Root Reductions and Extensions in Amharic[1]

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1.0 Introduction

In this paper, I argue against the widespread claim made in the descriptive literature on Amharic morphosyntax, (Bender and Hailu, 1978; Beyene, 1972; Cohen, 1970; Dawkins, 1960; Hartmann, 1980; Kapeliuk, 1988; Leslau, 1995; among others) that Amharic verb roots consist of consonantal radicals ranging from one to six. I show that all verbal roots have uniformly three radicals in their underlying representations and that variations in the number of such radicals in surface forms is a result of extensions and /or reductions of one or more of the three radicals. I also argue against the proliferation of affixes for the expression of what is known as the 'expressive' function of verbs (Bender and Hailu, 1978; Leslau, 1995). In this regard, I show that there are only three prefixes /a-/, /as-/ and /tä-/ forming Amharic verb stems and that the effect of these is on the argument structures of the stems and not on their 'expressive' functions as such. The latter function is a result of the process of radical extension of roots, and not affixation of stems.

The paper is organised in three sections. In section 1.1, I make a survey of the background literature on the issue, and raise a number of questions of adequacy

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in connection with the treatment of certain facts of stem derivations, in 1.2. In 1.3, I show the processes of various types of verbal and non-verbal derivations in light of the claim made above about roots, their extensions and reductions, and finally, I wind up the discussion with the highlights of the whole paper in 1.4.

1.1. The background

Amharic verb roots are known to be of mono-, bi-, tri-, quadri- quinqui- and sexi-radicals, (see Bender and Hailu, 1978; Beyene, 1972; among others). The determining factor for this is the number of consonants verbal stems show-up in their surface forms. The following are illustrative examples of each type[2].

mono-radical:	ša	'desire'
bi-radical:	täw-	'leave'
tri-radical:	säbr-	'break'
quadri-radical:	gälbɨt'-	'turn over'
quinquiradical:	-šk'änät't'ɨr-	'throw away violently'

Such forms are believed to be derived from their corresponding consonantal roots shown below with the aspectual vowel /ä/ and the epenthetic /ɨ/ inserted, the latter required to break impermissible clusters of consonants.

š-
t-w-
s-b-r-
g-l-bb-t'-
-š-k'-n-t't'-r-

[2]I have not been able to find genuine, that is simple, sexi-radical forms. There are reduplicated forms like /-n-k-r-b-b-t/ 'hit one and all', which I argue are derivatives of /k-r-b-t/, which is itself reducible to /k-b-t/.

Non-verbal stems can also be derived from the same root types by infixing different vocalic elements, and by suffixing various derivational morphemes. For example, the participle /säbar-a/ 'broken', and the process nominal /säbär-a/ 'breaking', or the resultative /sɨbbɨr-at/ 'breakage', are all derived from the same root /s-b-r/ with infixing vowels forming the bound stems, /säbar-/, /säbär-/ and /sɨbbɨr-/.[3] To these are attached the suffixes /-a/ and /-at/ to derive the respective full forms.

Quinqui-radical verbal stems like /-šk'änät't'är-/ cannot stand without a preceding /a-/ or /tä-/ with which they form their corresponding transitive, and passive/reflexive stems, respectively. With these prefixes attached, bound stems like /-šk'änät't'är-/ assume the surface forms /a-šk'änät't'är-/ 'threw away violently' and /tä-šk'änät't'är-/ 'got moved/thrown away violently suddenly'.

