

WORD FORMATION IN GIRIRRA

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By
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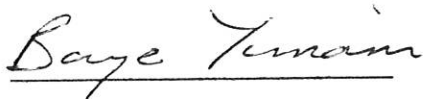
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ABBREVIATION

Abs	Abstract
Adj	Adjective
af	affix
ag	agentive
art	article
Cs.	Causative
df.	definiteness
dfm.	masculine definit
exp.	experiencer
f.	feminine
foc.	focus marker
Ger.	gerundive noun
imp	imperfective marker
inten	intensive
M	masculine
ms	masculine singular
man.	manner
N.	noun
<i>N^{af}</i>	noun affix
neg	negative marker
NP	noun phrase

P.	preposition/post - position
part	particle
pf	perfective
pas	passive
pl	plural marker
1 pl	1 st person plural
REC	reciprocal
REF	reflexive
Res	result noun
sg	singular
Stat.	Stative
V.	verb
V'	verb root

Signs and Symbols

C.	consonant
V.	vowel
-	lack that value
→	becomes
/ /	enclosed phonemic items
[]	enclosed phonetic items
*	ungrammatical structure
+	has that value
:	has the value of length
-	morpheme boundary

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ABSTRACT

Girirra is believed to be one of the Eastern Lowland Cushitic Languages of Ethiopia. It has not been morphologically described so far. This study attempts to examine the structure of its words on the basis of the theoretical framework known as the Lexical Hypothesis. Particularly it follows the weak Lexicalist Hypothesis of Siegel (1974), Aronoff (1976), and Allen (1978). The study describes the processes of nominalization, verbalization, and adjectivization.

The study attempts to describe the roots or stems from which nouns, verbs and adjectives are derived along with the affixes that derive them, and the rules that govern the processes.

Compounding and reduplication are also examined as morphological processes.

The study also attempts to describe the position of the head of words. In both affixation and compounding, the head is considered to be either the constituent which has the same syntactic feature as the whole word or that which determines the central meaning of the word.

CHAPTER ONE

1. Introduction

1.1. The Girirra people and their language

Girirra is a newly discovered language assumed to be one of the Lowland East Cushitic Languages of Ethiopia. It is found in the Sarar District of the Bale Administrative Region. It is spoken by people who call themselves Garirro and their language 'af Garirro' (which means the Girirra language). Outsiders usually refer to the language as Girirra, Abdurahim (1993).

The exact number of the speakers is not known, however, and according to some of my informants, their number is estimated to be over 100,000. Although they are surrounded by Somali and Oromo speaking people, they have still maintained their language.

They all follow the Islamic religion. Their staple food is porridge, which is prepared from barley or corn, and they drink milk, coffee and tea.

The main activities of the people are cattle raising and farming. They produce maize, barley, sorghum and have domestic animals like cow, oxen, camels, goats, mules, and sheep.

They use wooden utensils made by themselves. They have for instance, cups, spoons and different kinds of containers made from wood.

They have a tribal chief who has power over matters of tribal conflicts and disputes. In times of crisis, he calls a general assembly of the people to discuss the problem and pass resolutions.

They also have foretellers who warn the tribal leader about imminent dangers. The leader calls the assembly and informs the people of the situation. They have two meeting places, one for worship, and another one for other social problems. These are called "Obowu-sanbur and baddana" respectively. Every five years, there is a general meeting of all the Girirras at Obowu-sanbur for the initiation ceremony of the young to various responsibilities.

Modern education is very recent, only one elementary and one junior secondary schools have been established since 1974 E.C.

1.2. Previous studies

As mentioned above, since Girirra is a newly discovered language the only linguistic work available is Abdurahim's thesis of 1993 which is a description of its sound system. According to him, the phonemic inventory has the following consonants and vowels.

		Bilabial	Labiodental	Alveolar	Alveopalatal	Palatal	Velar	Glottal
stops	Vd	b		d			g	
	Vl			t			k	ʔ
	Ejective						k'	
IMPLOSIVE			ɗ(ɗ)					
Fricatives			f	s	S(š)			h
Nasals		m		n		ɲ (ñ)		
Liquids	Flap				r			
	Lat.				l			
semi-vowels		w				y		

Vowel

	<u>Front</u>	<u>Back</u>
High	i	U
Mid	e	O
Low		ɔ

Length of vowels and consonants is phonemic as shown in the following examples:

(cf. Abdurahim 1993)

vowel length:

(1) /un/'eat'	(2) /dél/	'pot'
/u:n/ 'smoke'	/dɛ:l/	'play'

consonant length or gemination:

(1) /eri/	'sun'	(2) /ilis/	'skimmed milk'
/er:i/	'soil'	/il:is/	'heavy'

As pointed out by Abdurahim (1993) the core syllable structure of this language is (C) V (V)(C).

1.3. The present study

As stated above the only work done on Girirra is its phonology. Thus, the main purpose of this study is to investigate its morphology. The following are the specific objectives:

- 1.3.1. To show:
 - a) the word formation processes
 - b) the effect of morphological processes on argument structures of derived forms.

- c) the syntactic similarities and/or differences between derived and simple forms.

1.4. Significance of the study

The study will provide:

- a) basic linguistic information for further studies on the Cushitic languages in general and,
- b) for developing literacy materials.

1.5. Research Methodology

The study follows standard procedures of linguistic research.

- 1.5.1. Collecting data from primary sources that is, native speakers.
- 1.5.2. Transcribing data phonemically following the Standard IPA Symbols.
- 1.5.3. Analyzing data and formulating rules of word formations.
- 1.5.4. Checking rules against further data.

1.6 The Theoretical Framework

Prior to 1970, there were two types of hypothesis on the treatment of word formation within the framework of Generative Grammar. One was the Transformationalist Hypothesis, and the other, the Lexicalist Hypothesis.

Transformationalists such as Chomsky (1957), Lees (1960), Katz and fodor (1964), and others did not consider word formation rules as an autonomous system located in the lexicon. These were considered to be part of the transformational component. The only items in the lexicon were simple words, i.e., those that are neither compounds nor derived forms. Regarding the formation of complex words at that time, Scalise (1984:8) says, "The

only place where they could be constructed was the transformational component, the only device capable at that time of expressing relations."

However, such a transformationalist treatment of words showed a number of inadequacies: the entire operation was extremely complicated because the rules were unconstrained. Furthermore, syntactic transformations which are regular processes, could not account for the idiosyncrasies found in the derivation of complex lexical items.

Then, in 1970, when Chomsky took the lexicalist position in "Remarks on Nominalization," all word formation processes became part of the lexicon. It was argued that much of derivational morphology was semantically irregular and should not be handled by syntactic rules which are regular. According to Scalise, (1984:90) "Remarks created the theoretical space for autonomous morphological component, a possibility that was explicitly excluded in the earliest works on transformational generative grammar." Out of this developed two hypotheses: one which argues that inflection should operate entirely within the lexical component, known as the Strong Lexicalist Hypothesis (SLH). Advocates of this are people like Halle (1973), Lapointe (1978), McCarthy (1979) and Kiparsky (1982). The other one, known as the Weak Lexicalist Hypothesis (WLH), treats inflection in the syntax. There are different views among followers of both theories. Some strong lexicalists argue that both derivations and inflections are the same processes while others believe that they are different processes. Furthermore, some weak lexicalists believe that inflectional rules are syntactic processes while others say they are phonological (cf. Scalise, 1984:101).

Arguing about the differences between inflection and derivation is beyond the scope of this study. As already stated, the present study aims at simply describing how new lexical items are formed by the processes of affixation and compounding. For this, the theoretical framework followed is the Lexicalist Hypothesis outlined in Halle (1973), Jackendoff (1975), Siegel (1974), Aronoff (1976) and Allen (1978), which stipulates that words with derivational morphology and compounding are not formed by syntactic transformations.

In addition to this, since the study is limited to the process of derivation and compounding, I shall follow the views of the Weak Lexicalist Hypothesis, which excludes inflections from the morphological component of grammar. For the formation of rules, the framework developed by Selkirk (1982) is followed.

According to this model, any language has a particular grammar of word structures (just as it has a particular grammar of phrase structures) which conforms to certain general principles, governing possible word structures in the language (cf. Selkirk, 1982:9). However, a grammar of word structure differs from the other in the category type involved and also in the way the categories are combined. In addition, while phrase structure rules operate in the syntax, word structure rules operate in the lexicon.

A word structure rule is not the only component in the lexicon. Selkirk (1982:10) states the component as follows:

First it contains a list of freely occurring lexical items the dictionary. ... second, it contains a list of the bound morphemes of the language. This, together with the dictionary proper ... call the extended dictionary. Third, it includes the set of rules characterizing the possible morphological structures of a language The word structure rules together with the extended dictionary, they form the core of the word structure of the lexicon.

The set of rules which characterize the possible morphological structure of a language specify the set of words on which they operate. This set is called the "base". In other words, since word formation rules apply to a base and generate an output, they are sensitive to the syntactic and subcategorization features of the base. It also specifies the syntactic category and features of the output with their semantic information (cf. Scalise, 1984:42).

