowel of the suffix becomes part of the resultant word.

3.2.5. Process nominals show the course of action designated by a verb. In Kɨstanɨñña, such nominals are derived from verbal root bases and are largely identified by the addition or attachment of /-a/ to the stem form which has [ä-ä] vowel melody elements in between the radicals that remain the same in their surface as well as underlying representations. In the others, one may not have [ä-ä] vowel melody. One may identify whether a nominal is a process one or not by using it with the preposition 'bä- - - lalä', which shows action in progress[6]. If it fits the slot, it is a process nominal, and if not, it is not. To show this, let us observe the following examples.

(24)	Root	Process nom	Gloss
a.	w-z-l	[wäzäl-a]	'working'
	s-b-r	[säbär-a]	'breaking'
	t'-r-g	[t'äräg-a]	'sweeping'
	g-f-f	[gäfäf-a]	'excoriating'
	?-r-s	[ärš-a]	'ploughing'
	š-?	[woš-a]	'searching'

In some cases, process and action nominals could be formally identical. The last example in the above data may be considered. The tier representation of this group is as follows.



As can be observed in the tier representation, the radicals are the primary inputs. Then the vocalic melody elements are inserted to form the stem that is taken as a base to the process nominal formation. Finally, /-a/ is suffixed to the stem resulting in a process nominal.

3.2.6. Manner nominals are those nominals that show the way a thing is done or a certain action takes place. They are formed from verbal root bases and an affix. The radicals are taken as bases for the formation of these nominals. Consider the following data.

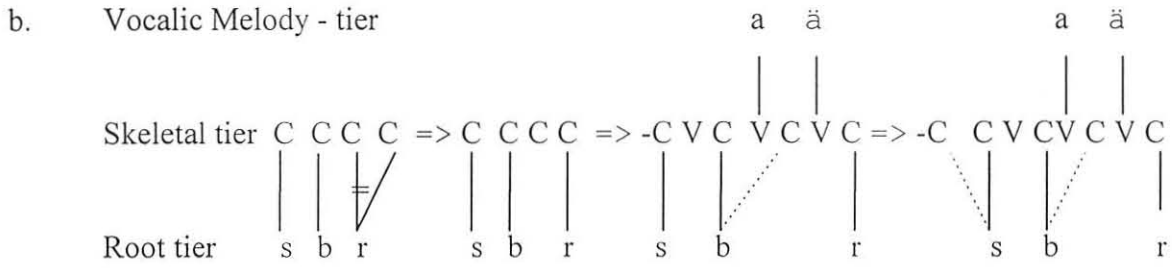
(25)	**Root**		**Manner nom**	**Gloss**
a.	s-b-r	'break'	[assɨbabär]	'manner of breaking'
	l-b-s	'dress up'	[allɨbabäs]	'manner of dressing up'
	g-d-l	'kill'	[aggɨdadäl]	'manner of killing'

Root		Manner nom	Gloss
n-t'-k'	'snatch'	[annɨt'at'äk']	'manner of snatching'
m-n-z-r	'change' (money)	[ammɨnɨzazär]	'manner of changing' (money)
g-l-b-t'	'turn over'	[aggɨlɨbabät']	'manner of turning over'

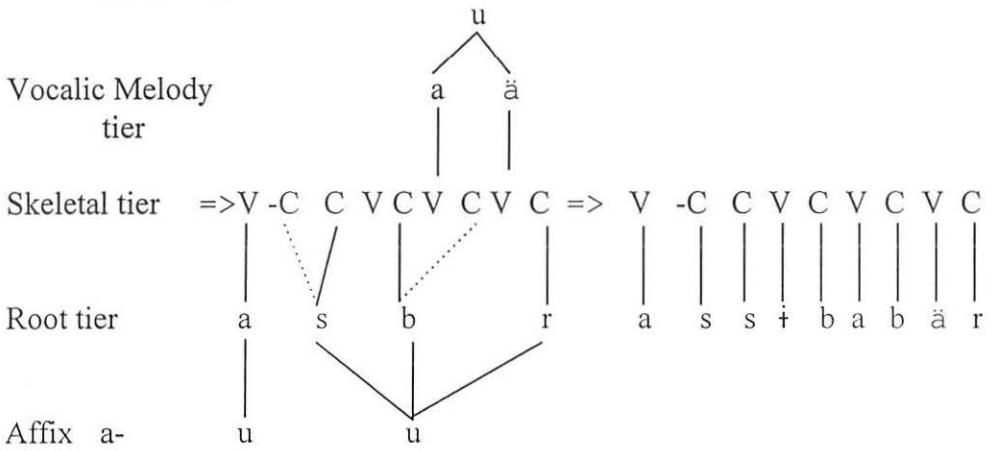
The tier representation of these nominals is as follows.

This is shown with root s-b-r 'break'

b. Vocalic Melody - tier



Affix a-



As can be observed from the tier representation, the third radical is delinked from one of the slots as it is linked to two slots (25b). Then, the delinked segment is attached to the second radical by the rule of spreading. The next process is assigning the vowel melody elements to their respective slots continued by the spreading of the first radical to the left.

Left to right association of segments is considered as unmarked and if there is a right to left spreading, as in manner nominals where the first radical spreads to the left, it is marked since it is opposite to the usual unmarked one. By so doing, prosodic morphology accounts not only for the typical triconsonantal roots but also for the less common geminate and quadrilateral roots without needing any ad hoc stipulations (Katamba, 1993:172). Finally, /a-/ is prefixed to the stem that is formed as a result of marked spreading. VCCVCVCVC is the widely recurrent C V pattern of this group and [ɨ] is inserted to break up the impermissible sequence of consonants as shown above.

3.2.7. Some Characteristics of Nominalization refer to the phonological, morphological, syntactic and semantic features of nominalization.

Phonological features: One of the phonological features observed in derived abstract nominals is the insertion of the epenthetic vowel [ɨ] to break impermissible consonant clusters in the language. Forms like /maläs/ 'small', [maläsɨnnät] 'smallness', /bayy/ 'child', /bayyɨnnät] 'childhood' are examples.

The other phonological feature is vowel deletion which takes place in bases that end in a vowel to which an affix that begins with a vowel is attached. The vowel of the base is deleted as a diphthong or vowel succession is not allowed in the language. Example: [wɨssa]+[-o] becomes [wɨsso] as seen when we raised issues of vocatives (cf. 11).

Another phonological feature is palatalization. A stem final alveolar sound is palatalized before the agentive morpheme [-i] as in g-d-l, [gäday] 'killer', k-s-s, [käsaš] 'accuser' and w-k'-s, [wäk'aš] 'criticizer'.

There is also gemination, as attested in the derivation of result nominals. The medial radical of a root is geminated to form a pattern C_1 V C_2 C_2 C_3 -[bɬlɬ?-] 'happiness' and [bɬdɬl-] 'ill treatment', where C_1, C_2 and C_3 represent the first, the second and the third radicals respectively.

Morphological Features: A morphological feature refers to the nature of elements to which affixes are added. As discussed in this chapter, the bases are words for the abstract nominalization, stems for result nominals, and roots in others. This can be represented as follows.

(26)

a. $\text{Base} \Rightarrow \left\{ \begin{array}{c} \text{Word} \\ \text{Stem} \\ \text{Root} \end{array} \right\}$

In short, this can be re-written as

b. $\{ B \} \Rightarrow \{ W, S, R \}$

Syntactic Features: In the syntax, one can observe lexical category changes of items. Adjectives change into nouns, or verbal bases changing to nominals as a result of combination of non-concatenative constituents. This is demonstrated in the following tree.

observed include gemination, assimilation and changes in the vocalic melody elements. Words and affixes are taken as constituents for the formation of concatenatively derived nominals, whereas the constituents of non-concatenatively derived nominals are the root tier, the CV-tier, the vocalic-melody elements and an affix.

The linguistic features that are observed in the nominalization process are one of the clues that help to determine that every language has its own system. The phonological, morphological, syntactic and semantic features presented do help to understand the system of the language. This may help to formulate theories in the area of Semitic morphology as discussed in the significance of the study.

CHAPTER FOUR

VERBALIZATION

This chapter deals with the formation of verbs in Kɨstanɨññа. The different types of verbal patterns are discussed in light of the non-concatenative approach which governs most of the processes of verbalization. Before I discuss what 'verbalization' is, and what the different verbal derivatives are, I present the nature of verbs in Kɨstanɨññа in general. In Kɨstanɨññа, verbs have monoradical, biradical, triradical, quadriradical and composite forms. This division is based on the number of consonants in surface forms like the following.

(28)	**Type**	**Example**	**Gloss**
	Monoradical	[š-]	'desire'
	Biradical	[bäšš-]	'cry'
	Triradical	[säbbär-]	'break'
	Quadriradical	[mɨnäzzär-]	'change' (money)
	Composite	[bäč'č' abäl-]	'ignore'

There are also three types of verbs determined on the basis of the vowel type appearing after the first radical and the geminate or non-geminate nature of the second radical (Leslau, 1992). Consider the following examples.

(29)	Type	perfective	imperfective	gloss
	Type A	säbbär-o	yɨ-säbr-u	'break'
	Type B	siggär-o	yɨ-siggɨr-u	'change'
	Type C	č'affär-o	yɨ'-č'affɨr-u	'scratch'

In the perfective form of type A, the medial consonant is geminated and the CV pattern is CVCCVC-, both vowels being /ä/. In the imperfective form, there is no gemination and the CV pattern is - CVCC- and the only vowel element is /ä/. Gemination of the medial consonant in both the perfective and the imperfective typifies the type B and C verbs. The vowel pattern of type B verbs are /i/ and /ä/ in the perfective and /i/ alone in the imperfective. This differentiates them from type C verbs. The CV pattern of type B verbs is CVCCVC- in the perfective and -CVCCVC- in the imperfective, the second vowel in the imperfective being [ɨ], the epenthetic vowel. Type C verbs, in addition to the gemination of second consonants, the vowel patterns of the perfective and the imperfective are identified by vowels [a-ä] and [a] respectively. The position of the vowels can be identified in the CV patterns of the perfective, i.e. CVCCVC- and of the imperfective -CVCCVC-, the second vowel in the imperfective being the epenthetic [ɨ]. The vowel after the perfective stems and the /y-/ and /-u/ which appear initially and finally in the imperfective form indicate 3rd person singular masculine. This analysis winds up the discussion on verbal types.

Verbalization is the process of verb formation. Forms like the causative, passive, stative, reflexive, intensive, attenuative, frequentative and iterative are derived through this process. Marantz (1982) proposes that reduplication[7] is merely affixation, but what is

affixed may be a CV skeleton or a prosodic template. The nature of reduplicative words and the whole verb formation is presented below beginning with causatives.

4.1. CAUSATIVES

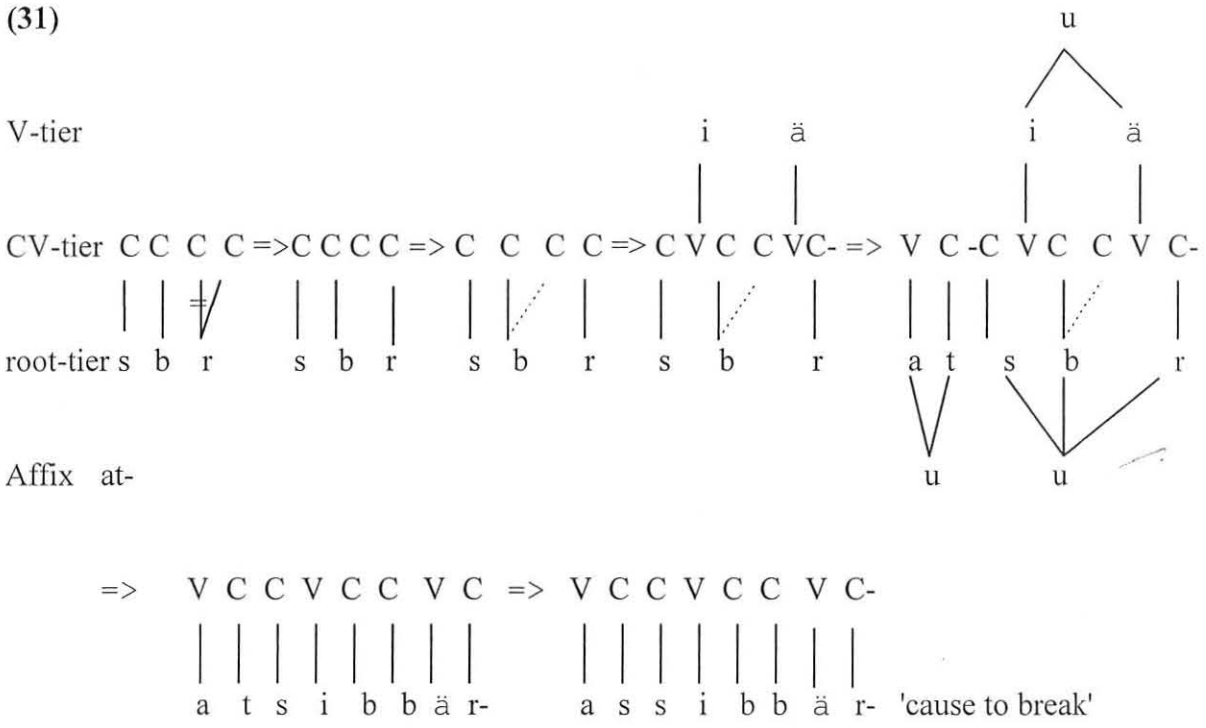
Causatives are forms which show that someone causes or makes somebody else do something (Spencer, 1991 : 25). Causative verbs are formed non-concatenatively from verbal root bases, vowel melody elements and the prefix /at-/ with different CV- patterns. The different CV - patterns can be observed in the following causative examples.