The use of such prefixes is not limited to bound quinqui-radical ste however, since there are also other forms, including tri-radical ones, to whic applies:

Roots	stems	a(s)-stems	tä-stems
l-k'-s- 'mourn/cry'	-läk'k'äs-	a-läk'k'äs- 'cried/mourned'	tä-läk'k'äs- 'be mourned'
g-n-z-b- 'remind'	-gänäzzäb-	as-gänäzzäb- 'reminded'	tä-gänäzzäb- 'be reminded'

What makes quinqui-radicals peculiar is that their stems are always bound and, hence, require the support of the prefix /a-/ or /tä-/ as shown above, which is the

[3] The stem /sɨbbɨr/ is phonologically derived with the insertion of the epenthetic vowel [ɨ].

exception rather than the rule with other types of stems. The following is a partial list of such bound forms:

stems	a-stems	tä-stems
-ngäbäggäb-	a-ngäbäggäb-	tä ngäbäggäb-
'painful'	'became painful'	'got stingy/miserly'
-nk'ät'äk'k'ät'	a-nk'ät'äk'k'ät'-	tä-nk'ät'äk'k'ät'-
'shake '	'caused to shake'	'got shaken'
-nbäräkkäk-	a-nbäräkkäk-	tä-nbäräkkäk-
'kneel down'	'caused to kneel down'	'got to one's keens'
-nt'äfät't'äf-	a-nt'äfät't'äf-	tä-nt'äfät't'äf-
drain'	'squeezed out to the last drop'	'squeezed out to the last'

tion to /a-/ and /tä-/, there are also /an-/, /tän-/, /täš-/ and /-n/ recognised works of Amharic verbal morphology, (Bender and Hailu, 1978; Cohen, Dawkins, 1960; Hartmann, 1980; Leslau, 1995) as exponents of a ne called expressive. Although the meaning of the term 'expressive' not made clear in all such works, it seems to be akin to the manner in a action or event designated by a verb is carried out or comes into which case, it is an expression of the adverbial function of manner. s that Bender and Hailu (1978) cite as illustrative examples in which such affixes are believed to occur include the following:

Basic stems	derived	stems
-šokaššok-	an-šokaššok-[4]	tän-šokaššok-
'whisper'	'whispered'	'whispered to one another'.
-k'ät'äk'k'ät'-	an-k'ät'äk'k'ät'-	tänk'ät'äk'k'ät'-
'shake'	'caused to shake'	'trembled with fear'
-šk'ädaddäm-	ašk'ädaddäm-	täšk'ädaddäm-
'race'	'caused to race'	'raced each other'

[4] The morpheme boundaries in this table are as shown in the references cited.

-k'äläk'k'äl-	ank'äläk'k'äl-	tänk'äläk'k'äl-
'burn strongly'	'caused to burn fiercely'	'burnt strongly'

1.2 The Problem

Glancing down the above list, one gets suspicious of the claim that the elements that appear as prefixes are really morphemes. One reason for this is their distribution, which is restricted to only quadri-radical stems; no other verbal affix in the language has distributional restrictions conditioned by the number of radicals in a stem. For example, the affixes /a-/ and /tä-/ can occur with any active/eventive stems of any number of radicals to render the meaning transitive/causative and passive/reflexive/, respectively, as can be observed from the following paradigm:

Roots	**a-stems**	**tä-stems**
f-l	a-fäll-	tä-fäll-
'boil'	'boiled'	'got boiled '
l-b-s-	a-läbbäs-	tä-läbbäs-
'dress'	'dress s.o'	'got dressed'
-m-l-kk-t-	a-mäläkkät-	tä-mäläkkät-
'indicate'	'pointed out'	'got pointed out'
-t'-m-n-mm-ñ-	a-t'mänämmän-	tä-t'mänämmän-
'perturb'	'perturbed'	'got perturbed'

All such forms would be ill formed if they were to occur with either /an-/, /aš-/ or /täš-/.