Furthermore, every new word formed by a word formation rule must be a member of a major lexical category. The assignment of such syntactic category features may provide information about the relation between mother and daughter nodes in word structures. In turn, the relation between mother and daughter nodes is related to the head theory of Williams (1981a), Selkirk (1982), among others, who say that every complex word has a head which bears the features of the mother node. This means, among the constituents, the element which has the same category feature as the mother node is considered as the head of the word. In light of this, affixes (in most cases) have the same category features as their dominating nodes, and thus, can be heads. Regarding compounds, the constituent with the same syntactic category features as the whole compound is considered as the head. Furthermore, it is also possible to specify the head of a compound from its basic (central) meaning. Regarding this, Selkirk (1982:22) says, "The notion head is crucial in characterizing the semantics of compounds."

The theory of word formation also provides the mechanism, by which the category features of a head are carried over to the whole word. As Scalise (1984:96) puts it, "The head assigns to the entire word its category by means of a mechanism referred to as percolation." Such a mechanism is described by Selkirk (1982:21) as follows:

"If a constituent α is the head of a constituent β , α and β are associated with an identical set of features (syntactic and diacritic)."

As can be understood from the above statement, the theory also helps to predict that any feature, syntactic or diacritic, found with the head constituent should be found in the mother node. Generally, as Selkirk (1982:9) says, "Any given language has a particular grammar of word structure. ... one which nevertheless conforms to certain quite general principles governing possible word structure in the language."

The aim of this study is to identify the regular rules of word formations in Girirra in light of the theory outlined above.

CHAPTER TWO

2. Derivational Affixes

Derivational affixation is the process of forming new words by attaching affixes to existing words, stems or roots. In this section, we shall describe the formation of such new words by means of such a process. In Girirra, different kinds of affixes can be attached to verbal, nominal and adjectival bases to form new nominals, verbals and adjectivals.

2.1. Nominalization

A word is assumed to be a derived nominal if it consists of a base and a derivational nominal affix. Such a process is known as nominalization (cf. Smith 1981:64 and Williams 1981a:246). In Girirra, it is possible to derive new nominals by attaching nominal affixes to adjectival, nominal and verbal roots. In addition, combining two roots or words may also result in new nominals.

In this section, we shall attempt to see the type of forms that can be bases to derived forms and the kinds of nouns that result from the derivation. The derivational affixes are also classified on the basis of their semantic characteristics.

2.1.1. Abstract Nominals

Abstract nouns refer to "the quality of being N" (Givon 1970: 79 - 80). These are formed by attaching the abstract nominal suffixes: /-us/ and /-nima:n/ to adjectival and nominal bases as indicated below:



Adjectival root	Gloss	Nominals	Gloss
dogon	'foolish'	dogon-us	'foolishness'
ga:b	'short'	ga:b-us	'shortness'
k'awi:n	'thick/tall'	k'awi:n-us	'thick/tallness'
la:f	'weak'	la:f-us	'weakness'
mallan	'beauty'	mallan-us	'beautiness'
k'anyar	'thin'	k'anyar-us	'thinness'
de:r	'long'	de:r-us	'longness'
baha:n	'ugly'	baha:n-us	'ugliness'
mudow	'black'	mudow-us	'blackness'
ad	'white'	add-us	'whiteness'
das:a:n	'lazy'	das:a:n-us	'laziness'

Table - 1 Abstract Nominals derived from Adjectival base.

Nominal root/stem	Gloss	Nominals	Gloss
hiñña:g	'child'	hiñña:g-nima:n	'childhood'
a:ye	'mother'	a:ye-nima:n	'motherhood'
walal	'brother'	walal-nima:n	'brotherhood'
wala:lt	'sister'	wala:lt-nima:n	'sisterhood'
a:wu	'father'	a:wu-nima:n	'fatherhood'
bila:n	'woman'	bila:n-nima:n	'womanhood'
libo:d	'man'	libo:d-nima:n	'manhood'
ma:lk'aben	'rich'	ma:lk'aben-nima:n	'richness'

Table- 2 Abstract Nominals derived from Nominal base

From the examples given in tables (1) and (2), a word formation rule of the type shown below can be formed:

$$(1) \quad \left\{ \begin{array}{c} N \\ A \end{array} \right\} + N_{[+abs]}^{aff} \rightarrow N_{[+abs]}$$

Since the base categories share the syntactic distinctive feature [+N], it is possible to say that the above suffixes are attached to forms of a [+N] syntactic category. In other words, it may be possible to modify rule (1) as in (2):

$$(2) \quad X_{\left[\begin{array}{c} +N \\ -abs \end{array} \right]} + N_{[+abs]}^{aff} \rightarrow N_{+[abs]}$$

This is consistent with Scalise (1984:13) who says, "WFR's could be allowed to operate not on syntactic categories (N,V,etc.) but rather on syntactic category features ([+N, +V], [+N, -V], etc.)." The effect of suffixes like /-us/ and /-nima:n/ is not on changing the lexical category but the syntactic category features of the forms.

The distribution of /-nima:n/ is difficult to predict since it occurs in some cases in free variation and in others in complementary distribution with /-us/as in the following:

- wid-nima:n/us 'thinness'
- mudow-nima:n/us 'blackness'
- dogon-nima:n/us 'foolishness'
- k'awin-nima:n/us 'thickness'
- de:r-nima:n/us 'longness'

On the other hand, /-us/ occurs only with adjectival roots.

Both /-us/ and /-nima:n/ serve as heads, because they bear the same syntactic category features as the dominating category. Regarding head of words, Selkirk (1982:61) says "the rewriting system of affixation generates structures in which one of the daughters, either the affix or its sister bears the same syntactic category feature as the dominating category."

2.1.2 Agentive Nominals

Agentive nominals denote the doer of an action. They establish "a relation between a verb and one who (verb)s" (cf. Anderson et al [1985:6). In Gurrira, the suffix /-a:w/ and /-toy/ are used to form such nominals when attached to transitive verbal bases. Consider the examples in table (3) below:

Verbal Root	Gloss	Agentive Nonimals	Gloss
díg	'wash'	díg-a:w	'one who washes'
gad	'sell/buy'	gad-a:w	'one who sells/buys'
a:kir	'read'	a:kir-a:w	'one who reads'
yiga:s	'kill'	yiga:ssoy	'killer'
ila:l	'keep'	ila:l-toy	'keeper'
k'ibis	'break'	k'ibis-soy	'breaker'
k'od	'farm'	k'ot-toy	'farmer'
ma:l	'milk'(V)	ma:l-toy	'milker'

Table 3. Agentive Nominals

These same suffixes are used to derive experiencer nominals from intransitive roots as shown in the following examples:

Verbal roots	Gloss	Experiencer Nominals	Gloss
he:s	'sing'	he:s-soy	'singer'
dé:l	'play'	dé:l-a:w	'player'
het	'steal'	het-toy	'one who steals'
ro:r	'run'	ro:r-toy	'runner'
ko:d	'talk'	ko:d-a:w	'talkative'
maga:l	'hear'	maga:l-a:w	'hearer'
dere:r	'travel'	dere:r-toy	'traveller'
yammud	'die'	yammud-a:w	'one who died'

Table 4. Experiencer Nominals

The derivational rule is as follows:

$$(3) X \begin{bmatrix} +v \\ -N \end{bmatrix} + N^{af} \begin{bmatrix} +ag \\ +exp \end{bmatrix} \rightarrow N \begin{bmatrix} +ag \\ +exp \end{bmatrix}$$

Such affixes are category changing as the category of the derived nominals and that of the base are different. The base form are $\begin{bmatrix} +V \\ -N \end{bmatrix}$ whereas their derivatives are $\begin{bmatrix} -V \\ +N \end{bmatrix}$. This $\begin{bmatrix} -V \\ +N \end{bmatrix}$ feature comes from the affixes.

The process distinguishes gender as the suffix /-a:w/ derives masculine whereas /-toy/ derives feminine nominals. It is difficult to know whether the process is derivational or inflectional, because like derivational affixes, the morpheme derives nominals from verbal roots; and like inflections, they make gender distinctions. This is also the case in Oromo (cf. Temesgen, 1993, and Mous, 1992).

It is the most natural thing for nominals to occur as subject or object of a sentence or as object of prepositions (cf. Aronoff, 1976). Thus, the derived experiencer and agentive nominals can occur as subject or object in a sentence. Consider the following structures with the verb /ro:r/ 'run' and its derivative /ro:rtoy/ 'runner':

- (4) (i) Ali ro:r-ey
 Ali run-pf. 'Ali ran'
- (ii) ro:r-toy ko:y-ey
 runner come-pf 'The runner came'
- (II) Ali ro:r-toy-ki tum-ey
 Ali runner-df-m hit-pf 'Ali hit the runner'

As can be seen from the examples, sentence (4i) shows the occurrence of the base /ro:r/ 'run' as a verb. Sentence (4ii) shows the occurrence of the experiencer nominal as a subject of a sentence and (4iii) shows its occurrence as an object.