(30)		**Root**		**Causative form**	**Gloss**
	a.	g-d-l	'kill'	/at-giddäl-/	'cause to kill'
		s-b-r	'break'	/at-sibbär-/	'cause to break'
		l-b-s	'dress'	/at-libbäs-/	'cause to dress up'
	b.	w-k'-?	'hit'	/at-wik'k'-/	'cause to hit'
		w-b-?	'enter'	/at-wibb-/	'cause to enter'
		f-d-y	'finish'	/at-fiǰǰ-/	'cause to finish'
	c.	?-d-y	'pierce'	/at-iǰǰ-/	'cause to pierce'
		?-t-y	'close'	/at-ič'č'-/	'cause to close'
		?-n-y	'sleep'	/at-iññ-/	'cause to sleep'
	d.	m-l-g-d	'get mad'	/at-mläggäd-/	'cause to get mad'
		m-n-z-r	'change' (money)	/at-mnäzzär-/	'cause to change' (money)

Root		Causative form	Gloss
z-b-z-b	'talk too much'	/at-zbazzäb-/	'cause to talk too much'

In the above table, the root, the vowel melody elements and the CV-tier are taken as basis for the causative formation. To this base, the affix /at-/ is prefixed and the CV patterns are /-CVCCVC-/ as in (a), /-CVCC-/ as in (b), /-VCC/ as in (c) and /-CCVCCVC-/ as in (d) respectively. The following tier representation can demonstrate the derivations of such nominals by taking the radicals s-b-r 'break' as an example.

(31)



As we can observe from the above representation (31), in the root s-b-r 'break', delinking of the third radical from the penult slot is followed by automatic reassociation. This results in the gemination of the second radical. The vowel melody elements are

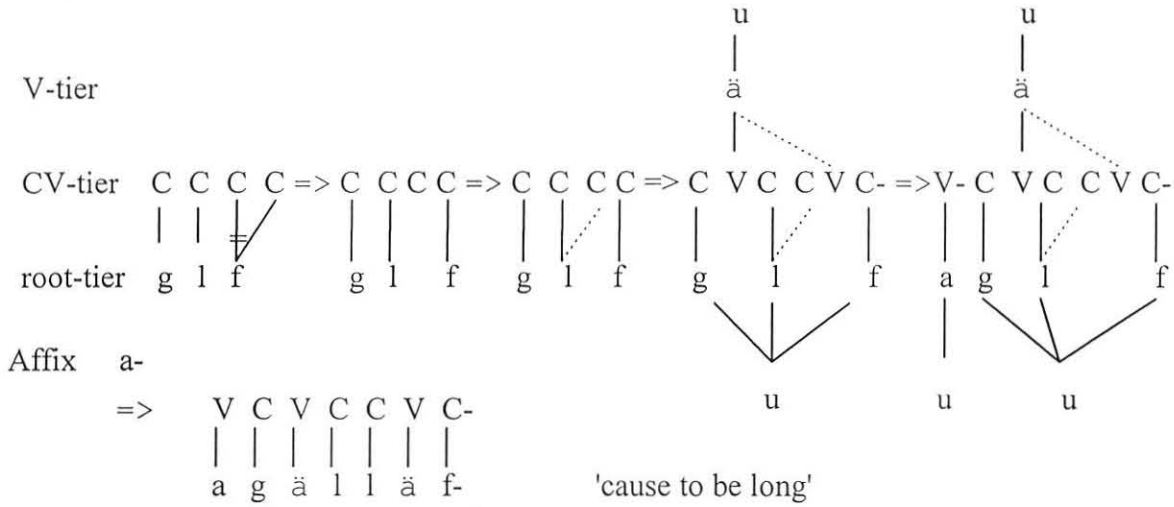
represented in their respective slots, and to this stem base, the affix /at-/ is prefixed. Thus, this process results in causative formation. Finally, the consonant of the affix /at-/ totally assimilates to the neighbouring consonant and results in the surface form of the causative as shown in the output. Inflectional elements like person, gender and number markers can be added to this stem.

In addition to /at-/, there is another causative morpheme as shown below.

(32)	**Root**		**Causative form**	**Gloss**
	d-k'-?	'laugh'	/a-däk'-/	'cause to laugh'
	l-k'-?	'grow up'	/a-läk'-/	'cause to grow up'
	n-d-d	'burn'	/a-näddäd-/	'cause to burn'
	g-l-f	'become long'	/a-gälläf-/	'cause to be long'
	g-n-t	'become huge'	/a-gnätt-/	'cause to be huge'
	n-t'-?	'become white'	/a-nät't'-/	'cause to be white'

The causative morpheme in this case is /a-/ and the roots of the verbs are mostly intransitive. In this regard, causativization is considered as a process of transitivization (Spencer, 1991:25). As one can observe in the above data (32), there are different CV-patterns with different vowel melody elements, i.e. /ä/ alone in most cases, and /ä/ in between the first and the second radical, and the second and the third radical in some cases. Let us demonstrate the formation of causatives of intransitives with the following example.

(33)



As can be observed, the root g-l-f 'become long' is taken as the base of the causative of the intransitive. Delinking of the third radical from one of the slots is followed by the spreading of the second radical as in the causatives of the transitives (31). In the input, the affix and the stem are seen as separate entities, and after the merger of the affix with the stem, the resultant stem is seen as a whole or a single unit. That is why, in the final output, the affix, stem identification has disappeared.

4.2. RECIPROCAL CAUSATIVES

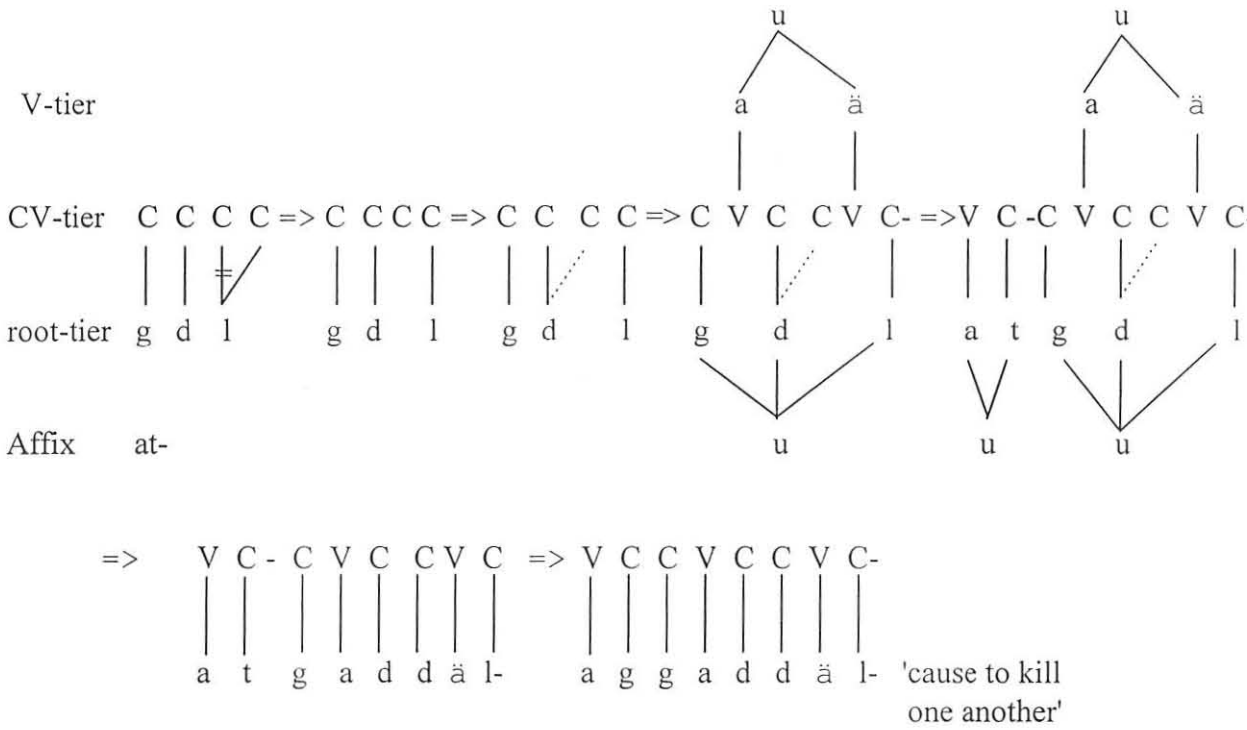
In Kistaniñña, there are reciprocal causatives. Reciprocal causatives mean 'causing one to do something against the other'. Consider the following examples.

(34)

Root		Reciprocal Causative		Gloss
g-d-l	'kill'	/at-gaddäl-/	[aggaddäl-]	'cause to kill one another'
s-b-r	'break'	/at-sabbär-/	[assabbär-]	'cause to break one another'
w-k'-?	'hit'	/at-wak'k'-/	[atwak'k'-]	'cause to hit one another'
f-d-y	'finish'	/at-fajj-/	[affajj-]	'cause to finish one another'

As can be observed, the verb root is the base for the formation of reciprocal causatives. The difference in form between the causative and the reciprocal causative lies in the change of the vowel following the first radical of the base. In simple causatives, the vowel is [i], and in the reciprocal causatives, it is [a]. This is consistent throughout the paradigm. The causative affix in both types is /at-/. In the surface representation the /t/ of /at-/ assimilates to the consonant adjacent to it. The morphemic tier representation of reciprocal causatives is as follows.

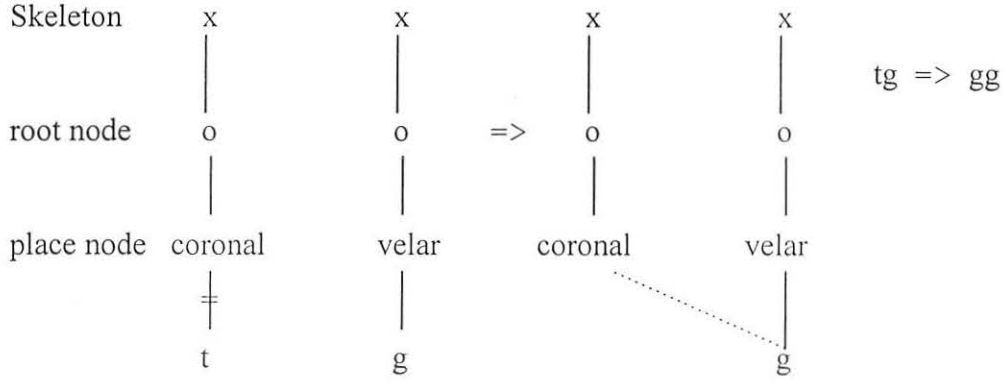
(35)



In the above tier representation, the verb root is the base and the affix is /at-/. In the verb root, the third radical is delinked from one of the slots as it is linked to two slots. Then, the delinked segment is attached to the second radical by spreading (gemination). The vowel melody elements are represented as shown above. The consonant of the affix

assimilates to the first consonant of the base. However, the consonant of the affix does not assimilate to the glides /w/ and /y/. Hence, the forms appear as [atw-] and [aty-]. The example /wäk'k'-/ 'hit' becomes [atwak'k'-] 'cause to hit one another'. This holds true not only for reciprocal causatives but also for the simple causatives. The assimilation of the consonant of the affix to the adjacent segment with the exception of the glides is demonstrated with the following feature geometric analysis.

(36)



As we can see from the above feature geometry analysis, the coronal /t/ assimilates totally to the velar /g/ after it is delinked from its slot. The assimilation is regressive as it is to the left.

With regard to the role of causatives in sentences, the process increases the number of arguments of verbs. Consider the following examples.

(37)

a. äsat-i näddäd-o 'the fire burnt' => intransitive

fire-the burned-it

b. gäbbi äsat-i a-näddäd-o

gebi fire the caus-burnt-he => transitive as well as causative.

'Gebi made the fire burn'

As can be seen, the verb of the first sentence has one argument and the second sentence has two arguments. Hence, Causativization is considered as transitivization in the second example.

4.3. PASSIVES

Passives are forms which express the action performed from the point of view of the object, and not the subject.[8] In Kɨstanɨñña, these forms are derived with the prefix /tä-/ attached to perfective bases as in the following examples.

(38)	**Perfective base**		**Passive form**	**Gloss**
	/t'iggär-/	'sell'	/tä-t'iggär-/	'be sold'
	/gäddäl-/	'kill'	/tä-gäddäl-/	'be killed'
	/wok'k'-/	'hit'	/tä-wok'k'-/	'be hit'
	/arrät'-/	'cut'	/tä-arrät'-/ [tarrät'-]	'be cut'
	/ač'č'-/	'close'	/tä-ač'č'-/ [tač'č'-]	'be closed'
	/ajj̆-/	'pierce'	/tä-ajj̆-/ [tajj̆-]	'be pierced'

As can be observed, the perfective form of the verb is taken as a base and the affix /tä-/ is prefixed to the base. Tier conflation operation can be applicable not only to non-concatenative morphological systems but also to concatenative morphological systems such

as the above one (Spencer, 1991 : 149). In this passive formation, one observes affixation to the transitive base and the word-formation rule that governs the process is as follows.

$$\text{WFR:5} \Rightarrow \text{Aff}_{[+pas]} + \text{Vtrans}_{[-pas]} \Rightarrow \text{V}_{[+pas]}.$$

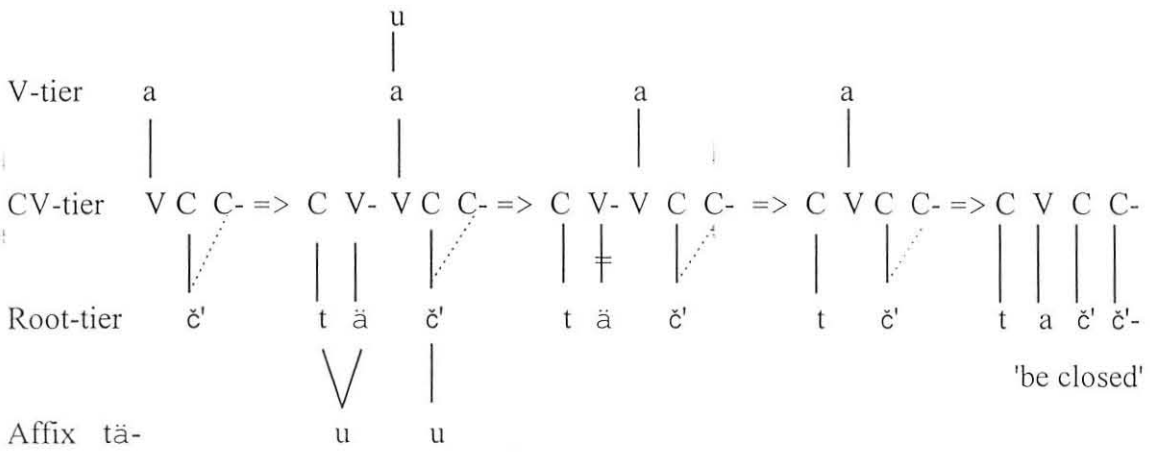
The word-formation rule states that when a passive affix is attached to a transitive verb base, the resultant verb becomes passive. Some intransitive verbs may take the passive affix /tä-/ and have a derisive effect, i.e. the meanings entailed by the forms have mockery implications. Consider the following.