A second reason is the fact that the nominal counterparts of such stems to which the claimed affixes are attached show the very same sounds /-n-/, /-š- /, of /tän-~ täš- ~ an-~ aš-/. Some such forms include the following:

perfective verb stems		nominal forms	
tän-k'äsak'k'äs-	'get moved'	ɨnk'ɨsɨk'k'as-e	'movement'
tän-t'älät't'äl-	'suspended'	ɨnt'ɨlt ɨl	'hanging'
tän-käbakkäb-	'took care of'	ɨnkɨbɨkkab-e	'care'
täš-k'ädaddäm-	'race each other'	ɨšk'ɨdɨdɨm	'racing'

It is clear from these facts that the same sounds /n/ and /š/ found in final positions of what are claimed to be prefixes do also appear as part of the stems in the nominal counterparts preceded by the prothetic vowel /ɨ/, as the language does not allow word-initial clusters of consonants. This suggests that these sounds were part of the verbal stems, and not of the affixes, in the first place. The latter are simply /tä-/ and /a(s)-/ as has already been pointed out.

A further point of contention is Leslau's (1995:486) claim that the distribution of such affixes as /täš-/ and /aš-/ is restricted to a subset of quadri-radical stems like those below, which begin with velars.

ašk'änäddär-	täšk'änäddär-
'cause to be haughty in gait and in dress'	'be decked in ornaments'
ašg^{w}abbät'-	täšg^{w}abbät'-
'bend, bow'	'get bend or bow'
aškäfäkkäf-	täškäfäkkäf-
'cause to look nice or smart'	'get nice or smart'

Leaving aside the fact that there are counter-examples of non-velar initial stems like,

ašmonämmon-	'beautified'	tä-šmonämmon	'get beautified'
ašmädämmäd-	'incapacitated'	täšmädämmäd-	'be incapacitated'

ašbäläbbäl-	'beguiled'	täšbäläbbäl-	'get beguiled'
ašfädäffäd-	'made sexy'	täšfädäffäd-	'got sexy',

the formal (phonetic) and distributional similarities that /aš-/and /täš-/ show with /a-/ and /tä-/, makes it intuitively implausible to treat them, that is, /aš-/ and /täš-/, as independent morphemes or even as exponents of /a-/ and /tä-/, respectively. Furthermore, as in the previous examples of verbal stems in which we saw the /-n-/ of /tän-/ or the /š/ of /aš-/ occurring as part of the corresponding nominal stems, we also have the same situation in the deverbal counterparts of the same stems as shown below:

verbals stems		**deverbals**	
ašmonämmon-	'beautified'	šɨmunmun	'beautified/decorated'
ašmädämmäd-	'incapacitated'	šɨmɨdmɨd	'incapacitated'
ašbäläbbäl-	'beguiled'	šɨbɨlbɨl	'beguiled'
ašfädäffäd-	'made sexy'	šɨfɨdfɨd/šafada	'sexy'

It is observable that the deverbals begin with the same sound /š/ of the verbals, which makes the argument that this sound, like those others we have seen before, is not part of the affix, but of the verbal stem strong. The affix in the verbal stems is only /a-/ and its function is to derive transitive forms from bound stems like /-šmonämmon-/, itself derived by reduplicating the radical of the basic root /-m-n-m-/ in a manner to be explained later.

A final point of concern relates to the assimilatory process that takes place between the /t/ of the passive/reflexive prefix /tä-/and the initial radical of jussive passive stems like the following:

Roots	**jussive passive**		**gloss**
-n-b-b-	yɨ-t-näbäb-	[yɨnnäbäb-]	'let it be read'
k'-m-s-	yɨ-t-k'ämäs-	[yɨk'k'ämäs-]	'let it be tasted'

g-r-f-	yɨ-t-gäräf-	[yɨggäräf-]	'let it be punished'

In all such forms, the passive morpheme /t-/ fully assimilates to the stem initial consonants /n/, /k'/ and /g/, yielding the forms shown in brackets. Exception to this general rule is the exponent, /tän-/, of the so called expressive morpheme since it does not lead to any kind of assimilation as can be seen from the following examples:

extended roots	jussive passive	stems	gloss
k'-t'-k'-t'-	yɨ-tän-k'ät'k'ät'-	[yɨnk'ät'k'ät'-]	'let it shake'
t'-b-t'-b-	yɨ-tän-t'äbt'äb-	[yɨnt'äbt'äb-]	'let it drip'
'k'-r-f-f-	yɨ-tän- k'ärfäf-	[yɨnk'ärfäf-]	'let it be sluggish'