2.1.3. Result Nominals

Result nominals refer to results of actions. In this language, such nominals are derived by suffixing /-tin/ and /-in/ to verbal roots as can be seen from the following table:

Verbal Roots	Gloss	Result Nominals	Gloss
turug	'stab'	turuk'-tin	'sharp pain'
he:g	'sweep'	he:g-in	'rubbish'
te:g	'pour'	te:g-in	'sewage'
fa:ra:h	'happy'	fa.ra.y-tin	'pleasure'
e:h	'insult'(v)	e:y-tin	'insult'(N)
o:y	'cry'	o:y-tin	'lamentation'
k'e:g	'tear'	k'e:g-in	'rent'
đig	'wash'(V)	đig-in	'wash'(N)

Table 5. Result Nominals

Such nominals occur in sentences like the following:

(5) (i) Ali:- we wala:l-ki-kes garad-ey

Ali-foc. brother-df-m-his know-pf

'Ali knew his brother.'

(ii) garat-tin-e malan-ya

knowledge-foc good-be

'knowledge is good'

There are also some result nominals derived from verbal bases with no overt affix, that is, by zero affixation. Compare the following examples:

- (6) (a) Anani-ki o:ff-ey
 boy-df-m tire-pf
 'The boy is tired'
- (b) o:ffo in - badad-ey
 exhaustion part - feel-pf
 'I felt too much exhaustion'
- (c) ge:di-ki angig-ey
 wood-df-m dry-pf
 'The wood dried.'
- (d) angig a:ba:r-o ša-yen
 draught famine will - bring
 'Drought will bring famine.'

The word formation rule of result nominals look like (7).

$$(7) \quad V + \text{Naf}_{[+\text{Res}]} \rightarrow \text{N}_{[+\text{Res}]}$$

2.1.4. Gerundive Nominals

In Girirra, gerundive nominals are derived from verbal roots by the addition of /-ni/ and /-ašu/ to roots as shown in the following table below:

Verbal root	Gloss	gerundive nominals	Gloss
un	'eat'	un-ni	'eating'
tab	'go'	tab-ni	'going'
tum	'hit'	tum-ni	'hitting'
k'o:d	'till'	k'o:d-ni	'tilling'
gi:d	'pull'	gi:d-ni	'pulling'
gan	'throw'	gan-ni	'throwing'
het	'steal'	hed-ni	'stealing'
nu:g	'suck'	nu:g-ni	'sucking'
ha:b	'need'	ha:b-ašu	'needing'
baris	'fly'	baris-ašu	'flying'
ro:r	'run'	ror-ašu	'running'
ri:d	'shoot'	ri:d-ašu	'shooting'
da:r	'swear'	da:r-ašu	'swearing'

Table 6. Gerundive Nominals

The categorial status of /-ni/ and /-asu/ is N^{af} (that is nominal affix) and their subcategorization frame is: -ni, -ašu: N, [+V ____] The rule which generates such nominals is the following:

$$(8) \quad X \begin{bmatrix} [+V] \\ [-N] \end{bmatrix} + N^{af} \begin{bmatrix} [+Ger.] \end{bmatrix} \rightarrow N \begin{bmatrix} [+Ger.] \end{bmatrix}$$

Compare the occurrence of the base verb /un/ 'eat' and its derivative from the following structures:

- 9) i) a:nan-ti da:bo un-t-ey

girl-df-f bread eat-f-pf

'The girl ate bread.'

ii) un-ni ma-sakar-o

eating not know-imp

'He does not know eating.'

iii) un-ni mallan-ta

eating good-(f) be

'Eating is good.'

2.1.5 Process/Action Nominals

Comrie et al (1985:350) define action nominals as " the fact, the act, the quality or occurrence of " the base from which such nominals are derived. They are formed by attaching to the verbal base the action/process nominal suffix/-ni/, which is also similar in form to the gerundives suffix.

Verbal Root	Gloss	Process/Action Nominal	Gloss
fur	'divorce'	fur-ni	'way of divorcing'
hir	'tie'	hir-ni	'way of tying'
bo:d	'jump'	bo:d-ni	'way of jumping'
be:k	'measure'	be:k-ni	'way of measuring'
gan	'throw'	gan-ni	'way of throwing'
he:s	'play'	he:s-ni	'way of playing'
ri:g	'load'	ri:g-ni	'way of loading'
k'a:d	'carry'	k'a:d-ni	'way of carrying'

Table 7. Action Nominals

In addition, the suffix /-tin/, which is homophonous to that of the result nominals, is also used in the formation of action nominals. It is possible to say that one form is associated with two distinct functions. The following examples display action nominals with the suffix /-tin/.

Verbal Root	Gloss	Action Nominal	Gloss
da:w	'rob'	da:w-tin	'process of robbing'
sa:m	'plunder'	sa:m-tin	'process of 'plundering'
ha:b	'find'	ha:p-tin	'process of finding'
k'ibis	'break'	k'ibis-sin	'Process of breaking'
rig	'push'	rik'-tin	'process of pushing'
ururis	'collect'	ururis-sin	'process of collecting'
baris	'fly'	baris-sin	'process of flying'
se?	'stand up'	šet-tin	'process of standing up'

Table 8. Action Nominals with the suffix /-tin/.

For such nominals, the following word formation rule can be formed:

$$(10) \quad X \begin{bmatrix} +V \\ -N \end{bmatrix} + N^{af} \begin{bmatrix} +process \end{bmatrix} \rightarrow N \begin{bmatrix} +process \end{bmatrix}$$

The suffixes are category changing since their bases are different in category from their derivatives. The bases are $\begin{bmatrix} +V \\ -N \end{bmatrix}$ while its derivatives are $\begin{bmatrix} +N \\ -V \end{bmatrix}$.

2.1.6. Manner Nominals.

Manner nominals refer to the way or the manner in which a given action is done. In Girirra, such nominals are derived by suffixing /-nera/ to verbal roots. The following are examples of such nominals:

Verbal roots	Gloss	Manner Nominals	Gloss
hir	'tie'	hir-nera-	'manner of tying'
še:g	'talk'	še:g-nera-	'manner of talking'
fađ	'sit'	fađ-nera	'manner of sitting'
dere:r	'walk'	dere:r-nera-	'manner of walking'
un	'eat'	un-nera-	'manner of eating'
wara:b	'drink'	wara:b-nera-	'manner of drinking'
kuf	'fall'	kuf-nera-	'manner of falling'
k'ib	'break'	k'ib-nera-	'manner of 'breaking'
đe:l	'play'	đe:l-nera-	'manner of playing'
le:š	'finish'	le:š-nera-	'manner of finishing'

Table 9. Manner Nominals

For such nominals, the following rule may be proposed:

$$(11) \quad X \begin{matrix} [+V] \\ [-N] \end{matrix} + N^{af} \begin{matrix} [+man.] \end{matrix} \rightarrow N \begin{matrix} [-man.] \end{matrix}$$

The occurrence of such nominals in structures of sentences is like the following:

(12) a) Ali waro-s še:g-ey

Ali news-foc tell-pf.

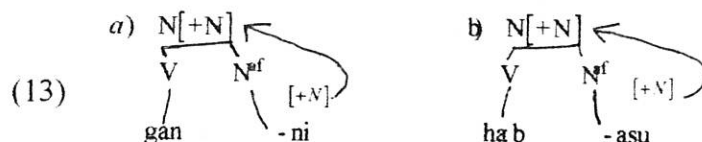
'Ali told news.'

b) še:g-nera-kes dabba: mallan-ta

manner of telling-his very good-be

'His way of talking is very good.'

In general, all nominal suffixes seem to be category changing, and it is, therefore, plausible to consider them to be heads. Consider for example the feature [+N] of the gerundive nominals which determines the category of the mother node.



As can be seen from such examples derived nominals are right headed because the affixes from which the features percolate to the mother node are on the right hand side of the word. Finally it may be possible to formulate a general rule of the type:

$$(14) \quad N \rightarrow \left\{ \begin{array}{c} N \\ A \\ V \end{array} \right\} N^{af}$$

2.2. Verbalization

In the preceding section, we have tried to show the processes of noun formation in Girirra. In what follows, we shall discuss verbalization. Verbal stems are derived from verbal roots or stems. Such derived stems are formed by affixing various derivational morphemes to verbal roots or stems, and also by reduplicating the roots which shall be discussed in chapter four.

In Girirra, verbal stems can be derived from other verbal stems or roots. The derived stems include causatives, passives, reflexives/middles, statives, reciprocals and frequentatives. The last one is formed by reduplication, while the rest are formed by affixations. Each type is presented as follows.

2.2.1. Causatives

In the process of causativization, someone causes some other person to do something. "Any causative situation involves two component situations, the cause and its effect (result)", Comrie (1981:158). In connection with this, Alsina (1992:517) also says,

"Morphologically derived causatives are composed of causative morpheme and a base verb."

The causative stem in Girirra is formed by suffixing the affixes /-is/ and /-siis/ to verbal bases. /-is/ is attached to intransitive verbal roots, whereas /-siis/ is attached to transitive ones.

2.2.1.1. Causatives of transitive verbs

As it is stated above, /-siis/ is an affix that causativizes transitive verbs as shown in table 10 below.