(39)	**Verb intrans**		**Pas intrans**	**Gloss**
	/dak'-/	'laugh'	/tä-dak'-/	'satire against the laughing act'
	/aläf-/	'go'	/tä-aläf-/	'satire against the movement'
	/räwwät'-/	'run'	/tä-räwwät'-/	'satire against the running'

To the intransitive bases, the passive affix /tä-/ is attached and results in an expression that has a mocking effect on the intransitive base mentioned. On the other hand, the addition of passive morpheme to transitive verbs reduces arguments of verbs (Spencer, 1991:237).

As far as the analysis in this work is concerned, the only phonological process that is observed in passive structure is the deletion of the vowel element of the prefix /tä/ when prefixed to perfective verbal stems that begin in vowels as in /ač'č'-/ 'close' which comes to /tä-ač'č'-/ 'be closed' in which /ä/ is deleted. The result is [tač'č'-] 'be closed'. The representation is as shown below.

(40)



After the affix /tä-/ is attached to the perfective stem /ač'č'-/ 'close', /ä/ is delinked from its slot and becomes unassociated. Such unassociated elements are deleted from the structure by general convention (Spencer, 1991 : 143). Finally, we get the resultant word as shown in the output.

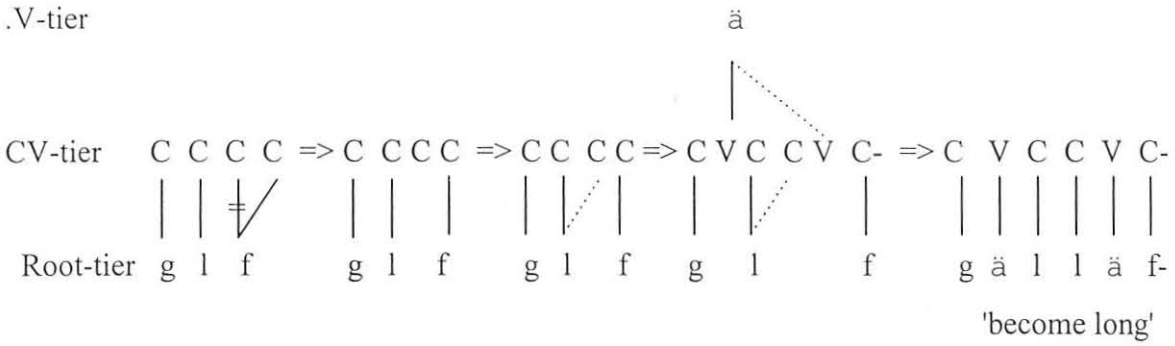
4.4. STATIVE VERBS

Stative verbs are verbs which refer to the state or quality of an item. In K-stan-ñña, such verbs can be formed from verbal roots as in the following examples.

(41)	**root**		**stative verb stem**	gloss
	g-l-f	'tall'	gälläf-	'become tall'
	b-t-t	'wide'	bättät-	'become wide'
	t'-k'-r	'black'	t'äk'k'är-	'become black'
	k'-t'-n	'thin'	k'ät't'än-	'become thin'
	d-n-d-n	'fat'	d-näddän-	'become fat'

As can be observed, the roots are taken as bases for the formation of such verbs. Gemination of the penult radical occurs and the vowel melody elements are [ä...ä] and are inserted between the ultimate and penult, and penult and pre penult radicals respectively. The following morphemic tier representation shows the process of derivation.

(42)



In the input, as the ultimate radical is associated to two slots, it delinks from the penult slot and the delinked slot is associated with the second radical by spreading, i.e. subject to OCP (McCarthy, 1986). The vocalic element is /ä/ as represented above. Finally, we get /gälläf-/ 'become long'. To this stem inflectional elements of person, number and gender can be attached.

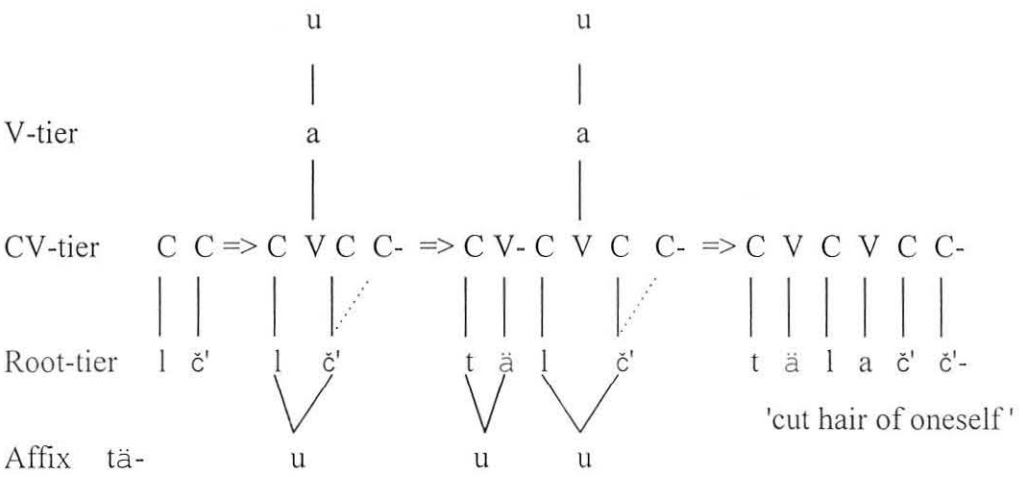
4.5. REFLEXIVES

Reflexive verbs are forms which show that the action is performed on one's own. In Kɨstanɨñña, there are some instances of reflexives formed with /tä-/ [9] attached to the perfective verbs as in the following.

(43)	Perfective form		Reflexive form	Gloss
	lač'č'-	'cut'	tä-lač'č'-	'cut hair of one self'
	mič'č'-	'wash'	tä-mič'č'-	'wash one's body or hair'

This affix is similar in form with the passive affix mentioned in (4.3) but they differ in function. The other is passive and this one is reflexive. The tier representation of reflexives is as follows.

(44)



In this tier representation, the second radical of the input geminates by spreading. Then the affix is attached to this perfective base and forms the reflexive as shown in (44).

4.6. REDUPLICATIVE FORMS[10]

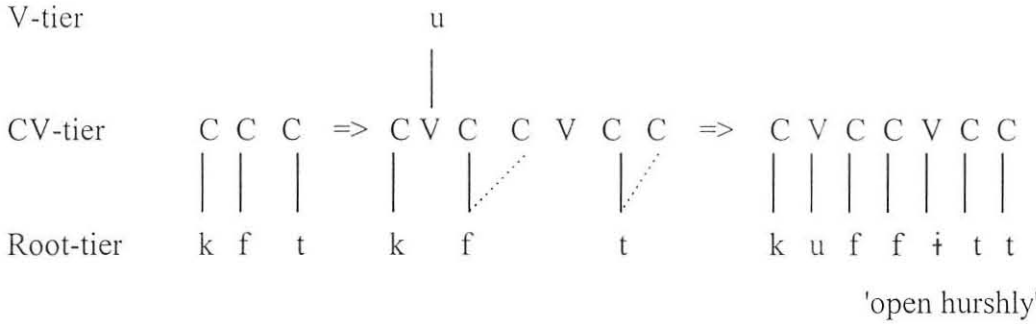
Apart from the types of derived verbs presented in the preceding sections, there are reduplicative forms that can be included in the verbalization process. In K‡stan‡ñña, reduplicatives show intensive, frequentative, iterative and attenuative actions (Leslau,

1992: 163). The reduplication can be total as in iteratives of attenuative and intensive bases, or partial as in other forms.

4.6.1. The Intensive reduplicated form of a verb indicates that an action is done intensely or by using force. An intensive form is derived by geminating the second and the third radicals of the roots. Consider the following examples.

(45)	**Root**	**Intensive**	**Gloss**
	k-f-t 'open'	[kuffɨtt-]	'open hurshly'
	m-t'-s 'cut'	[mut't'ɨss-]	'cut hurshly'
	s-b-r 'break'	[sɨbbɨrr-]	'break hurshly'

(46) The tier representation of intensives is as follows.



'open hurshly'

As can be observed from the above tier representation, the ultimate and penult radicals geminate by spreading. As the vocalic element is /u/ only, the epenthetic vowel [ɨ] is inserted in between the second and the third radicals as presented in the final output. As the intensive forms are stems, these go along with the verb /bal-/ 'say' or /abäl-/ 'made' to form composite forms. Consider the following example.

(47) **Example:** wodär-i mut't'ɬss bal-o

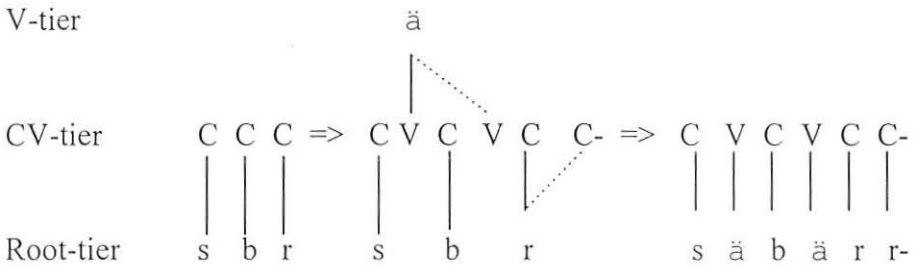
rope - the cut hurshly say-it

'The rope was cut hurshly'

4.6.2. An Attenuative verb shows that an action is done lightly and gently. An attenuative form is derived by geminating the ultimate radical of the verbal base as in the following.

(48)	**root**		**attenuative form**	**Gloss**
	s-b-r	'break'	säbärr-	'break lightly'
	k-f-t	'open'	kufɬt-	'open lightly'
	m-t'-s	'cut'	mut'ɬss-	'cut lightly'

(49) The tier representation of attenuatives is as follows.



'break lightly'.

As can be observed from the root s-b-r 'break', the attenuative form is derived by the spreading of the ultimate radical (gemination) and this is in line with the principle of spreading that is left to right. The vocalic melody element in this case is /ä/ in between the radicals as indicated above. The stems formed (attenuative forms) go along with the verb 'say' or 'made' to give composite forms. Consider the following example.

(50)

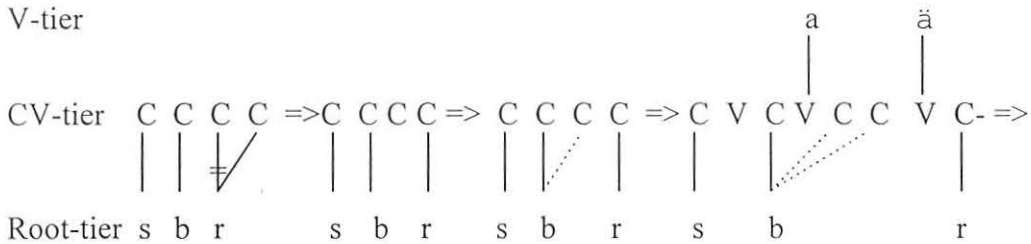
bärr-i	kuftt	bal-o
door-the	open lightly	say-it

'The door was opened lightly'

4.6.3. Iterative verb forms indicate that an action is done repeatedly, now and then. There are partially and totally reduplicated iteratives. Among the partially reduplicated iteratives, those which reduplicate the penult radicals of verbal bases are shown in the following examples. They are considered as the first degree iteratives.[11]

(51)	**root**		**iterative form**	**gloss**
	s-b-r	'break'	sɨbabbär-	'break repeatedly'
	w-k'-?	'hit'	wɨk'äk'k'a-	'hit repeatedly'
	s-g-r	'change'	sɨgaggär-	'change repeatedly'

(52) The tier representation of the first degree, partially reduplicated iteratives is as follows.



C V C V C C V C-
s ɨ b a b b ä r- 'break repeatedly'

As can be observed from the tier representation, in the input, the ultimate radical delinks from the penult slot. Then, spreading of the second radical takes place (dissociation followed by reassociation as in Spencer, 1991). Then the second radical is associated to three slots as indicated above. The second extension, i.e. the broken arrow, indicates gemination and hence the reduplicative iterative is formed. The vocalic melody elements are as they are represented in the structure.

The second degree of partially reduplicated iterative forms are those which reduplicate the ultimate and the penult radicals as in the following.

(53)	**root**	**iterative**	**gloss**
	s-b-r 'break'	sɨbɨrbɨr-	'break into pieces repeatedly'
	m-t'-s 'cut'	mut'ɨst'ɨs-	'cut into pieces repeatedly'
	f-r-k-s 'crush'	fɨrkɨskɨs-	'crush into pieces repeatedly'

(54) The tier representation of this group can be represented as follows.

V-tier

CV-tier C C C + C C => C C C C C => C V C V C C V C-

root-tier s b r b r s b r b r s ɨ b ɨ r b ɨ r

'break into pieces repeatedly'

These forms go along with bal- 'say' or abäl-'made' to give composite forms.