The phonetic transcriptions show that neither the /t-/ nor the /-n-/ of /tän-/ assimilates to the stem initial consonant. Leslau (1995:485ff) says that in such forms the /t/ of /tän-/ just disappears without bringing about the expected assimilation of /n/ to the root initial consonant. The question that arises from this is why should /n/ assimilate? If at all assimilation takes place, it is between the passive marker /t-/ and the initial radical of the stem to which it is attached. / tän-/ is an exponent of an expressive, and not of a passive, morpheme.

One could, of course, argue here that the expressive affix, unlike the passive one, does not lead to any assimilation. But such an argument would hold if only there were such 'expressive' affixes in the language in the first place. In fact, one would argue that the reason for the absence of the assimilation is that the sound /n/ of /tän-/ is part of the extended stem, and not of the affix /tä-/. As will be shown in the following section, assimilation is possible between the passive marker /t-/ and the initial consonant of the basic, and not of the extended, root. Since the passive/reflexive /t-/ is attached to the extended stem which begins with /n/, the assimilatory process involving it (/t-/) and the initial consonant of the basic root is blocked by /n/. In other words, there is a kind of

adjacency requirement between the passive marker and the initial consonant of the basic root for the assimilation to take place. That this is so gets support from the fact that the stems where assimilation of the passive /t-/ fails to operate are all quinqui-radicals formed with an extra radical inserted into the initial position of the basic root to extend it. This newly inserted radical blocks the adjacency relations between the passive morpheme and the initial radical of the basic root. It is in all such extended forms that the passive marker simply disappears. In short, the passive marker has either to assimilate or delete. It deletes in quinqui-radicals and assimilates in all other forms. This may be clear from a closer examination of the whole paradigm of stem formation in the language, which is the subject of the next section.

1.3 Stem Formation

I this section, I argue against the proliferation of affixes of the type cited in the preceding section pursuing the same claim that there are only the three prefixes /a-/, /as-/ and /tä-/ in the verb morphology of the language showing a number of morphosyntactic functions like (in)transitivization (Abraham, 1964; Hudson, 1978) and passivization /reflexivization, both having effect on the argument structures of the predicates. In order to substantiate this, I make a further claim, as stated in the introduction, that Amharic verbal roots consist of only three radicals. All surface verbal forms showing more or less than three radicals are derivatives of these. The derivational process involves insertion of new radicals and/or extension of existing ones for those which show more, and reduction of existing radicals for those which show less than three radicals in surface forms.

1.3.1 Reductions

It is well known in (Ethio-)Semitic morphology that verb stems are derived from discontinuous consonantal roots with the inffixation of what is called the

iatic or aspectual vowel /ä/ (Bender and Hailu, 1978; Petros, 1997) and the affixation of certain formatives. In connection with inflixation, all ce verb stems showing vowels other than /ä /, are derivatives of roots h have undergone the processes of radical reductions and, to a certain t, extensions, while all those with more than three radicals are derivatives oots that have undergone radical extensions only. What are called ssive morphemes, are reducible to this specific process of radical sion. Concretely, expressivity is an extension of the meaning of basic tri- l roots in terms of manner or degree of intensity or iteractivity of actions of verbs, a function which is essentially adverbial. This is also expected since the language has a very impoverished set of lexical adverbs (Getahun, 1995). In this connection, such derived forms can be treated as adverbial verbs, since they express both the action and the manner in which it comes into effect.