Verbal roots	Gloss	Causative verbs	Gloss
ot	'close'	ot-si:s-	'cause to close'
fur	'divorce'	fur-si:s-	'cause to 'divorce'
tum	'hit'	tum-si:s-	'cause to hit'
het	'steal'	het-si:s-	'cause to steal'
we:r	'call'	we:r-si:s-	'cause to call'
gub	'burn'	gub-si:s-	'cause to burn'

Table. 10 Causatives of transitive verbs

Syntactically, such verbs and their non-causative bases have different characteristics. Regarding this Comrie (1981:168) says, "The morphological causative has a valency one higher than that of the corresponding non-causative, since in addition to the arguments of that non-causative predicate there is also the causer."

This is shown in the following examples:

- (1) anan-ki awu-kes un-we:r-ey
 boy -df-m father-his part-call-pf

' The boy called his father. '

Here, /we:r/ ' call' is a monotransitive verb, having only one noun phrase complement. Its subcategorization frame is as follows:

/we:r/: V, [NP--] ' call '.

What is observed from this frame is that /we:r/ θ - marks an object NP.

On the other hand, the verb can get an additional argument when it is causativized. Consider the following sample

(2) Dad-ki anan-ki awu-kes un-we:r-si:s-ey
 man-df-m boy-df-m father-his part-call Cs-pf

' The man caused the boy to call his father '.

As stated earlier, in causativization, there is an increase of valency. This difference may be observed from the entries for /we:r/ /call/ and /we:r-si:s/ 'cause to call' shown below:

/we:r/: V, [NP__] 'call'

/we:r-si:s-/: V, [NP NP ____]. 'cause to call'.

Furthermore, if we take a bitransitive verb like /šeg/ 'tell', there is also one more complement after causativization.

(3) (a) Ussu bara:n-ki dad-ki še:g-ey
 he news -df-m man-df-m tell-pf

' He told the news to the man '.

(b) Awu-kes usso bara:n-ki dad-ki še:g-si:s-ey
 father-his him news-df-m man-df-m tell-Cs.pf

'His father caused him to tell the news to the man.'

The subcategorization of (3a) and (3b) may be presented respectively as follows:

/ʃe:g/: V, [NP NP ___] 'tell'

/ʃe:g-si:s-/: V, [NP NP NP ___] 'cause to tell'

The effect of causativization is not only on changing subcategorization frames by increasing the numbers of arguments, but there is also a shift of thematic roles. In the causative sentence (3a), the subject becomes the object, while the old objects become second and third objects, and also a new causing agent, that is, a new subject is introduced as in (3b).

2.2.1.2. Causativization of intransitive verbs

In this section, we shall consider the causativization of intransitive verbs. The process of adding the causative affix /-is/ to intransitive verbs may result in transitivizing such verbs. The transitivized verbs, like other transitive verbs may undergo the same process. This is shown in tables (11) and (12) below:

Intransitive verb root	Gloss	Transitivized verbs	Gloss
bo:t	'jump'	'bo:č-is-'	'make jump'
kar	'boil'	'kar-is-'	'make boil'
hundur	'sleep'	'hundur-is-'	'make sleep'
ro:r	'run'	'ro:r-is-'	'make run'
wara:b	'drink'	'wara:b-is-'	'make drink'

Table 11. Transitivized verbs

The processes of causativizing and transitivizing are non-category changing. Their effects are on subcategorizations. As the result of transitivization, intransitives can get one

more internal argument (NP complement). Compare the following structures with the verb /kar/ 'boil', and its transitivity form.

(4) (a) biy-i kar-ey
 water-df boil-pf

'The water boiled.'

(b) anan-ki biy-i kar-is-ey
 boy-df-m water-df boil-Cs. pf

'The boy boiled the water.'

As can be seen from the structures, transitivity changes the subject in (4a) which is /biy/ 'the water', to an object in (4b), and a new NP subject /anan-ki/ 'the boy' is introduced.

Furthermore, transitivity verbs may take the causative affix /-i:s/ as the following examples demonstrate:

Transitivity verb stems	Gloss	causativized verbs	Gloss
kar-is-	'boil(tv)'	kar-s-i:s-	'cause to boil'
hundur-is-	'make sleep'	hundur-s-i:s-	'cause to sleep'
ro:r-is-	'make run'	ro:r-s-i:s-	'cause to run'
kor-is-	'forster'	kor-s-i:s-	'cause to grow'

Table 12. Causativized forms of transitivity verbs.

The effect of the causative affix is not on changing the categorial membership but on the subcategorization frames. The subcategorization frames of transitivity and causative forms are different from their base forms. This can be illustrated by the entries

of such verbs /hundur/ 'sleep', /hundur-is/ 'make sleep;', and /hundur-s-iis/ 'cause to sleep' shown below.

/hundur/: V, [] 'sleep'

/hundur-is/: V, [NP] 'make sleep'

/hundur-s-iis/: V, [NP NP] 'cause to sleep'

As can be seen from the entries, the number of complements (arguments) increases as the verbs go from intransitive to transitive and then to causative (cf. Baye, 1986:129). Observe such forms in the following structures:

(5) (a) anan-ki hundur-ey
boy-df-m sleep-pf

'The boy slept.'

(b) Ali anan-ki hundur-is-ey.

Ali boy-df-m. sleep-Cs.-pf.

'Ali made the boy sleep.'

(c) Dad-ki Ali anan-ki hundur-s-i:s-ey.

man-df-m Ali boy-df-m. sleep-Cs. - Cs.-pf.

'the man caused Ali to make the boy sleep.'

In addition to the subcategorization frames, syntactic functions of arguments also change. In (5a) above, the subject of the verb /hundur/ 'sleep' (int.) is /ananki/ 'the boy', when the verb /hundur/ is transitivized as /hundur-is/, it introduces a new subject, i.e. Ali in place of Ananki 'the boy'; and the former subject, /ananki/, 'the boy' becomes the object of the new sentence as in (5b). Moreover in (5c), we have again an additional causing agent /dadki/ 'the man'.

2.2.1.3 Causatives of intensive verbal stems

Like the causativization of transitive verbs, in causativizing intensive verbal stems, we attach the causative affix /-si:s/ to the base.

Intensive verbal stems	Gloss	Causative from intensives	Gloss
tatta:b-	'touch repeatedly'	tatta:b-si:s-	'cause to touch repeatedly'
deddere:r-	'go now and then'	deddere:r-si:s-	'cause to go now and then'
bobbo:d-	'jump several times'	bobbo:d-si:s-	'cause to jump several times'

Table 13. Causatives from intensive Verbal stems

Compare the occurrence of the base and the derivatives of such processes in the structures below.

(6) (a) farad-ki bobbo:d-ey.

horse-df-m jump(intensive)-pf.

'The horse jumped for several times.'

(b) anan-ki farad-ki bobbo:č-isi:s-ey.

boy-df-m horse-df-m jump(inten)Cs-pf.

'The boy caused the horse jumped for several times'.

2.2.1.4. Causatives of reciprocals

Even though, the reciprocal action is expressed with /is/ or /isku/ 'each other', it is possible to causativize such verbs with the same process used in causativizing the transitive or intransitive verbs as demonstrated in table 14 below.

Verbal roots	Gloss	Causatives of reciprocals	Gloss
k'anin	'bite'	is-k'aninsi:s-	'cause to bite each other'
tum	'hit'	is-tum-si:s-	'cause to hit each other'
eh	'scold'	isku-?eh-si:s-	'cause to scold each other'
k'il	'send'	is-k'il-si:s-	'cause to send each other'
we:r	'call'	isku-we:r-si:s-	'cause to call each other'

Table 14. Causatives of Reciprocals

Compare the use of reciprocals and their derived causative forms in the structures below:

- (7) (a) šuru-di isk'anin-e-n
 cat-df-f REC bit_λ^e-pf-pl
 'The cats bit_λ^e each other'
- (b) issi-we šuru-di-s isk'anin-si:s-t-ey.
 she-foc. cut-df-f-foc REC bit_λ^e cause-f-pf
 'She made the cats bite each other.'

The word formation rule for such causatives is like the following:

$$(8) \quad V + \text{Vaf} [+Cs.] \rightarrow V[+Cs.]$$

The processes of causativization are not category changing since the bases and the derivatives are both verbs.

2.2.1.5. Causatives of adjectival bases

In Girirra, causativization may also be based on adjectives and nominals. This is done by adding the causative affix /-is/, or /-š-/ as in the examples below:

Adjectives	Gloss	Causative from adjectives	Gloss
adag	'strong'	adag-is-	'make strong'
tik'an	'fat'	tik'an-is-	'make fat'
gudud	'red'	gudud-is-	'make red'
mudowu	'black'	mudowu-š-	'make black'
balla:r	'wide'	balla:r-is-	'make wide'

Table 15. Causatives of Adjectival bases

Nominal	Gloss	Causatives from Nominals	Gloss
mele	'pus'	mele-š-	'discharge pus'
bego	'wound'	bego-š-	'make wound'
barar	'swelling'	barar-is-	'cause to swell'

Table 16. Causatives of Nominal bases

Since adjectivals and nominals can be categorized under the same syntactic feature of [+N], it may be possible to formulate the following word formation rule:

$$(9) \quad X_{[+N]} + \text{Vaf}_{[+Cs.]} \rightarrow V_{[+Cs.]}$$

Here, causativization has the effect of changing the category, that is, adjectivals and nominals are changed to verbals. Consider the occurrence of the adjective, /adag/ 'strong' and the noun, /mele/ 'pus' and their derivatives in the following structures respectively:

- (10) (a) anan-ki adag-ya
 boy-df-m strong-be
 ' The boy is strong. '
- (b) issi-we anan-ki adag-is-t-ey
 she-foc boy-df-m strong-Cs.-f-pf.
 ' She made the boy strong. '
- (c) anan-ki mele-s mele-š-ey.
 boy-df-m pus-foc discharge-Cs.-pf
 ' The boy caused the pus to be discharged. '

2.2.2. Passivization

2.2.2.1. Passives from transitive Verb roots

In Girirra, the affix /la-/ or /-am/ is attached to transitive stems to form passive forms. The following are examples of such forms.