(55) **Example:-** sängin-i firkiskis bal-o

wall-the-crush into pieces-say-it

'The wall crushed into pieces repeatedly'.

The third degree of the partially reduplicated iteratives are those that reduplicate the ultimate and the penult radicals infinitely as in the following.

(56)	**Root**	**Iterative**	**Gloss**
	s-b-r 'break'	sibirbiribir....	'break into pieces and pieces - - - '
	m-t'-s 'cut'	mut'ist'ist'is...	'cut into pieces and pieces - - - '
	f-r-k-s 'crush'	firkisk'iskis...	'crush into pieces and pieces - - - '

(57) The tier representation of this group is as follows.

V-tier

CV-tier C C C => C C C + C C + C C.. => C V C V C C V C C V C...

root-tier s b r s b r b r b r s i b i r b i r b i r...

'break into pieces and pieces . . . '

The totally reduplicated iterative forms are those that reduplicate the whole thing. These are based on attenuative or intensive forms as in the following.

(58)	root		attenuative	iterative	gloss
a.	s-b-r	'break'	säbärr 'break lightly'	säbärr säbärr	'break lightly now and then'
	k-f-t	'open'	käfätt 'open lightly'	käfätt käfätt	'open lightly now and then'
	m-t'-s	'cut'	mut'ɨss 'cut lightly'	mut'ɨss mut'ɨss	'cut lightly now and then'

	root		intensive	iterative	gloss
b.	s-b-r	'break'	sɨbbɨrr- 'break hurshly'	sɨbbɨrr-sɨbbɨrr	'break hurshly now and then'
	k-f-t	'open'	kuffɨtt- 'open hurshly'	kuffɨtt-kuffɨtt	'open hurshly now and then'
	m-t'-s	'cut'	mut't'ɨss- 'cut hurshly'	mut't'ɨss-mut't'ɨss	'cut hurshly now and then'

As can be observed from both attenuative or intensive based iteratives, the action is repeated as indicated in the gloss. Both iteratives do occur with the verb [bal-] 'say' or [abäl-] 'made' to form composite forms. Consider the following sentences.

(59)

a. gäbbi wodär-i mut'ɨss mut'ɨss abäl-ä-nnɨt.

Gebi rope - the cut cut made - 3mss - 3mso

'Gebi cut the rope into pieces'

b. gäbbi ɨnč'-i sɨbbɨrr sɨbbɨrr abäl-ä-nnɨt.

Gebi wood - the break break made - 3mss - 3mso

'Gebi broke the wood into pieces'

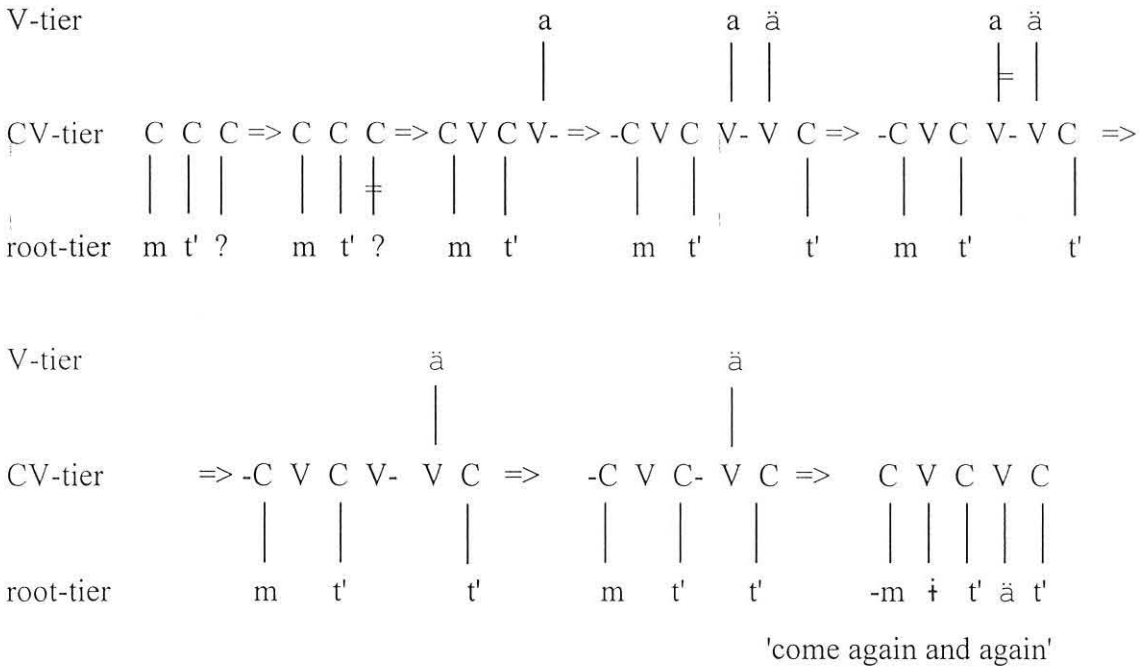
In the sentences, the attenuative and intensive forms, i.e. (a) and (b) respectively, show that the action is done repeatedly. The tier representation of this group is not included here because the attenuatives and the intensives are presented in our earlier discussions on previous pages (cf. 4.6.1. and 4.6.2.). The forms under the total reduplicative iteratives are the wider versions of the previous forms presented under attenuatives and intensives respectively.

4.6.4. Frequentative[12] reduplicative forms express an action that is done frequently on and off with certain duration of time. This is their semantic interpretation. Apart from their semantic difference from iteratives of the partially reduplicated types that are grouped under the first degree iteratives, there is not much difference in their form. Consider the following examples of frequentatives.

(60)	**Root**		**Frequentative stem**	**Gloss**
	m-t'-?	'come'	-mɬt'ät'-	'come again and again'
	z-b-r	'return'	-zɬbabbär-	'return again and again'
	?-š-l	'pay a visit'	-šäšäl-	'pay a visit again and again'
	r-š-?	'accustomed'	-rošäš-	'to be accustomed to again and again'

As can be seen from the above data, the penult radicals are reduplicated to give the frequentative forms. Let us see the tier representation of this group.

(61)



'come again and again'

First, there are the radicals of the verb, then the jussive form is taken as a base. To this stem the [-VC] form is attached. As vowel succession is not permissible in the language, the final vowel of the stem is dropped and the resultant form is achieved finally as shown in the output.

To sum up this section, we have seen the different processes of verbal formation in Kɨstanɨñña. I described the different verbal derivatives that exist in the language. These are derived from verbal roots, perfective forms, jussive forms and by reduplication processes. The different morphological and phonological processes that appear in the derivation are discussed. In some cases, affixes are attached to the non-concatenatively derived stems. In others, radicals ranging from one to three are reduplicated resulting in different reduplicative types. In most of the cases, verbal roots are taken as the bases for

the formation of the verbals since all verbal stems, perfective, imperfective, jussive and all others are based on verbal roots.

Moreover, considering the non-concatenative constituents, i.e. the vowel melody elements, the consonantal tier, the consonant-vowel pattern (the CV pattern) and the affixes as the constituents for the formation of the verbals is proper. Broadly speaking, the concatenative structure which makes use of tier conflation operation (Spencer, 1991 : 149), can even be analysed under non-concatenative structure because each word can be divided into different constituents without difficulties.

Causatives, passives, statives and reflexives are among the non-reduplicative verbal types and the verbal forms that are derived by reduplication are intensives, attenuatives, iteratives and frequentatives. Both partial and total reduplication are observed in Kistaniñña reduplicative forms.

CHAPTER FIVE

ADJECTIVIZATION

In this chapter, I shall discuss the formation of adjectives from other lexical categories and show the word-formation rules involved in the process. There are concatenative as well as non-concatenative adjective formations in Kɨstanɨñña as will be shown in this section. As a lexical category, an adjective is identified by the constituent element it precedes, that is adjectives as modifiers, occur before a modified element either in a phrase or a sentence. Among the modified elements that come next to adjectives are nominals. Adjectives as modifiers are apart from their occurrence without modified elements.

As all the outputs are adjectives, I analyse Kɨstanɨñña adjectivals based on their constituents. Before we look at the derivations, there are certain adjectives which are not considered as derivatives. Hence, the following list shows some of these types.

(62)	**Adjective**	**Gloss**
	[t'ɨfo]	'bad'
	[mena]	'kind'
	[äbbur]	'unkind'
	[sanča]	'type of colour'
	[bɨššа]	'red'

These adjectives are not derived from any lexical category. They are part of the lexical collection of Kɨstanɨññña as bare words. In addition to the above examples (62), Admasu (1987) claims that certain forms like [gällɨf] 'tall', [bättät] 'wide' and [koččiča] 'coward' are free forms.[13] Conversely, I claim that these are derivatives of verbal root bases.

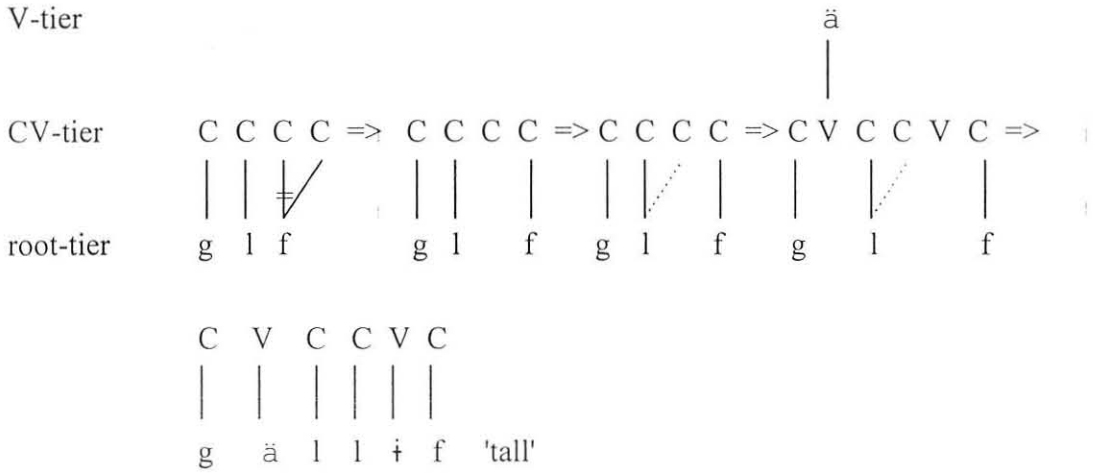
5.1. ADJECTIVES DERIVED FORM VERBAL ROOT BASES

These adjectives are derived from verbal root bases as depicted in data (63). The adjectives have vowel melody elements in addition to the CV template which shows the consonant - vowel patterns. Consider the following.

(63)	**Root**	**Adjective**	**Gloss**
	k'-t'-n	[k'äč'in]	'thin'
	b-t-t	[bättät]	'wide'
	g-d-r	[gɨddɨr]	'big'
	g-l-f	[gällɨf]	'tall'
	n-t'-y	[näč'č'ä]	'white'

As can be observed from the above data, the adjectives listed are derived from verbal root bases. Process of palatalization and gemination are observed in the above data. Palatalization may not involve gemination as in the first example from the data, or palatalization may result in gemination and reduction of a radical as in the last example in the data. The tier representation of this group is as shown below.

(64)



First, the ultimate radical is delinked from the penult slot as it is linked to two slots. Then the delinking followed by the spreading of the second radical to the delinked slot (dissociation followed by reassociation as in Spencer, 1991), is observed. Next, the vocalic melody element, i.e. /ä/ is represented in the slot. Finally the output becomes [gälɬf] 'tall' after the epenthetic vowel is inserted in between the ultimate and penult radicals in the surface representation. The vowel melody elements in this group do vary as we saw in the above data. Hence, we cannot draw a CV- pattern that can be applicable to all the forms mentioned.

5.2. Adjectives derived from stems

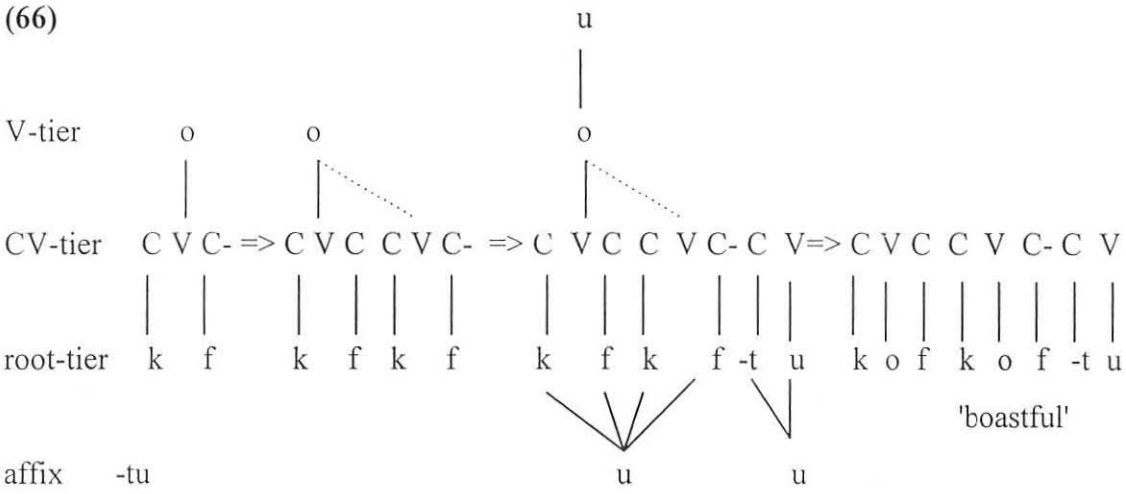
Adjectives can also be formed from nominal stems as in the following.