It is also well known in Amharic morphology that the reduction process is restricted to consonantal radicals of laryngeals and glides. The former are sometimes known as gutturals or weak radicals (Dawkins, 1960) and that they disappear from surface forms of only verbal stems, since they show up in the surface forms of their corresponding nominals. Consider the following examples:

Roots	verbals	deverbals	gloss
f-r-h	färra	fɨrh-at	'fear'
s-y-t'	šät'ä	šɨyyač'	'sale'
k'-ẇ'-m	k'^{w}omä	k'ɨwwame	'opposition'
l-?-k	lakä	lɨ?uk	'delegation'

As can be observed, the radicals /h,y,w,?/, which are missing in the verbal stems, are present in their deverbal counterparts.

Two other radicals which marginally belong to the same set of weak radicals, and which have not been treated well in the literature so far, are /r/ and /b/. These are not laryngeals, but they disappear from the verbal forms /ayy-/ 'saw' and /al-/ 'said', derived from the tri-radical roots/ r-?-y/ and /b-h-l/, respectively. Like in the earlier examples, the two radicals also show up in the surface forms of the corresponding nominals, /rɨ?yot/ or /ra?ɨy/ 'vision' for /ayy-/ 'saw', and /bɨhil/ 'saying' or /bahɨ/ 'culture' for /al-/ 'said', (see details in Baye (1999)). The whole set of weak radicals which is subject to the process of reduction, therefore, includes the six sounds: [w, y, h, ?, b and r]. It is in verbal stems that any of these sounds could be missing and it is also in such contexts that we find a thematic/aspectual vowel other than /ä /, the change of the vowel triggered by the loss of the radical[5].

1.3.2 Extensions

In connection with the process of root extension, there are both internal and external aspects to consider.

1.3.2.1 Internal extensions

(a) Gemination

This is a process of stem formation that involves gemination, which I consider to be a kind of extension of any one or two of the radicals in a root. Typical examples are what are called attenuative and intensive stems, which are derived with the gemination of the ultimate, and both the ultimate and the penult radicals, respectively, in the manner shown below:

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[5] Exception tho this are what are called type C verbs, which show the vowel /a/ without any loss of radical. The vowel is considered as the long counterpart of /ä/ (Lowenstamm, 1991).

Roots	intensives	gloss	attenuatives	gloss
s-b-r-	sɨbbɨrr-	'break harshly'	säbärr-	'break gently/slowly'
w-s-d-	wɨssɨdd-	'snatch'	wäsädd-	'take gently'
k-f-t-	kɨffɨtt-	'open violently'	käfätt-	'open gently/slowly'

As can be observed, the attenuative geminates (extends) only the ultimate whereas the intensive extends both the ultimate and the penult radicals of the root, and that the vowels inserted in each type are also different. The gemination in the intensive stems creates a context for the insertion of the epenthetic vowel /ɨ/. The stems are also bound and they need to combine with the auxiliary verb /al-/ to form compound forms like /kɨffɨtt alä/ 'it opened suddenly' or /käfätt alä/ 'it opened gently/slightly'. The adverbial qualification on the general meaning of the stem comes from the pattern that the consonantal root and the infixing vocalic elements form. This pattern is not, however, that of any of the three verbal stems of the language, perfective, imperfective and jussive, which have the pattern /cäccäc-/, /cäcc-/ and /ccäc-/, respectively. In short, forms like /kɨffɨtt-/ or /käfätt-/ are not verbal and hence need the support of a verbal element to express such verbal features as tense and aspect and nominal features like person, number and gender. In other words, /al-/ 'said' is used with such bound forms to carry the features of tense and agreement. In short, the adverbial meaning of the compound comes from the forms of the stems / kɨffɨtt-/ and / käfätt-/ and the functional features from the auxiliary /al-/.