Verb roots	Gloss	passive verb stems	Gloss
ha:bad	'find'	la-ha:bad-/ ha:bad-am-	'be found'
ka:d	'hate'	la-ka:d-/ ka:d-am-	'be hated'
wara:b	'drink'	la-wara:b-/ wara:b-am-	'be drunk'
gub	'burn'	la-gub-/ gub-am-	'be burnt'
tum	'hit'	la-tum-/ tum-am-	'be hit'
rug	'churn'	la-rug-/ rug-am-	'be churned'
k'a:d	'take'	la-k'a:d-/ k'a:d-am-	'be taken'
ǰis	'build'	la-ǰis-/ ǰis-am-	'be built'
hir	'tie'	la-hir-/ hir-am-	'be tied'
k'ibis	'break'	la-k'ibis-/ k'ibis-am-	'be broken'
gaš	'cut'	la-guš-/ guš-am-	'be cut'

Table 17. Passivized verbs from transitive verb roots

From the above table, it is possible to formulate the following word formation rule:

$$(11) \quad X \begin{matrix} [+trans] \\ [-pass] \end{matrix} + V^{af} \begin{matrix} [+pass] \end{matrix} \rightarrow V \begin{matrix} [+pass] \end{matrix}$$

The process is non category changing. It changes the property of the base to [+pass] (cf. Williams 1981a:247).

It may be possible to say that the affixes /la-/ and /-am/ are free variants, except in structures or oblique phrases where only /-am/ is used. Compare the following examples.

- (12) (a) idi la-un-ey
 'sheep-df pass.-eat-pf
 'The sheep was eaten.'
- (b) idi un-am-ey
 sheep-df eat-pass-pf
 'The sheep was eaten.'
- (c) idi wara:b-o ku-un-t-am-ey.
 seep hyena-part by-eat-f-pass-pf.
 'The sheep was eaten by a hyena.'
- (d)* idi wara:b-o ku-la-un-t-ey
 sheep-df hyena-part by-pass-eat-f-pf

2.2.2.2. Passives from intensive verb stems

By applying the same rule, it seems possible to derive passives from intensive verb stems as in the following:

intensive verb stems	Gloss	passive verb stems	Gloss
guggub-	'burn several times'	la-guggub	'be burnt several times'
u?uun-	'eat several times'	la-u?uun	'be eaten several times'
kik'k'ibis-	'break several times'	la-k'ik'k'ibis	'be broken into pieces'
hehhed -	'steal several times'	la-hehhed	'be stolen several times'

Table 18. Passive verb stems from intensive verb stems

In this process, there is a reduction of arguments. In other words, passive predicates require one less argument than their corresponding active predicates. Thus, if we passivize a sentence with two arguments the following structures result.

- (13) (a) anan-ki get-ki gaš-ey.
 boy-df-m wood-df-m cut-pf.
 ' The boy cut the wood. '
- (b) get-ki la-gaš-ey /gaš-am-ey
 wood-df-m pass.-cut-pf/cut-pass.-pf.
 ' The wood was cut. '
- (c) get-ki la-gaggaš-ey/gaggaš-am-ey.
 wood-df-m pass.(inten)cut-pf(inten)cut-pass.-pf.
 ' The wood was cut into pieces. '

As shown in the above examples, the direct object of the transitive clause in (13a) bears a subject relation in the passive structure in (13b). /anan-ki/ 'the boy', which serves as a subject in (13a) is not available in (13b).

Givon, (1979:186), quoted in Shibatani (1985:830) defines passive as follows:

Passivization is the process by which a non-agent is promoted into the role of a main topic of the sentence. And to the extent that the language possesses coding properties which identify main topics as subjects and distinguish them from topics, then this promotion may also involve subjectivization.

On the other hand, the subject NP of the active structure can occur optionally as an object of preposition in passive structures, as in the following:

- (14) get-ki anan-ki ku-gaš-am-ey.

wood-df. boy-df by-cut-pass-pf

'The wood was cut by the boy.'

Regarding this, Girmaye, (1992:60) states, "The syntactic relationship which has come about as a result of the passive rule can be represented in the following manner.

Passive Rule:

OBJECT → SUBJECT

SUBJECT → OBLIQUE."

Generally, passive is a 'promotional' process whereby a direct object nominal at one level is a subject nominal at a later level. As a consequence, a passive sentence is characterized as being intransitive (see Perlmutter and Postal 1983, Keenan 1976, Hayward 1975, for details).

2.2.3. Reflexives

Such verbal stems refer to actions performed to ones own (benefit) Bender (1976:18). The reflexive stem in the language is often indicated by the morpheme /-at/ suffixed to the verbal roots. It may also be possible to derive reflexives from two other bases: one from causative verbal bases and another from intensive verbal stems. Examples are given in the table below.

2.2.3.1. Reflexives from verbal roots

Verbal root	Gloss	reflexives	Gloss
gad	'buy/sell'	gad-at-	'buy for one self'
gaš	'cut'	gaš-at-	'cut for one self'
k'o:b	'catch'	k'o:b-at-	'catch for one self'
we:r	'call'	we:r-at-	'call for one self'

Table 19. Reflexives from verbal roots

2.2.3.2 Reflexives from causative verbal stems

Causative verbal stems	Gloss	reflexives from causative stems	Gloss
hundur-si:s-	'make sleep'	hundur-si:s-at-	'make sleep for one self'
kar-si:s-	'make boil'	kar-si:s-at-	'make boil for one self'
angag-si:s-	'make dry'	angag-si:s-at-	'make dry for one self'
ka:r-is-	'boil'	ka:r-is-at-	'boil for one self'
k'ibis-	'break'	k'ibis-at-	'break for one self'

Table 20. Reflexives from causative verbal stems

The following rule may capture the processes shown here.

$$(15) \quad V + \text{Vaf} [+REF] \rightarrow V [+REF]$$

It is not possible to derive reflexives from intransitive verbal roots. For intransitive verbs to be reflexivized it should be transitivized first. See for example the intransitive verb /kar/ 'boil':

- (16) (a) biy-o kar-ey
 water-part. boil-pf
 ' Water boiled. '
- (b) anan-ki biyi-i kar-ad-ey
 boy df. water-df-boil-REF-pf.
 ' The boy boiled the water for himself. '
- (c) anan-ki biyi-i kar-is-ey
 ' The boy made the water boil. '

(d) anan-ki biyi-i kar-is-ad-ey

'The boy made the water boil for himself.'

2.2.3.3. Middle /Reflexive from intensive verbal stems

In Girirra, it is also possible to attach the reflexive suffix /-at/ to intensive verbal stems as in the following table.

intensive verbal stems	Gloss	Middles/Reflexives	Gloss
gaggaš –	'cut into pieces'	gaggaš-at-	'cut into pieces for one self.'
wewwe:r –	'call repeatedly'	wewwe:r-at-	'call repeatedly for oneself.'
gaggad –	'buy/sale repeatedly'	gaggad-at-	buy/sale repeatedly for oneself.'
k'ik'k'ibis –	'break into pieces'	k'ik'k'ibis-at-	'break into pieces for oneself.'

Table 21. Middles/Reflexives from intensive verbal stems

Compare the occurrence of the reflexive and its base in the structures below.

(17) (a) Ali-we ged.-o-s gaggaš-ey.

Ali-foc wood-part-foc cut(inten)-pf.

'Ali cut a wood into pieces.'

(b) Ali-we ged-o-s gagaš-ad-ey.

Ali-foc. wood-part-foc.cut(intern)-REF.-pf

'Ali cut a wood into pieces for himself'.



- (c) unnu-we ged-o-s gaggaš-an-n-ey.
 we-foc wood-part-foc. cut(inten)-REF.-1pl.pf.

' We cut a wood into pieces for ourselves '.

- (d) habar-ti-we ged-o-s gaggaš-at-t-ey.

woman-df-f-foc. wood-part.-foc. cut(inten)-REF-3pf-pf

' The woman cut a wood into pieces for herself. '

2.2.4 Statives

Such verbs are derived from adjectives by adding the suffix /-at/ as illustrated in the table below.