(65)	**base stem**	**nom form**	**derived adj**	**gloss**
	kof-	kof-kof 'boast'	kof-kof-tu	'boastful'
	baz-	baz-baz 'wanderer'	baz-baz-tu	'jobless'

base stem	nom form	derived adj	gloss
ƴär-	ƴär-ƴär 'speed'	ƴär-ƴär-tu	'speedy'
bal-	bal-bal 'talk'	bal-bal-tu	'talkative'
wam-	wam-wam 'desire'	wam-wam-tu	'desirous'

As we can observe from the above data, first the base stem totally reduplicates to give the nominal form indicated. The adjectival affix [-tu] is attached to these reduplicated nominal bases to give the adjectives as shown above. Basically, the meaning conveyers or carriers are the consonants and the vowels do occur as vowel melody elements. The tier representation of this is group as follows.

(66)



In this representation, though there are no morpheme internal changes as is observed in most of the verbals and the nominals, the relation among the constituents can be represented in non-concatenative approach as well. This is subject to (Spencer, 1991) who claims that concatenative structures can be included in non-concatenative structure.

5.3. Adjectives formed with affixes /-am/ or /-amma/

Another group of adjectives in Kɨstanɨññña are identified by the affix that they attach to. These are nominal based adjectives to which the affix /-am/ or /-amma/ is attached.Consider the following data.

(67)	**nom base**	**derived Adj**	**gloss**
a.	lɨbb 'heart'	lɨbb-am	'wise'
	gorärä 'throat'	gorär-am	'voracious'
	mäza 'wound'	mäz-am	'wounded'
	mɨññit 'sleep'	mɨññit-am	'sleeper'
b.	mälk 'face'	mälk-amma	'beautiful'
	äwʸä 'lie'	äwʸ-amma	'liar'
	däɾɨs 'play'	däɾɨs-amma	'player'

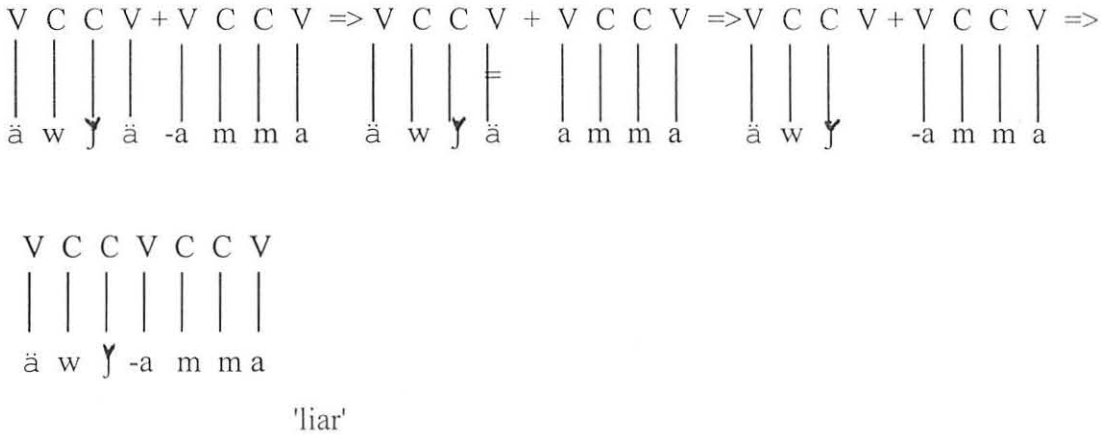
As one can observe the above examples, the affix /-am/ or /-amma/ are attached to the nominal bases, to form the adjectives. The word formation rule that captures the formation of such adjectives is as follows.

WFR : 5

{N} + {-am (ma)} => Adjective

The WFR:5 states that the affix /-am/ or /-amma/ is attached to a nominal base to form an adjective. The distribution of the affixes is unspecified as the nominal bases are similar in both cases. As the only phonological process observed in the above adjectivization process is vowel deletion, and it is demonstrated with the following tier-representation.

(68)



'liar'

As can be observed, when the affix /-amma/ is attached to the nominal base /äwjä/ 'lie', the final vowel of the base is delinked from its slot followed by deletion, as vowel succession is not permissible in the language.

5.4. Adjectives formed with affixes /-äññä/, -mäññä/ and /-ätäññä/.

In Kistanñña, adjectives can also be formed from nominal bases by the affixation of /-äññä/, /-ätäññä/ and /-mäññä/. These affixes have similar roles as far as their occurrence is concerned. With regard to their distribution, I consider them as idiosyncratic since they seem not to be governed by rules. Consider the following data.

(69)	**nom base**		**derived adj**	
a.	amäl	'character'	amäl-äññä	'bad charactered'
	mɨt'ät'	'disease'	mɨt'ät'-äññä	'sick'
	nufg	'greed'	nufg-äññä	'greedy'
	ägdät	'lie'	ägdät-äññä	'liar'
	mɨrɨk'at	'blessing'	mɨrɨk'ot-äññä	'blessed'
b.	č'ɨbbu	'mischief'	č'ɨbbu-täññä	'mischievious'
	ker	'peace'	ker-ätäññä	'peaceful'
	ak'	'true'	ak'-ätäññä	'truthful'
	af	'mouth'	af-ätäññä	'talkative'
	fal	'something bad'	fal-ätäññä	'bad dreamer'
c.	awɨrar	'speech'	awɨrar-mäññä	'speaker'
	kučat	'fear'	kučat-mäññä	'fearful'
	wɨzat	'sweat'	wɨzat-mäññä	'sweaty'
	č'ota	'play'	č'otɨ-mäññä	'player'
	gɨrat	'satiety'	gɨrat-mäññä	'sated' (Arrogant)

The above data shows that the affixes /-äññä/, /-ätäññä/ and /-mäññä/ are attached to the nominal bases to form the adjectives listed. As can be observed, their distribution is not determined. Moreover, the two affixes identified, i.e. /-äññä/, and /-ätäññä/ are nominalizers in cases like the following.

(70)	**nom base**		**derived nom**	
	färäz	'horse'	färäz-äññä	'horse man'
	ɨk'ub	'financial association	ɨk'ub-ätäññä	'member of the financial association'

As far as the data collected is concerned, the researcher couldn't come across an example for the adjectivizer /-mäññä/ as being used as a nominalizer at the same time, as is found for the others. Therefore, /-mäññä/ remains an adjectivizer whereas the other two are nominalizers as well. The situation in genetically related languages like Amharic is similar. Consider the following Amharic examples.

(71)		**nom base**		**derived adj**	**gloss**
	a.	hayl	'power'	hayl-äñña	'powerful'
		af	'mouth'	af-äñña	'talkative'
		nom base		**derived nom**	**gloss**
	b.	färäs	'horse'	färäs-äñña	'horseman'
		ɨddɨr	'an association for mutual benefits'	ɨddɨr-täñña	'member of ɨddɨr'

As can be observed, the affixes in example (a) are adjectivizers, whereas in (b) they are nominalizers. Hence, the affixes are considered as both nominalizers and adjectivizers (Getahun, 1996). In other words, we have forms that are formally similar but different in their function. With regard to the phonological processes involved in adjectives of these sort, vowel deletion is observed in cases where a base ends in a vowel and the affix starts in a vowel. č'ɨbbu 'mischief' is attached to /ätäññä/ 'adjective affix' becoming

/č'ɨbbu-ätäññä/ 'mischievous' where the vowel of the affix is dropped and becomes [č'ɨbbutäññä] which is an example for vowel deletion. In our discussion of vowel deletion (cf. chapter two), I argued that whenever two vowels meet at morpheme boundary, the first is dropped. The example given here can be considered as exception to the rule.

To sum up, in this section we observed how Kɨstanɨñña adjectivals are formed. Adjectives are derived from verbal root bases and different nominals. Some adjectives are derived concatenatively and others non-concatenatively. Some adjectives are identified by the affix they attach to. With regard to the distribution of the affixes, they are idiosyncratic as discussed above. Some adjectivizers are similar in form with some nominalizers but differ in function. In addition to these, there are compound adjectives as there are nominal and verbal compounds. A further detailed analysis of compounds is given in the following chapter.

CHAPTER SIX

COMPOUNDING

In this chapter, I shall discuss Kɨstanɨññña compounds and their nature. The types of compounds, their linguistic features, their differences with other structures like phrases, clauses and idioms will be presented.

Compounding is one of the word-formation processes by which two or more bases are combined to form a single morphological unit. The bases may occur as independent morphological units elsewhere (Katamba, 1993). As bare words are taken as bases for concatenative structures in languages like English, roots are likely to be considered as bases for non-concatenative structures of most of the Semitic languages. As Kɨstanɨññña, is one such language, root-based structures are common. This is in line with (Selkirk, 1982, Jensen, 1990) who say that every language has certain rules by which it forms compounds.

The constituents of compound structures are roots or stems or words. These three are the bases for compound forms found in the language. In Kɨstanɨññña, roots may combine with roots, stems with stems and words with words and so on, to form compounds. Two or three constituents may come together to form a single morphological unit as can be observed in this section.

The possible combination of these constituents are discussed in light of the weak lexicalist approach (Chomsky, 1970), (Aronoff, 1976) and others.

Compounds are different from phrases, clauses and sentences in many respects. The former are treated under morphology while the latter are analysed under syntax. In

phrases, clauses and sentences, the meaning comes from the sum-total of elements. The case of a compound is totally different since constituents of a compound form a single lexical unit which can be compared to combinations of elements in chemical change (Meys, 1975).

Compounds are usually divided according to their lexical categories, i.e. as nouns, adjectives, verbs, etc. A compound may also be subdivided semantically into different sub-groups such as endocentric, exocentric, appositional, etc. (Bauer, 1983:30). Any method of sub-classification is open to controversies and there is no one way of grouping. Most of the classification is based on the syntactic role compounds play in sentences. After giving this background, I shall present Kɨstanɨññña compounds as follows. The classification is based on root, stem or word used as inputs and the indentification of the resultant compounds as nouns, adjectives and verbs. Consider the following possible compounds of Kɨstanɨññña.

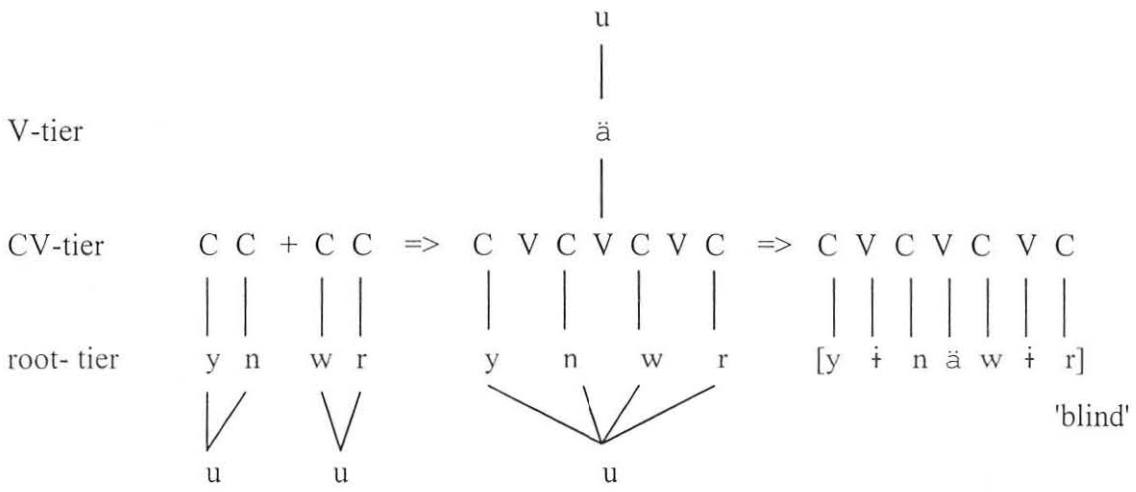
6.1. ROOT-ROOT COMPOUNDS

A root may combine with another root to form a root-root compound as in the following.

(72)	**root**		**root**		**Compound Adj**	
	y-n	'eye'	w-r	'blind'	yɨn-ä-wɨr	'blind'
	s-m	'name'	g-d-r	'big'	sɨm-ä-gɨddɨr	'respected'
	l-b	'heart'	g-d-r	'big'	lɨbb-ä-gɨddɨr	'ambitious'
	l-b	'heart'	d-f-n	'full'	lɨbb-ä-dɨfɨn	'idiotic'

The roots are consonants and they are the main carriers of meaning. As gemination is the spreading of a consonant to the nearest slot on the tier structure, it is derivational than representational. In Semitic morphology in general, gemination is considered as the property of the template or conjugation pattern; hence, it is considered as derivational rather than representational (Hayes 1989 as quoted in Rose, 1997:131). The representation and derivation of the forms are as shown below.

(73)

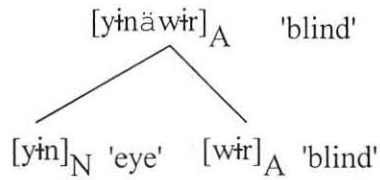


[yɨn] 'eye' +[wɨr] 'blind' becomes [yɨnäwɨr] 'blind'

As we can see from the above morphemic tier representation, the constituents [yɨn] and [wɨr] make the compound [yɨnäwɨr]. The epenthetic vowel [ɨ] only appears in the surface form as predictable elements are not represented in underlying structures. /ä/ is a linker which shows possession and has a morphological role as it comes in between the two roots. The second constituents are heads and the former are non-heads, as far as the constituents in the above data are concerned. In the input, the second constituents are adjectives and in the output the results are adjectives too. Hence, the feature percolates

from the head to the immediately dominating node as held by Selkirk (1982). Consider the following.

(74)



According to feature percolation convention (Williams, 1981), (Selkirk 1982), the second constituent shares its feature with the immediately dominating node (the compound). The grammatical category resemblance between these two elements is the result of this convention.