The fact that the ultimate and/or the penult radical geminates to express such adverbial notions like degree of intensity or iterativity of actions may lead to a similar question of whether the same process also applies to initial radicals for the expression of the same or different adverbial functions. If a non-initial radical undergoes the process, a plausible assumption to make would be to say that initial radicals do also extend (geminate), though not necessarily for the same adverbial functions. For this, it would be instructive to examine the

internal structures of forms traditionally known as **addaragi,** (adjutative) ((Märsi?e-Hazän, 1948) of which the following are examples.

Roots		**adjutative (addaragi) stems**	**gloss**
g-d-l-	'kill'	a - ggadäl-	'caused kill one another or participated in killing'
s-b-r-	'break'	a - ssabär-	'caused break one another or participated in breaking'
d-r-s-	'reach'	a- ddaräs-	'participated in walking someone reach a place'

As is observable, the initial radicals of the roots are geminated in the adjutative forms, as predicted. But such forms do not show the adverbial function of manner like those we have seen before which geminate their ultimate or penult radicals and which are hence distinguished from forms with initial geminates, like those above, for example.

However, forms like /a -ggadäl-/, with initial geminates, are ambiguous between the adjutative and the reciprocal causative readings, as the glosses may indicate. In order to account for the latter reading, one needs to show the causative / a-/ and the reciprocal (a variety of the passive reflexive) /-t(ä)-/ in the derivations of the stems. When these prefixes are attached to bound stems like /-gaddäl-/, for example, an assimilatory process takes place between the reciprocal morpheme /-t-/ of / tä-/ and the initial radical of the stem, since this is the context for the assimilatory rule to apply. In other words, the **addaragi** (reciprocal causative) form is derived from the concatenation of /a-t-gaddäl-/ in which the reciprocal /t-/ assimilates to the initial radical /g/ of the stem to produce the form [aggadäl-] 'caused kill one another', thus, giving a reciprocal causative reading. Note that the form /-gaddäl/, which is the stem for the reciprocal causative is different from the perfective stem /gäddäl-/ in the quality of the first vowel. This shows that the reciprocal and the simple passive stems are derived from the same root /g-d-l/ but with different vowel types which lead to their formal differences.

The argument that initial radicals do also geminate relates to what are called **addäraragi** stems, a variety of reciprocal stems, in which the same morphemes /a-/ and /-t-/ occur preceding the iterative bound stem /-därarräg-/, itself derived from the simple root /d-r-g/ by reduplicating the penult radical /r/. The difference between this form and its **addaragi** counterpart is in the number of participants involved in the reciprocal action. In general, the **addaragi** involves two participants whereas the **addäraragi** may require more than two. This is evident from structures like the following:

1. (a) Kasa ɨnna Ayyälä tä - gaddäl - u[6]
K. and A. rcp-insult-pf - 3pl
'K. and A. killed one another'

(b) set-očč-u tä-gädaddäl - u
woman-pl-def rcp-insult-pf - 3pl
'The women (more than two) killed one another other'

The causative of 1(a) is (2) below in which the /-t-/ again assimilates to the stem initial radical as stated earlier.

2. Aster Kasa-n ɨnna Ayyälä-n a - t- gaddäl-äčč-ačča [aggaddäläččačča]
A. K. -acc and A. -acc cs-rcp-kill-pf -3fs -3pl
'Aster caused/made K. and A. kill one another'

Unlike forms of reciprocal causative readings, whose derivation involves affixation, the derivation of adjutative stems requires the gemination of the

[6]Note the following abbreviations: acc = accusative; rcp = reciprocal; ps = passive; rf = reflexive; cs = causative; def = definiteness; pl = plural; adju = adjutative; o = object; pf = perfect; e.a = each other; s.o. = some one. s.t. = something; o.a.= one another.

initial radical of a root. This is instantiated by the following structure in which Kasa is a participatory, i.e, an adjutative, and not a causer, subject.