Adjectives	Gloss	Statives	Gloss
k'anyar	'thin'	k'anyar-at-	'become thin'
gudud	'red'	gudud-at-	'become red'
mudowu	'black'	mudow-at-	'become black'
adag	'strong'	adag-at-	'become strong'
ǰe:r	'long'	ǰe:r-at-	'become long'
balla:r	'wide'	balla:r-at-	'become wide'
ad	'white'	ad-at-	'become white'

Table 22. Statives from adjective base

Middle/Reflexive affix /-at/ is homophonous with the stative /-at/ like the middle/reflexive affix /-at/, the stative suffix /-at/ also undergoes some phonological changes. Intervocally, the /t/ of the suffix /-at/ becomes voiced, and assimilates itself to the following alveolar nasal. This is shown below:

- (18) (a) anan-ti k'anyar-at-t-ey
 girl-df-f thin-stat. 3pf-pf
 ' the girl became thin. '
- (b) anan-ki k'anyar-ad-ey.
 boy-df-m-m thin-stat.-pf.
 ' The boy became thin. '
- (c) unnu-we k'anyar-an-n-ey.
 we-foc. thin-stat. 1pl. - pf
 ' We became thin. '

For statives the following type of word formation rule can be formulated.

$$(19) \quad V + V^{af} \xrightarrow{[+stat.]} V [-stat.]$$

In general, verbs are derived by suffixing, except in passivization, which uses both prefixes and suffixes. On the other hand, except in the derivation of statives and causatives, in all other forms verbal affixes are non-category changing.

Furthermore, derived verbs are bound: they become complete with inflectional affixes. In relation to this, Scalise(1984:52) says, "In some languages, the outputs of some WFR's require overt inflectional markers before they can appear in surface structure."

2.3 Adjectivization

In Girirra, adjectives can be derived from nominal and verbal bases by means of affixation.

2.3.1. Adjectives from nominal bases

Adjectives are formed by affixing /-lew/ or /-ley/ to nouns. /-lew/ is used for masculine whereas /-ley/ is used for the feminine as shown below.

Nominal bases	Gloss	Adjectivals	Gloss
buš	'sickness'	buš-lew/ley	'a sick man/woman'
ši:d	'stone'	ši:d-lew	'rocky'
wa:n	'anger'	wa:n-lew/ley	'frowner'
be:n	'lie'	be:n-lew/ley	'a liar man/woman'
ro:b	'rain'(N)	ro:b-lew	'rainy'
ol	'stomach'	ol-lew/ley	'voracious'
na:f	'lame'	na:f-lew/ley	'cripple'
hundur	'sleep'(N)	hundur-lew/ley	'sleeper'

Table 23. Adjectives from Nominals

For such adjectives the following word formation rule is proposed.

$$(1) \quad [X]_N + [X]_{Adj} \rightarrow [X]_{adj}$$

The occurrence of the base noun and the derived adjectives is shown in the following structures.

(2) (a) anan-ki be:n-o-s šeg-ey

boy-df-m lie-foc tell-pf

'The boy told a lie'

(b) anan-ki be:n-lew-o

boy-df-m liar-imp

'The boy is (a) liar'

(c) anan-ti be:n-ley-o

girl-df.f liar-imp

' The girl is (a) liar. '

- (3) (a) ši:t-ki win-ya
stone-df-m large-be

' The rock is large. '

- (b) đul-ki šid-lew-o
land-df-m rocky-imp

' The land is rocky. '

2.3.2. Adjectives derived from verbs

Such adjectives are derived by attaching the affix /-loy/ or /-toy/ to verbal stem. /-loy/ is used for masculine while /-toy/ is used for feminine adjectives.

Verbal root	Gloss	Adjectives	Gloss
đá:l	'forget'	đá:l-loy/-toy	'forget fulman/woman'
oy	'cry'	oy-loy/-toy	'cryer man/woman'
đe:l	'play'	đe:l-loy/-toy	'player man/woman'
k'ossol	'laugh'	k'ossol-loy/toy	'laugher man/woman'
o:f	'tire'	o:f-loy/-toy	'feeble man/woman'
sark'am	'intoxicate'	sark'am-loy	'drunkard man'

Table 24. Adjectives from verbal roots

The rule is the following:

$$(4) \quad [[X]_{N'} + [X]_{A'}] \rightarrow [X]_A$$

The adjectival affixes change the category of their bases. Compare the following structures with the verb /k'ossol/ 'laugh' and the derived adjectival /k'ossol-loy/-toy/ 'laugher'

(5) (a) anan-ki k'ossol-loy

boy-df-m laugh-pf

'The boy laughed'

(b) anan k'ossol-loy-ki ko:y-ey.

boy- laugher-df-m came-pf

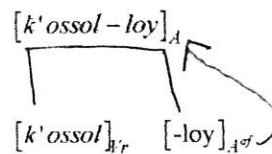
'The laugher boy came.'

(c) anan k'ossol-toy-ti ko:y-t-ey

girl laugher-df-f come-f-pf

'The laugher girl came.'

The adjectival affixes are the head of their constituents as they determine the feature or the category of the mother node. In other words, the head percolates its features and subcategorizes its base in the manner shown below .



CHAPTER THREE

Compounding

In the preceding chapter, we have seen the process of affixation. In this chapter, we shall consider the process of compounding. According to Anderson (1985:40) this is a process of "word formation based on the combination of two or more members of (potentially) open lexical classes." But not every two words are combined together to form a compound; each language has its own definite or restricted combination systems. In other words, every language follows certain rules by which it forms compounds (cf. Selkirk, 1982:14).

A compound can be a lexical or a phrase. Lexical compounds may have certain characteristics that distinguish them from phrases. In this chapter, we shall consider lexical compounds of Girirra and the characteristics which distinguish them from phrasal forms.

3.1 The structure of compounds in Girirra

In this language, two words, each belonging to one of the categories: Noun, Adjective, Verb and Preposition can form compounds. It is not necessary that the two constituents belong to the same class. The combination is varied, that is, Noun + Noun, Noun + Adjective, Noun + Verb, etc. are possible. We shall use these formal structures to classify the category of the resulting compounds.

3.1.1 Compound Nouns

As stated above compound nouns are formed by combining different lexical categories.

3.1.1.1. Noun + Noun Compounds

This is a pattern in which two nouns are combined to form a compound noun. On the basis of their headedness, such compounds are divided into endocentric and exocentric compounds.

3.1.1.1.1. Endocentric Compounds

An endocentric compound is a compound in which the entire compound has a function similar to that of one of its parts. That part of the compound which conveys the basic meaning of the whole compound is said to be its head.

In Girirra, such compounds are the most productive ones. Some examples are given below:

1. kolisadurat 'rat'
 - a. kolisa 'mouse'
 - b. durat 'forest'
2. dalidu 'lamb'
 - a. dal 'off spring'
 - b. idu 'sheep'
3. dala.rin 'kid'
 - a. dal 'off spring'
 - b. a.rin 'goat'
4. welluku 'chick'
 - a. wel 'young'
 - b. luku 'hen'
5. birmalala:y 'trap for catching fish'

- a. bir 'trap'
- b. malala:y 'fish'
- 6. kalmira:d 'pestle for crushing grain'
 - a. kal 'pestle'
 - b. mira:d 'grain'
- 7. šidda:ku: 'millstone'
 - a. šid 'stone'
 - b. da:ku: 'flour'
- 8. đakkoob 'handle of a cup'
 - a. đag 'ear'
 - b. ko:b 'cup'
- 9. madimmarid 'headache'
 - a. madi? 'head'
 - b. marid 'disease'
- 10. fala:nbred 'spoon made up of metal'
 - a. fala:n 'spoon'
 - b. bred 'metal'

On the basis of the explanation given above, the head is the left hand member of the compound. For example, in the compound /kolisadurat/ 'rat', the head is /kolisa/ 'mouse', and in the compound /šidda:ku:/ 'millstone' the head is /šid/ 'stone'. In such compounds, the heads carry the central meaning of the whole. Regarding this, Akmajian (1984:72) has the following to say: "... the meaning of the head of the compounds seems to be central in the meaning of the whole compound." And it is this criterion which helps to determine the feature that percolates to the whole compound. In other words, since "the

notion head is crucial in characterizing the semantics of the compounds" (Selkirk, 1982:22), in Noun + Noun endocentric compounds the left hand member of the compound has the central meaning, thus the feature percolates from it. In addition, it is also possible to call such compounds modifier-modified compounds since the second constituents of the compounds serve as modifier of the first.