6.2. ROOT-STEM COMPOUNDS

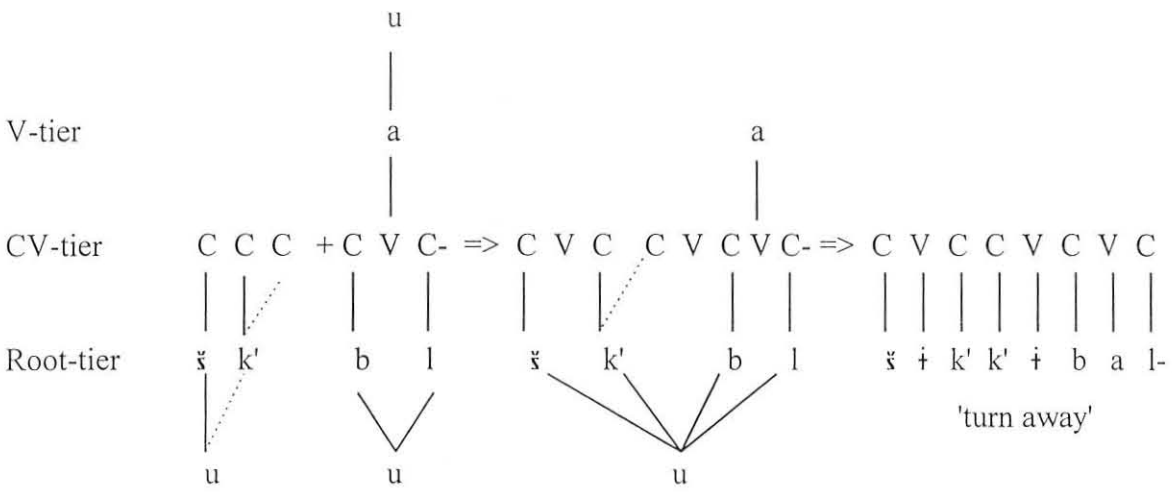
A root combines with a stem to form a compound. The stem is the head of the compound as all the compounds are verbals. This type of combination is very productive in the language. Consider the following examples.

(75)

root		**stem**	**compound verb**
b-k'	'appear'	bal - 'say'	bɨk'k'ɨ bal - 'appear'
b-l-č'	'shine'	bal - 'say'	bɨllɨč'ɨ bal - 'shine'
š-k'	'be away'	bal - 'say'	šɨk'k'ɨ bal - 'turn away'
l-b	'heart'	bal - 'say'	lɨbbɨ bal - 'pay attention'
š-k-'t-'k-'t'	'feel gloomy'	bal - 'say'	šɨk'ɨt'k'ɨt'ɨ bal- 'look glum'
m	'silent'	bal - 'say'	ɨmmɨ bal - 'keep quiet'
k-'t'	'equal'	kon - 'become'	k'ɨt't'ɨ kon-'become equal'

In the data above (75), the first constituents are roots and the second are stems. The roots are the source for the meanings of the compounds but functionally the role of the stems is indispensable as the compounds get their grammatical category when they are attached to the stems. All the compounds under this group are verbs as can be observed in the above data. Reduplication of the penult and ultimate radicals as in /šk't'k't'/ 'feel gloomy' can be observed and underlyingly it is only /šk't/ and /k't'/ is repeated in the structure. Leslau (1992:163) states that there are compound verbs which conjugate with the verb [balo] 'said'. He gives [bɨk'k' balo] 'appear' and [šɨggɨg balo] 'shiver' as examples for this pattern. The tier representation of this group can be demonstrated by taking the following root-stem combination as an example.

(76)



In the input, the second radical of the root spreads to the right. [ɨ] is not part of the underlying structure and is only realised in the surface representation. In the output, the different tiers are not seen as separate as they form a single unit. With regard to headedness of the compound, the second constituents are heads as all are verbals.

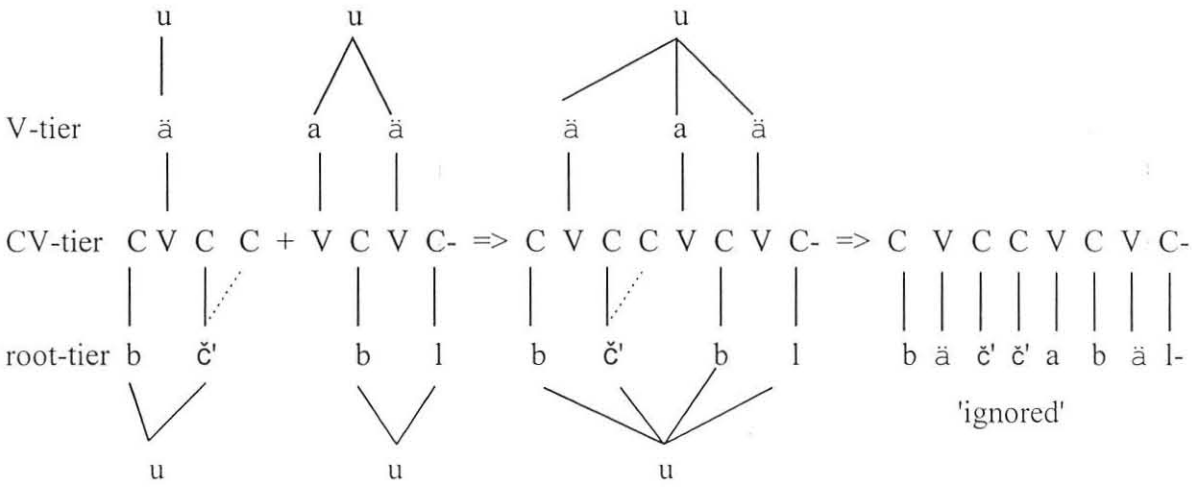
6.3. STEM - STEM COMPOUNDS

A compound may also be formed by the process of combining a stem with another stem. Consider the following.

(77)	**stem**		**stem**		**compound verb**	
	bäč'č'	'silent'	bal-	'say'	bäč'č' bal -	'be silent'
	ɨnfug	'remember'	bal-	'say'	ɨnfug bal -	'recall'
	bäč'č'	'silent'	abäl-	'make'	bäč'č' abäl -	'ignore'
	kučč	'put'	abäl-	'make'	kučč abäl -	'abandon'
	šäläl	'exhaust'	bal-	'say'	šäläl bal -	'become exhausted'

In this combination, the second constituents are heads of the compounds as all result in verbal forms. The first constituents are the meaning carriers of the compound and the second constituents are functionally dominant as they turn them to verbs. As far as the resultant compounds are concerned, the outputs in (6.2) and (6.3) are similar as both are verbs. After the compound stem is formed, any inflectional element that shows specific gender, number or person may be attached to give compounds to specific subjects.[14] The tier representation of this group can be shown as follows.

(78)



bäč'č' 'silent + abäl - 'make' => bäč'č' abäl 'ignored'

Here also, in the input, the second radical of the first item spreads and this is shown by the broken arrows. When the second constituent is attached to it, the output becomes a verbal compound as shown above. As the stems vary in their CV patterns, one can not generalize their structural nature based on CV patterns. Instead, one can show that stem combines with another stem to form a compound. Each tier is represented separately in the input, and similar tier forms are taken together in the output as shown above, i.e. vowel with the vowel and consonant with the consonant.

6.4. WORD - ROOT COMPOUNDS

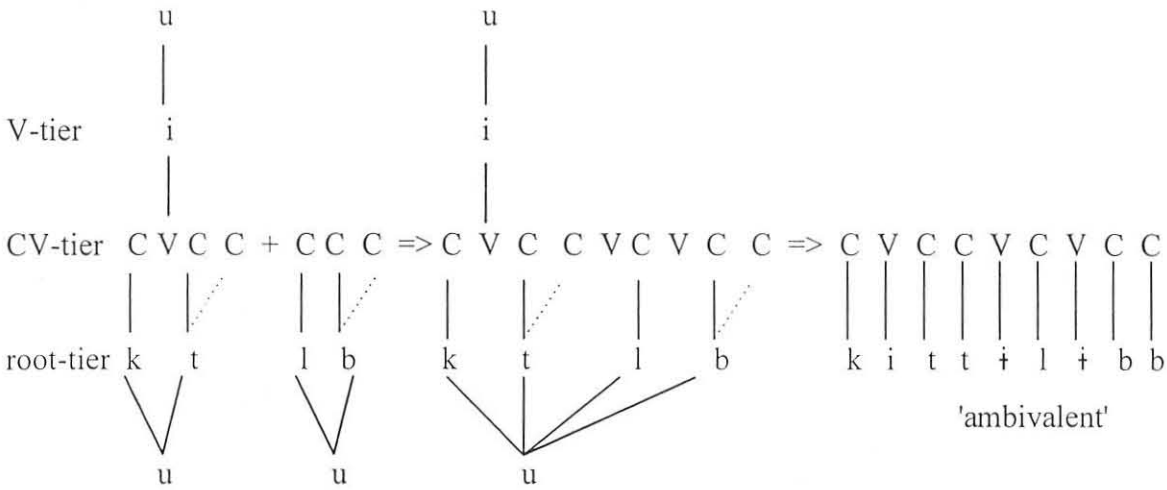
A compound can also be formed by combining a word and a root as in the following.

(79)

word		**root**		**adjective or Noun Compounds (+N)**	
kitt	'two'	l-b	'heart'	[kitt+l+bb]	'ambivalent'
arät	'four'	y-n	'eye'	[arät y+n]	'wise'
käbsä	'traditional medicine'	y-ft	'face'	[käbsä y+ft]	'disgusting'
äfat	'milk'	s-n	'tooth'	[äfat s+nn]	'milk tooth'
säb	'man'	y-n	'eye'	[säb y+n]	'evil eye'

As we can see from the above data, the first constituents are words and the second ones are roots. The resultant compounds are +N categories, i.e. adjectives or nouns. The tier representation of this group can be demonstrated as in the following.

(80)



As can be observed in the tier representation, second radicals of both constituents geminate by spreading. /i/ is considered as a vocalic melody element which is taken as a tier on its own. [+] is inserted to break the sequence of consonants that is not permissible in

the language. Under this category, in addition to these, compensatory lengthening of a vowel avoids the presence of the glide as in the following. sab 'man' +yn 'eye' => säby̆n 'evil eye'. [saby̆n] may become [säbi:n] whereby the glide is replaced by another vowel in the second form.[15]

6.5. WORD - STEM COMPOUNDS

In K̆istäni̇ññña, a word combines with a stem to form a compound. Consider the following data.

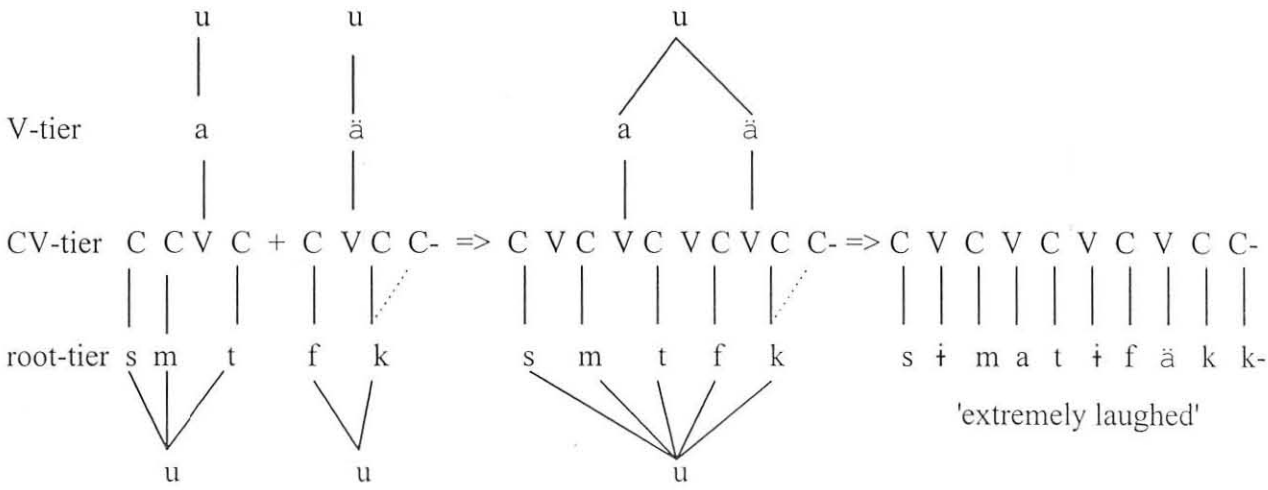
(81)

Word		Stem		Compound verb	
mida	'dysentery'	bal-	'say'	mida bal -	'I feel like dysentery'
wi̇zat	'sweat'	bäl-	'eat'	wi̇zat bäl-	'sweated'
si̇mat	'urine'	fäkk-	'go'	si̇mat fäkk-	'extremely laughing'
gi̇rat	'satisfaction'	bal-	'say'	gi̇rat bal-	'become pompous'
k'al	'word'	ab-	'give'	k'al ab-	'agree'

In this combination, the first constituent is a word and the second one is a verbal stem. The resultant compound is a verb and this indicates that the stem or the second constituent is the head of the compound as both the stem and the resultant compound belong to the same category. Although the second constituent plays a dominant categorical role, the meaning of the compound is entailed largely in the first constituent.

The morphemic tier representation of this group can be demonstrated as in the following by considering one of the data above.

(82)



As we can observe from the above tier representation, the word combines with the stem to form the compound verb. Gemination of the second consonant of the second constituent by spreading is observed above. Each constituent has its own tier initially. In the compound formation, similar tiers of the two constituents are grouped together as shown above. [ɨ] is represented in the surface form only, and as the CV patterns of the words as well as the stems vary, one can not formulate a rule based on their CV patterns.

6.6. ROOT - WORD COMPOUNDS

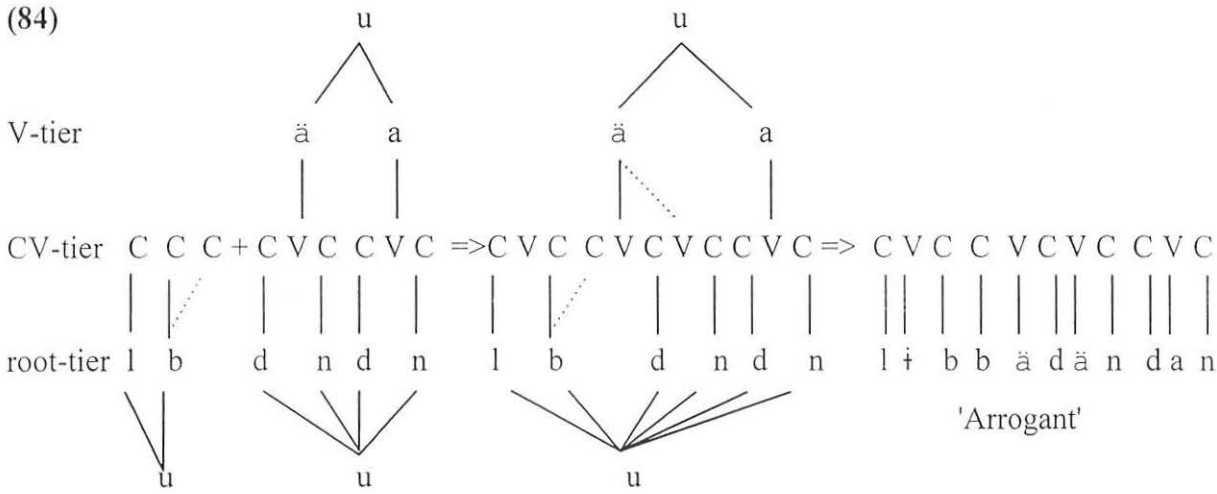
A root combines with a word to form a compound. Consider the following data.

(83)	**root**		**word**		**adj/ noun compound**	
	y-n	'eye'	däräk'	'dry'	yɨn-ä-däräk'	'impudent'
	l-b	'heart'	dändan	'fat'	lɨbb-ä-dändan	'arrogant'
	s-m	'name'	t'ɨfo	'bad'	sɨm-ä-t'ɨfo	'ill-famed'

root		word		adj/ noun compound	
w-r	'main'	sänbät	'week'	wɨrsänbät	'sunday'
m-d-r	'land'	ge	'house'	mɨdɨr ge	'basement'

As can be observed in the above short listed data, the root - word combination results in the formation of adjectives and nouns. Hence, the compounds are +N categories. The second constituents are heads of the compounds showing right- headedness as in most of the endocentric compounds of Kɨstanɨñña. With regard to their derivation, consider the following tier representation.

(84)



In the above tier representation, we observe spreading of a segment to represent gemination (in the first constituent), and each of the items are taken as separate tiers. The first constituent is a root and the second constituent is a word, and these constituents are conjoined by a linking element [ä] which has a morphological role as discussed in the morphophonemic process of the language. (cf. Chapter two).

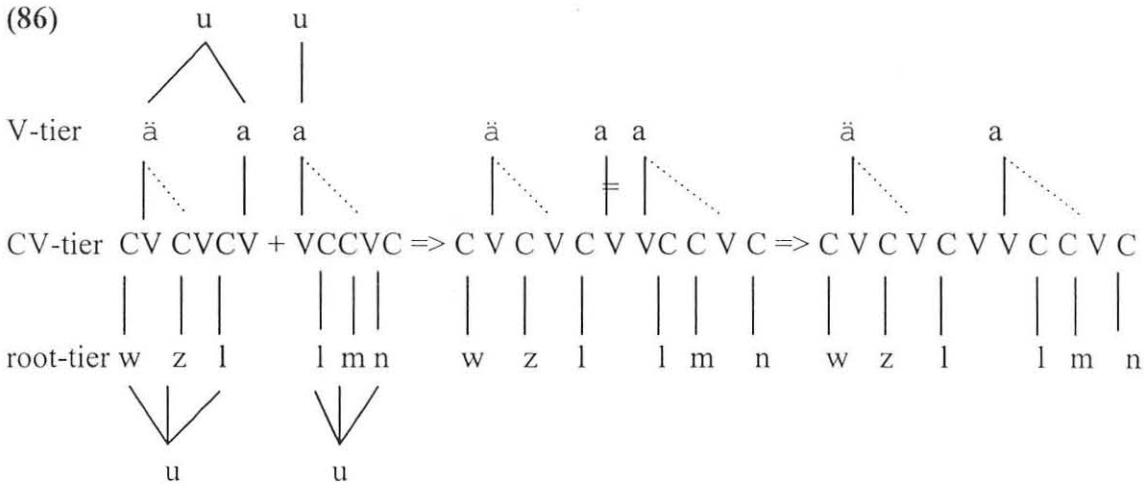
6.7. WORD - WORD COMPOUNDS

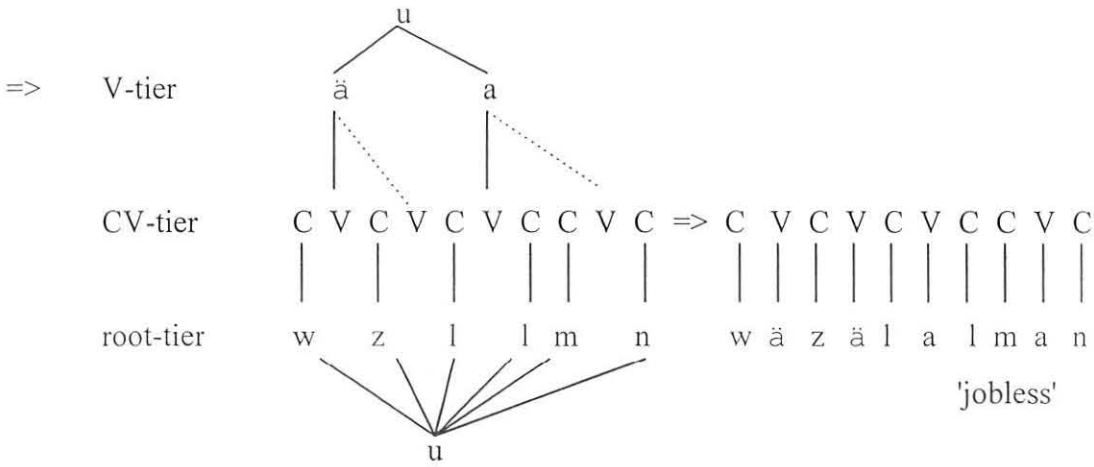
A word combines with another word to form a compound. This kind of combination is widely productive in the language. Different word classes such as nouns, adjectives and postpositions serve as constituents in this type of compound. The resultant compounds do also vary. Largely the compounds are +N categories. Consider the following data.

(85)	**word**		**word**		**resultant compound**	
	yɨga	'water'	šamma	'pot'	[yɨga šamma]	'water pot'
	äkɨl	'grain'	k'älk'äla	'container'	[äkɨlɨk'älk'äla]	'grain container'
	gunnän	'head'	fɨlt'ät	'cut'	[gunnän fɨlt'ät]	'headache'
	äǰ	'hand'	t'äbbab	'narrow'	[äǰ-ä-t'äbbab]	'a kind of shirt'
	kärs	'belly'	bättät	'wide'	[kärs-ä-bättät]	'tolerant'
	äsat	'fire'	alämät	'tongue'	[äsatalämät]	'talkative'
	wäzäla	'job'	alman	'without'	[wäzälalman]	'jobless'
	bär	'door'	alman	'without'	[bäralman]	'doorless'
	täzi	'to'	täza	'fro'	[täzitäza]	'to and fro'
	k'umän	'upwards'	wɨrdän	'down wards'	[k'umän wɨrdän]	'up and down wards'

The tier representation of this group can be demonstrated by taking one among the data as in the following.

(86)





As we can see from the above tier representation, after the inputs [wäzäla] 'job' [alman] 'without' are realised first, then the final vowel of the first constituent is delinked from its respective slot. Such delinked segment is deleted from the structure by convention (Spencer, 1991). This indicates that vowel succession is not permissible in the language. Either one of the vowels is deleted as we saw above, or a glide is inserted to break the sequencing as in the following.[16]

(87) a) [ge] 'house' + [-očč] 'pl-marker' => [ge-w-očč] 'houses'

b) [ge] 'house' + [-i] 'the' => [ge-y-i] 'the house'.

6.8. STEM - STEM - STEM COMPOUNDS

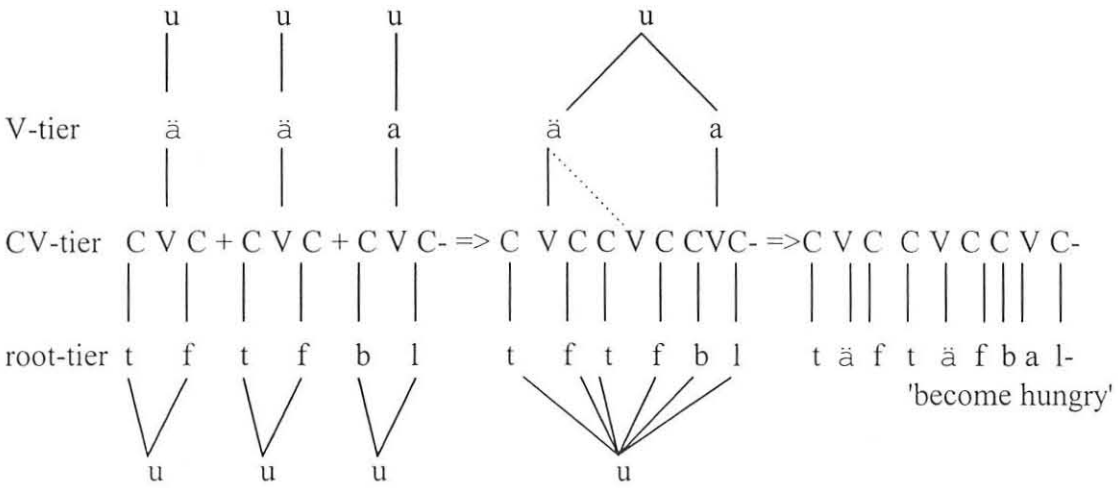
In K~~i~~stan~~i~~ññ̃a, there are combinations of constituents exceeding two. Three stems are put together to form a single compound.

The final stem is verbal and the resultant compound is also verbal. This is also found in other languages like English (Spencer 1991:310). Likewise, one can find similar recursive nature of constituents in K~~i~~stan~~i~~ññ̃a as in the following.

(88)	**Stem**	**Stem**		**Stem**	**Compound Verb**
a.	täf-	täf-	'feel hunger'	+ bal - 'say' = >	täf-täf-bal- 'become hungry'
	baz-	baz-	'wander'	+ bal - 'say' =>	baz-baz-bal - 'become a wanderer'
b.	~~i~~nka-	b~~i~~nka-	'valueless'	+ kon- 'become' =>	~~i~~nka-b~~i~~nka-kon- 'become valueless'
	~~i~~näz-	t~~i~~näz-	'aimeless'	+ k'ir - 'remain' =>	~~i~~näz-t~~i~~näz-k'ir- 'remain unsuccesseful'

In the input, the first two stems come together and then they are attached to the third stem that is verbal. As the final stem is verbal, the resultant is a verbal compound. Similar stems may come together and be attached to a verbal stem as in the first two examples, or different stems may come together and be attached to a verbal stem as in the last two examples above (88). The tier representation of this group looks like the following.

(89)



täf- täf- => 'feel hungry'

täf - täf- bal- 'become hungry'

bal => 'say'

In the input, each stem has its own separate tier representation and as a result of the combination, each morphemic tier merges to items similar in nature as is observed in the vowel melody and root tier respectively. The final output is lexically one unit as any lexically single element is. As the final output is a verb, the final stem is a head and the other two are non-heads.

6.9. WORD - WORD - STEM COMPOUNDS

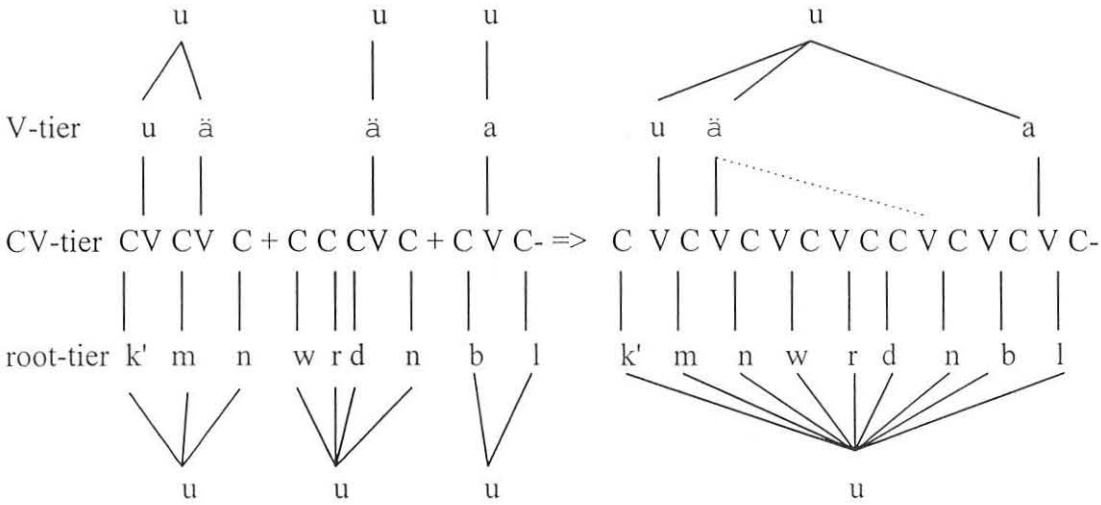
This kind of compound is the result of word, word and stem combinations. The two word constituents may be similar or not. The words can stand on their own without being attached to the stem. This is their main difference from the compounds in the pattern under 6.8 (88). The final constituent is the head of the compound and the first two constituents

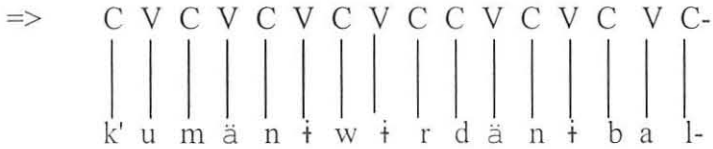
are non-heads. The role of the final stem is functional, as it is true in the other similar combinations where the final constituent is verbal. Consider the following examples.