On the basis of forms given above, a compounding rule of the following type is proposed.

$$(1) \quad [X_N + X_N] \rightarrow [X]_N$$

3.1.1.1.2. Exocentric Compounds

In Girirra, there is a small number of exocentric compounds formed by combining two nouns whose meaning is completely different from the meaning of the whole. Examples are shown below:

- | | | |
|----|----------|---------------------|
| 1. | karbun | 'torch' |
| | a. kar | 'piece of cloth' |
| | b. bun | 'coffee' |
| 2. | kobhettu | 'snail' |
| | a. kob | 'shoe' |
| | b. hettu | 'thief' |
| 3. | dagdal | 'a type of reptile' |
| | a. dag | 'snake' |
| | b. dal | 'off spring' |
| 4. | dagdag | 'jewellery' |
| | a. dag | 'ear' |

3.1.1.2. Noun + Adjectives

These are compounds formed by combining nouns and adjectives in which the adjective is the head. The process is productive. Consider the following examples:

1. dagwin 'large snake'
 - a. dag 'snake'
 - b. win 'large /big'

2. maragudu:d 'type of fruit'
 - a. mara 'fruit'
 - b. gudu:d 'red'

3. minne:r 'intestine'
 - a. min 'house'
 - b. de:r 'long/tall'

4. garidwin 'thick plaiting reed'
 - a. garid 'root'
 - b. win 'big'

5. so?eren 'raw meat'
 - a. so? 'meat'
 - b. eren 'raw'

6. errikulul 'low land'
 - a. erri 'soil'
 - b. kulul 'hot'

7. biyikulul 'soup'
 - a. biyi 'water'
 - b. kulul 'hot'

In such compounds, the class of the whole compound is the same as that of the left hand member of the compound, which is the head. For example, the left hand member, /dagwin/ 'large snake' is the noun (/dag/ 'snake'); and hence the whole compound /dagwin/



'large snake' is also a noun.

For such structures, the following compounding rules can be formulated.

$$(2) \quad [X_N + X_{Adj}] \rightarrow [X_N]$$

3.1.1.3. Noun + Verb

In this type of compounding, a noun is followed by a verb. The process is not very productive. We have the following examples:

1. bilday 'mirror'
 - a. bil 'moon'
 - b. day 'look/see'
2. garabsa:r 'a single layer of cloth'
 - a. garab 'shoulder'
 - b. sa:r 'put on'
3. korun 'rheumatism'
 - a. kor 'body'
 - b. un 'eat'
4. ollufur 'stomachache'
 - a. ollo 'stomach'
 - b. ufur 'blew'

In such compounds, the head is on the left, suggesting that such compounds are left headed.

The word formation rule which generates such compounds can be presented as follows.

$$(3) \quad [X_N + X_V] \rightarrow [X]_N$$

3.1.1.4. Noun + Preposition

This type of compounding is not as productive as that of the noun + noun type.

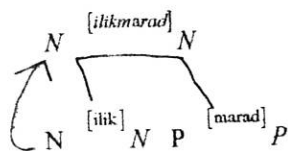
The following are few:

1. ilikmarad 'upper teeth'
 - a. ilik 'teeth'
 - b. marad 'upper'
2. be:ndoga:d 'lower jaw'
 - a. be:n 'jaw'
 - b. doga:d 'lower'
3. be:n marad 'upper jaw'
 - a. be:n 'jaw'
 - b. marad 'upper'
4. herdogo:d 'lower lip'
 - a. heri 'lip'
 - b. dogo:d 'lower'
5. her marad 'upper lip'
 - a. heri 'lip'
 - b. marad 'upper'

The word formation rule of such compounds is the following:

$$(4) \quad [X_N + X_P] \rightarrow [X]_N$$

The precolation of the feature in such compounds is as follows.



The compounds observed are generated by the following general rule:

$$(5) \quad N \rightarrow \left\{ N \left\{ \begin{array}{c} N \\ A \\ V \\ P \end{array} \right\} \right\}$$

As can be seen from the above set of word formation rules, compounds are unidirectional, that is, left headed.

3.1.2 Compound Adjectives

Compound adjectives are less productive than compound nouns. They can be formed by combining different categories.

3.1.2.1. Noun + Adjective Compounds

Compound adjectives can be formed by combining nouns and adjectives. The adjectives are the second member and determine the category of the whole compound. We therefore consider them as the head of the compound. Such adjectives are right headed and endocentric.

Examples:

- | | | |
|----|-------------|------------------|
| 1. | nanwin | 'fully grown' |
| | a. nan | 'man' |
| | b. win | 'big' |
| 2. | ba:ranbadan | 'over talkative' |
| | a. ba:ran | 'talk' |
| | b. badan | 'much' |
| 3. | ollwin | 'tolerant' |
| | a. ollo | 'stomach' |

- b. win 'big'
4. wanbadan 'easily angered'
- a. wan 'anger'
- b. badan 'much'

The following structures show the occurrence of such adjectives in sentences.

1. ussu nanwin-o

he fully grown man - imp.

'He is (a) fully grown man'

2. issi ba:ranbadan-ta

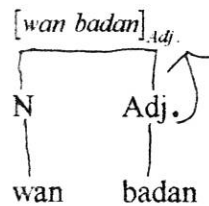
she over talkative-be

'She is over talkative'

The rule that generates such forms can be shown as follows:

$$(6) \quad [X_N + X_{Adj}] \rightarrow [X]_{Adj.}$$

The rule by which the features percolate is shown below:



3.1.2.2. Noun + Verb

In addition, compound adjectives can be derived from the combination of nouns and verbs. Such compounds are also endocentric in which both members are taken as potential heads (See Anderson 1985:46 for comparison). Here, both the forms and their meanings are compositional. The following examples exemplify this.

1. a:ga:lk'ab 'intelligent'

- a. a:ga:l 'heart'
- b. k'ab 'have'
- 2. ilmak'ab 'blind'
 - a. il 'eye'
 - b. mak'ab 'lacking'
- 3. afk'ab 'sharp'
 - a. af 'mouth'
 - b. k'ab 'have'
- 4. dalagmak'ab 'jobless'
 - a. dalag 'job'
 - b. mak'ab 'lacking'
- 5. fayk'ab 'healthy'
 - a. fay 'health'
 - b. k'ab 'have'
- 6. nangarad 'famous'
 - a. nan 'man'
 - b. garad 'know'

The rule that produces such compounds is presented below :

$$(7) \quad [X_N + X_V] \rightarrow [X]_{Adj}$$

The position of the head in such compounds is not the same. Compound nouns are left headed whereas compound adjectives are right headed.

3.2 Characteristics of Lexical Compound

A compound can be lexical or phrasal. Lexical compounds have certain characteristics that distinguish them from phrases. In this section, we shall see the lexical status of compounds by examining their phonological, morphological, syntactic and semantic characteristics.

3.2.1. Phonological Characteristics

Like in other complex lexical items, certain phonological modifications such as insertion and deletion of vowels may take place on one of the members of a compound.

Consider the following examples:

(1) $\acute{d}ag\acute{a}d\acute{a}l \rightarrow \acute{d}ag\acute{d}al$ 'a type of reptile'

snake offspring

(2) $ma\acute{d}i? \text{ marid} \rightarrow ma\acute{d}immarid$ 'headache'

head disease

(3) $du\acute{g}a:go \text{ durad} \rightarrow du\acute{g}a:g\acute{d}urad$ 'wild animal'

animal forest

(4) $be?d\acute{i}? \rightarrow be\acute{d}d\acute{i}?$ 'hung'

Comeout comedown

In the derivation of other complex words, the glottal stop is deleted. This is noted by Abdurahim (1993:53) who says, "A word final glottal stop is not realized if a suffix with an initial consonant is attached to the base."

The loss of this sound is compensated by lengthening the initial consonant of the suffix. Thus,

(1) $be?$ 'comeout'

$be? + tin \rightarrow betten$ 'The process of coming out'

(2) $\acute{s}e?$ 'stand up'

še? + tin → šettin 'The process of standing up'

The possibility of insertion and deletion of segments in compounds is pointed out in Klingebiel (1989:114) quoted by Hirut (1993:66) as follows:

Compounds, like other lexical units, are affected by phonetic erosion and morphological blurring being particularly vulnerable (damaged) at their point of juncture, where compositional elements occur...

Except the loss and the insertion of vowels the other characteristics are also that of phrases too. Regarding this, Bloomfield (1933:228) says, "As to the phonetic pattern, compound words are generally treated like phrases." Because of this, it is difficult to distinguish lexical compounds from phrases on phonological grounds.

3.2.2 Morphological characteristics

Morphologically, compound forms do not allow intervening elements. In connection with this, Anderson (1985:44) says:

... another feature of compounds which is useful in their identification is the fact that in general, pause are only possible in (natural) speech between words, it is not in general possible to pause or insert parenthetical material, etc., between their component elements.

In Girirra, it is not possible to attach inflectional elements to one of the members, but to the compound as a whole. For instance, the definite marker is attached to compound nouns or adjectives as a whole, but not to the first member. In other words, a compound behaves like a single word by attaching the affix to the compound as a whole and not to a member constituent. Compare the following examples.



1. *dagwin* 'large snake'
 snake big
 - * *dagya:lla:win* 'snakes large'
 snake-pl. big
 - *dagwin-ya:lla* 'large snakes'
 snake big-pl.
 - * *dakkiwin* 'The snake large'
 snake - df. big
 - *dagwinki* 'The large snake'
 snake big - df.
2. *karbun* 'torch'
 piece of cloth coffee
 - * *karya:lla:bun* 'pieces of cloth for coffee'
 piece of cloth-pl coffee
 - *karbunya:lla:* 'torches'
 piece of cloth coffee-pl
 - * *karkibun* 'The piece of cloth for coffee'
 piece of cloth-df.coffee
 - *karbunki* 'the torch'
 piece of cloth coffee-df.