(90)		**Word**	**Word**	**Stem**		**Compound Verb**	
	a.	mida + 'dysentery'	mida + 'dysentery'	bal- 'say'	=>	mida mida bal-	'feel like one has dysentery '
		wɨzat + 'sweat'	wɨzat + 'sweat'	bal- 'say'	=>	wɨzat wɨzat bal-	'fear'
		sɨmat 'urine'	sɨmat 'urine'	bal- 'say'	=>	sɨmat sɨmat bal -	'be afraid of"
	b.	k'umän 'up'	wɨrdan 'down'	bal- 'say'	=>	k'umän wɨrdän bal-	'march up and down'
		täzi 'to'	täza 'fro'	bal- 'say'	=>	täzi täza bal-	'move to and fro'

As one can observe in the above examples, it is quite possible to re-group the data into two. The first group consists of similar words in the word-word-stem combination. The second group consists of different word constituents in the word-word-stem combination (90 a and b). In both cases, the final stem [bal-] 'say' helps to verbalize the compound. Its role is functional and the meaning of each compound comes from the first two constituents. The tier representation of this group can be represented as follows.

(91)





k'uman+ wɨrdän + bal- => 'moved up and down wards'.

'up' +'down' + 'say'

As we can see from the above tier representation, each constituent is seen as a separate structure in the input. In the output, they are analysed together and the final form is the surface realisation of the resultant compound. [ɨ] is epenthetic in this case too, serving as a pause tempo for the utterance of the compound.

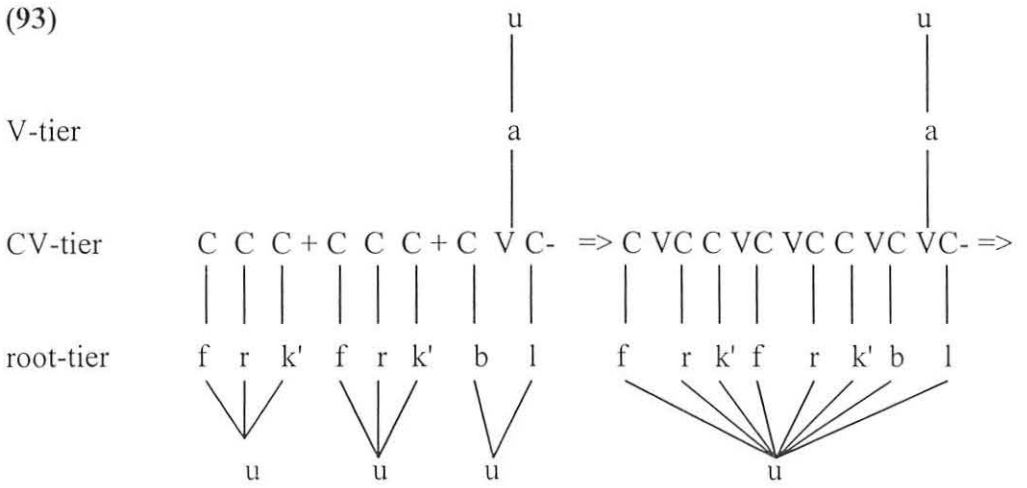
6.10. ROOT - ROOT - STEM COMPOUNDS

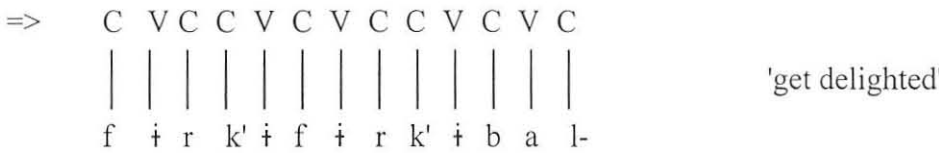
In K̶i̶stan̶i̶ñña, root-roo̶t̶ and stem combine in succession to form a compound. The roots comprise of consonants and do not have vowel elements underlyingly. This differentiates them from the stem - stem - stem group of compounds (88). This type of compounds are the last in the list of the researcher's findings. Consider the following examples.

(92)	**root**	**root**	**stem**		**Verbal Compound**	
	f-rk' 'delight'	f-rk' 'delight'	bal- 'say'	=>	[f̶i̶rk' f̶i̶rk' bal-]	'get delighted' (pleased)
	d- g 'slow'	d- g 'slow'	bal - 'say'	=>	[d̶i̶gg d̶i̶gg bal-]	'moved or act slowly'
	š- r 'be mad'	š- r 'be mad'	bal- 'say'	=>	[š̶i̶r š̶i̶r bal-]	'get mad'
	b-r 'rapid' movement'	b-r 'rapid' movement'	bal- 'say'	=>	[b̶i̶rr b̶i̶rr bal-]	'move rapidly'

As one can observe in the above data, the first two constituents of the compound are similar roots. As in most of the compound words formed by the stem [bal-] 'say', these compounds do have their meanings from the first two constituents (the roots) and the stem is a functional element that helps to form the verbal compound. Hence, the stem (bal-) 'say' is the head of the compound and the first two constituents are non-heads. The tier representation of this group is presented as follows.

(93)





frk' + frk' + bal - => fɨrk' fɨrk' bal-

'delight' 'delight' say' 'get delighted'

As can be observed from the above tier representation, the three constituents form the verbal compound. Under the input, each constituent is analysed separately with regard to tier conflation. In the output, similar tiers are grouped together so that the compound is seen as a whole. This can be confirmed by the tier sign (u), which puts similar tiers under the same group in the output.

To sum up, these are some of the basic patterns of compounding in Kɨstanɨñña. As the analysis is largely based on the constituents, the resultant compounds formed as a result of the combination of the constituents are realised as shown in this section. The different morphophonemic processes discussed in chapter two are observed in the compound

formation of this language. These include the phonological features such as vowel insertion, glide insertion , compensatory lengthening, vowel deletion and assimilation of consonants.

What should be mentioned is that, under morphological features of compounds, compounds do not allow intervening elements, are seen as simple lexical entities, and can be conjugated to different persons, number and gender. Under syntactic features, feature percolations of heads to the immediately dominating node can be considered (Selkirk, 1982). In addition to this, under syntactic features, compounds belong to a certain grammatical category such as nouns, adjectives, verbs etc. (Katamba, 1993), (Spencer, 1991). Under semantic features, compounds have single reference semantically, and are endocentric or exocentric compounds. The previous (endocentric) refer to head and non-head relation. [äfat sinn] 'milk tooth' is a kind of tooth. [ässät guns] 'a baked food' is a kind of food. The latter (exocentric) refer to compounds that do not have head and non-head relations. [täzi täza] 'to and fro' and [k'umän wirdän] 'up and down wards' are examples of this type. Finally, since the relation between the constituents and the resultant compounds is compared to combination of elements in a chemical change (Meys, 1975), idiosyncratic nature in meaning differences between the inputs and the outputs is expected.

CHAPTER SEVEN

CONCLUSIONS

This study attempted to present word-formation processes in Kɨstanɨññña, one of the Gurage languages. The thesis provides data on the different types of word-formations such as nominalization, verbalization, adjectivization, compounding and reduplication. In addition to these, the researcher made an effort to show how the different word types are derived from root, stem and word bases. The formation of words was made possible with the methods of compounding, concatenative as well as non-concatenative approach, which typifies Semitic morphology at large.

Under nominalization, we saw the formation of different nominals such as agentive, action, abstract, instrumental, manner, etc. All the nominals that are derived from verbal root bases are derived non-concatenatively whereas the abstract, vocative, group identity and residual nominals are derived concatenatively.

In our discussion of verbalization, this paper investigated the different verbal types such as causatives, reflexives, statives, passives, etc. In addition to these, reduplicative forms such as intensives, attenuatives, frequentatives and iteratives are derived by the reduplication of radicals ranging from one to three. Moreover, total and partial reduplications are observed in the reduplicative verbal forms.

Under adjectivization, the researcher examined the different adjective formation in Kɨstanɨññña. Some adjectivizers are similar in from with some nominalizers as cited in the

text. These similarities may have been the result of the fact that both adjectives and nominals are +N categories.

In the last chapter of the text, the researcher attempted to show the different possible compound patterns in the language. Roots, stems or words serve as bases for the formation of different compounds such as verbals, adjectivals and nominals. The constituents of a compound and the resultant output are compared to elements and a compound in a chemical reaction. Derivation of words are observed in nominalization, verbalization and adjectivization whereas compounding is another word-formation process that is neither derivation nor inflection.

Word-formation helps to identify the existing lexicon. By the projection of the rules and the system it can also be applicable to the coinage of new terminologies that are needed by the new innovations of science and technology.

Moreover, it is important to note some issues that were raised in this thesis and that need further investigations. Although this thesis is mainly considered as a morphological work on its own, issues related to phonology and syntax are raised as being explanatory to the word - formation processes discussed. Hence, some of them should be analysed further. Among these issues, the status of the high central vowel [ɨ], the glottal stop [ʔ] and the nature of roots are cases in point.

For researchers who would plan to investigate the phonology of the language, the status of the high front vowel [ɨ] needs further research. As is observed in the text, in addition to being epenthetic, it exhibits the nature of being a stem formative in some cases (cf. 22b). Not only that further investigation might show up additional features. Therefore,

I hold the view that, it should be analysed further. The status of the glottal stop (?) also needs further investigation as well. As observed in the thesis, in its phonetic realisation, it is in free variation with certain phones like [k'], but in the discussion of roots (cf. 18b and 30 as examples), it serves to indicate the missing radicals in the underlying representations. The fact that it is present underlyingly implies that it may have a status more than what has been said so far.

As the purpose of this thesis is not to discuss phonological matters in depth, to cite some of the problems might help for further investigations in the area of the phonology of the language.

In issues related to roots, as they are considered as bases for most of the verbal, adjectival and nominal derivatives, one should attach equal importance to all the derivatives mentioned. As is found in most morphological works of this sort, most of the researchers attach greater importance to verbs and presume roots as being verbal root bases. Conversely, one observes nominals and adjectivals which are also root based. Therefore, it is proper to consider the status of all the derivatives as equal and not to take for granted that roots are solely related only to verbs. As in the discussion of the formation of compounds (cf. chapter six), some of the root based compounds indicate that the suggestion forwarded has some truth in it.

As the thesis is limited in its theoretical frame-work to word-formation processes that are considered as derivatives and compounds, the other aspect (inflection) can be treated by another research work from the point of view of strong lexicalist approach, which claims that inflection can be incorporated under morphology.

Finally, this thesis might be considered as an input by itself since it deals with morphological issues of an Ethio-Semitic language that has not been studied widely. In addition to these, the thesis might be helpful for other researches of same sort or may help for other disciplines that focus on language related issues.

Notes

[1] The idea of vocative nominals is taken from Baye (1994).

[2] The meaning in the gloss is close to the gloss but not exactly.

[3]Group identity nominals is the term I coined for some nominals that are considered as members of a certain group or activity.

[4]Chaha is one of the central western Gurage dialect. Degif in his Ph. D. Thesis has discussed the sound system of Chaha in depth.

[5][k'] occurs in free variation with [?] in result nominals.

[6]In K-stan-ññ-a, formally there are some instances by which action nominal overlaps with process. In such cases the preposition 'ba- - - lalä' helps to identify whether a nominal is a process or not.

[7]The reduplicative forms are not verbals but their bases are verbal roots. Together with the verb 'say' or 'made', they from composite forms, which are verbals. (See Baye, forthcoming on Similar issues in Amharic on Journal of Ethiopian Languages and Literature).

[8]With regard to the passive structure in K-stan-ññ-a, the object on which the action is done comes first and hence the passive expression does not pay attention to the actor (doer) like the active base.

[9]In addition to the affix /tä-/, reflexives can be expressed by certain forms associated with possessive suffix pronouns. These forms are /äras-/, /gubba-/ and /k'um-/, All mean the same thing, i.e., 'self' (Leslau, 1992).

[10]Most of the issues raised in this sub-section have been inspired by the paper presented by Professor Baye on the 10th annual conference of Institute of Language Studies (1998).

[11]Based on the state of the action that is performed, iteratives can be divided into three degrees. First degree, those which repeat at lesser degree, second degree, those which repeat significantly and third degree, those which repeat infinitely.

[12]In frequentatives, the action is done repeatedly with certain durations or gaps. The action is done seldom or rarely with pauses. This is their basic difference with other forms. (This is basically semantic difference).

[13]I consider the forms as derivates of verbal root bases. Those which can not be derived from verbal root bases are taken as free forms. According to Leslau (1995) similar underived adjectives are prevalent in Amharic, one of the South Ethio-Semitic languages.

[14]As the theoretical frame - work chosen does not include inflection, it is mentioned to cite what comes after the stem.

[15]Note that in K~~i~~stan~~i~~ññ̈a [y~~i~~n[and [yin] can be used interchangably without meaning differences.

[16]Note that identical vocal sequencing results in deletion of the first vowel and vocal sequencing of different vowels is an 'either' or 'condition, i.e., deletion or insertion of a glide, [gända] 'neighbour' +-očč 'pl marker' => [gänd-očč] 'neighbours' and [ge] 'house' + [-očč] 'pl marker' becomes [ge-w-očč] 'houses' respectively.

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DECLARATION

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in any University and that all resources of material used for this thesis have been duly acknowledged.

Name: Alemayehu Gurmu

Signature: _____

Place: Addis Ababa, Ethiopia

Date of submission: January, 2000

This thesis has been submitted for the examination with my approval as a thesis advisor.

Name: Dr. Abebe G/Tsadik _____