As can be seen in the examples above, the attachment of inflectional suffixes to the first component of compounds results in ill-formed constructions which means that each constituent cannot function as an independent unit. It is rather the whole compound which acts as a single lexical element with respect to affixation. On the other hand, in syntactic

phrases, one of the constituents can be inflected for different grammatical features. For instance, a compound word like /karbun/ is 'torch', becomes /karkibun/, which means a 'piece of cloth for coffee', such characteristic of compounds is pointed in Bloomfield (1933:232) who says:

... a compound member cannot, like a word in a phrase, serve as a constituent in a syntactic construction. The word black in the phrase black birds can be modified by very (very blackbirds), but not so the compound member black in blackbirds.

In compounds, the modifier modifies the constituents of the compound word as a whole and not only one of the members. On the other hand, in a phrasal construction, one of the constituents can be modified.



3.2.3. Syntactic Characteristics

Compounds are "syntactically unitary words, and therefore members of a lexical part of speech category," while phrases are not, (cf. Anderson 1985:44). For instance, /bilday/ 'mirror' appears in syntactic positions occupied by other nouns with modifiers, and other elements exactly like those that would be found with any other noun, while, /bilday/ 'look (at) moon' is a verb phrase, and consequently appears in structures of that type.

Furthermore, since compounds are formed from lexical elements, and are themselves lexical, they can be input to word formation processes. Thus, /ma:lk'aben/ 'rich', which is a compound can be a base for deriving abstract nominals like the following:

1. ma:lk'aben 'rich'
 with having
 ma:lk'aben + nima:n 'wealthiness'

wealth having-ness

2. nangarad 'famous'

man know

nangarad + nima:n 'famousness'

In addition to these, the member of compounds are of the same level as the parent node. In other words, each constituent is a word like the compound itself. For example, /bil/ 'moon' is a noun and /day/ 'look' is a verb, and their combination /bilday/ 'mirror' is also a noun, whereas in syntactic compounds the members and their combinations or their mother nodes are not of the same level.

The other syntactic characteristic is that in lexical compounds both members may be of the same category as the parent as in $N^{[kar]}N + N^{[bun]}N \rightarrow N^{[karbun]}N$ 'torch' shows. On the other hand, compounds are derived by word structure rules which are identical to phrase structure rules as stated in Langacker (1972:79) who says, "The internal constituent structure of a word or compound is a direct reflection of the syntactic rules in accordance with which it constructed."

3.2.4 Semantic Characteristics

The fourth characteristic of compounds is semantic. In this sense, a compound has a single unit of reference. All the compounds seen in this chapter refer to single units of reference and are, hence, considered lexical. In addition, the meaning of a compound is not necessarily drawn from the meanings of the member constituents. Meys (1975:80) says,

Semantically, compounds can be seen to be isolated from ordinary syntactic constructions by having a meaning which may be related to but

cannot simply be inferred from the meanings of its parts.

The following are examples of such compounds:

1. karbun 'torch'
piece of cloth coffee
2. kobhettu 'snail'
shoe thief
3. bilday 'mirror'
moon see/look
4. garabsa:r 'a single layer of cloth'
shoulder put on
5. siddimiddibli 'a chameleon'
three colour
6. henk'erer 'centipede'
this kinky hair
7. minne:r 'intestine'
house long

The meanings of such compounds are very far from the meanings of their parts. Of course, each constituents in a compound has a meaning lexically associated with it, however, the meanings of the compounds made out of these constituents may not be compositionally derived from the meanings of their constituents.

Since the interpretation of such complex words is unpredictable, meanings are assigned by the rule of idiosyncratic interpretation. Regarding this, Pesetsky (1985:210)

says, "... a morpheme is interpreted iff it is lexically associated with a meaning or participates in a rule of idiosyncratic interpretation."

Among the criteria we have seen so far the semantic criterion seems to be the best because all the compounds considered so far refer to single units of reference.

In sum, it may be possible to generalize the word formation rules of Girirra compounds as follows:

1. N → N + $\begin{Bmatrix} N \\ A \\ V \\ P \end{Bmatrix}$
2. Adj. → $\begin{Bmatrix} N + A \\ N + V \end{Bmatrix}$

Finally, the combinational possibilities of lexical compounds is shown in the chart below.

	N	V	Adj.	P
N	+	+	+	+
V	-	-	-	-
Adj.	-	-	-	-
P	-	-	-	-

+ = Possible combinations

- = Impossible combinations

In all compounds, nouns are the first member.

CHAPTER FOUR

4. REDUPLICATION

In the preceding sections, we have tried to show the processes of word formation by means of affixation and compounding. In this chapter, we shall consider the process of reduplication. Reduplication is a type of word formation by which a word or a root or part of it is repeated. Daly et al (1981:155) define reduplication as "Sometimes a morpheme has exactly the same form as all or part of the stem to which it is affixed, we call this reduplication." There are two types of reduplication: partial and total.

In Girirra, partial reduplication is the most productive one. The process reduplicates the first syllable and geminates the first consonant of a root. This is common in adjectives and verbs.

In adjectives, the process shows plurality, whereas in verbs, it shows frequency or intensity. Furthermore, it is also possible to derive certain time adverbials by means of total reduplication.

4.1. Intensives and Frequentatives

Intensive and frequentative forms are derived by repeating the first syllable and geminating the first consonant of the base. Compare the following in table 25 below.

Verb root	Gloss	intensives or Frequentatives	Gloss
dere:r	'go'	deddere:r	'go repeatedly'
k'ibis	'break'	k'ik'k'ibis	'break into 'pieces'
k'a:d	'take'	k'ak'k'a:d	'take repeatedly'
si:s	'give'	sissi:s	'give repeatedly'
gaš	'cut'	gaggaš	'cut into pieces'

Table 25. Intensives and Frequentatives

The rule looks like:

$$(1) \quad [CV_1 \dots]_V \rightarrow [CV_1CV_1 \dots]_{V-intens}$$

$$\left[\begin{array}{l} + \text{intensive} \\ + \text{Frequentive} \end{array} \right]$$

Intensives and frequentatives do not affect the subcategorization property of verbs. Their effect is only on their semantics, as they show repeated or intensified actions. Consider the following structures:

1. bikeri k'ibis-t-ey.
 glass break -f -pf
 '(she) broke the glass.'

2. bikeri k'ik'k'ibis - t - ey
 glass break (intensive) - f - pf.
 '(she) broke the glass into pieces.'

3. hagi hago ro:r-ey.
 here there run - pf
 '(he) run here and there.'

4. hagi hago rorro:r-ey.
 here there run (frequentive) - pf
 '(he) run here and there repeatedly.'

4.2 Adverbial Nouns

As stated earlier, it is possible to form nominals with adverbial functions by reduplicating nouns that refer to time in a manner shown below in table 26.

Nouns	Gloss	Adverbials	Gloss
sa:g	'morning'	sa:kʰsa:g	'every 'morning'
ma:lan	'day'	ma:lan ma:lan	'daily'
todoba	'week'	todoba todoba	'every week'
bil	'month'	bilbil	'monthly'
sonad	'year'	sonat sand	'yearly'

Table 26 Adverbial Nouns

The rule for such nominals is as follows:

$$(2) \begin{array}{ccc} [X + X] & \rightarrow & [X] \\ [+ \text{time nominal}] & & [+ \text{adverbial nominal}] \end{array}$$

As can be observed from the examples above, adverbial nouns are derived by total reduplication. The process is not as productive as that of partial reduplication seen in section 4.1.

The occurrence of such nominals is shown in the sentences below:

- (5) anan - ti ma:lanma:lan maro sa - tol - t
 girl - df - f. every day cloth imp - sew - f
 'The girl sews (the) cloth every day.'

- (6) a:wu - kes todoba todoba sa - ko:y.
 father - his every week imp - come.
 'His father comes weekly.'

Summary and conclusion

In this study, the possible ways of word formation in Girirra have been discussed. Different types of nominals, verbals and adjectivals are formed by the process of affixation, compounding and reduplication. It has been shown that the process of affixation uses suffixes which entails that the words formed are right headed.

Verbal stems such as causatives, passives, statives and reflexives are derived from verbal and adjectival roots/stems. The suffix /-is/ changes intransitives into transitives and /-siis/ changes transitives into causatives.

Passives are derived from active verb roots with the suffix /-am/ or the prefix /la-/. These are in free variation except in oblique clauses where only the suffix /-am/ is used. Statives and reflexives are derived from adjectival and verbal roots respectively with the homophonous suffix /-at/.

In this language, there are a few adjectives derived from nominal and verbal roots by suffixing /-lew/, /-ley/ and /-loy/, /-toy/ respectively. As in many other Cushitic languages such adjectives distinguish gender.

The process of compounding forms new words by combining forms from the categories of noun, adjectives, verb and preposition/postposition.

Reduplication is also another process of word formation which is treated in the study. In this process, verbals and nominals are formed. The verbals show frequentative and intensive actions, and the nominals are adverbial in function. Reduplication can be partial or total. The former is the most productive of the two in Girirra.

The assignment of heads in this language is not unidirectional, because in affixation, the head is on the right, while in compounding it is on the left in nouns, and on the right in adjectives. The researcher by no means claims that this study is exhaustive, for it needs further studies.

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