3. Kasa Ayälä-n anbäsa a - ggadäl -ä - w
K. A. -acc lion adju - kill-pf-3mss - 3mso
'K. helped A. kill a lion'

The sense of such structures is not exactly like that indicated in the gloss in which one may get the wrong impression that Kasa may only have helped Ayälä, in some way, without himself necessarily involved in the actual killing of a lion. On the contrary, the meaning of the structure is one in which Kasa is a participatory subject. It is the derivation of adjutative stems such as these, which requires the gemination, alias extension, of initial radicals, just as in those of the intensives and the attenuatives we have already seen.

Other forms that also show initial gemination are manner nominals, traditionally known as **sabi-zär** (Märsi?e-Hazän, 1948). The term **/sabi/** 'extending' is itself instructive of the process of extension of the **/zär/** (radical) involved in the derivation of such stems. Unlike in the derivation of adjutative stems, where there is gemination only, in these, there is both gemination of the initial radical and reduplication of the penult radical of the root, the latter showing the iterative nature of the action or event. Consider the following examples:

Roots	**perfective stems**	**nominal stems**	**manner forms**	**gloss**
l-b-s-	läbabbäs-	-lläbabäs	a-lläbabäs	'manner of dressing up'
m-t'-?-	mät'at'-	-mmät'at'	a-mmät'at'	'manner of coming'
b-l-?-	bälal-	-bbälal	a-bbälal	'manner of eating'

Note that the nominal stems are bound and hence need the support of the vocalic element /a-/. This vowel is different from the causative prefix /a-/ shown

earlier on, with which it is homophonous. This /a-/ is a nominalizer in the forms in question, and an active verb formative in verb stems like the following:

Root s	perfective stems			nominals	gloss
l-k'-s-	-läk'k'äs-	a- läk'k'äs-	'cried'	läk's-o	'mourning '
g-n-y	-gäññä-	a-gäññä-	'found'	gɨññ-ɨt	'finding'
f-k'-r-	-fäk'k'är-	a-fäk'k'är -	'loved'	fɨk'ɨr	'love'
n-w-r-	-näwwär-	a-näwwär-	'cheated'	näw(ɨ)r	'unorderly'

The bound verbal stems are also input for the derivation of middles and reflexives which also involve the use of the prefix /tä-/, referred to earlier on. Hence, corresponding to /a-läk'k'äs-/ 'cried' there is the impersonal passive /tä-läk'k'äs-/ 'be mourned' derived from the same bound stem /-läk'k'äs-/ with the prefix /tä-/ attached. Note that the nominal counterpart is derived by simply suffixing /-o/ to the stem /läk's-/

Going back to the manner forms, it is possible to argue that these are also derived from the same type of bound stems formed with a geminated initial radical, and a formative prefix /a-/. The argument is not implausible given that gemination has the grammatical functions of showing aspect (perfective), and manner- intensity or attenuativity, and adjutativity. Given this, it is not impossible to assume that the same process has also the same manner function in derived nominals of the type known as **sabi-zär.**

It is such forms of manner and adjutative expressions, which are often confused, with those of reciprocal causatives. As we have seen earlier, the derivation of the reciprocal causative involves the concatenations of the causative prefix /a-/ and the reciprocal morpheme /-t-/, a relationship in which the latter fully assimilates to the root initial radical, hence giving the semblance of a geminated initial radical.

The argument that adjutative and manner stems like /aggadäl-/ and /aggädadäl-/, respectively, are derived from roots that geminate the initial radical gets support from facts of intransitive stems like the following, which also form their adjutative and manner stems in the same way.

Roots	adjutatives	manner nominals
m-t'-?-	a-mmat'- 'help bring s.t'	a-mmät'at'- 'manner of coming'
w-t'-?	a-wwat'- 'help move out'	a-wwät'at'- 'manner of moving out'

It is not possible to argue here that the gemination of the initial radical is a result of the assimilatory process between the reciprocal /t-/ and the root initial consonant, simply because there is no reciprocity with such verbs, and hence, no /t-/. This means that adjutatives are derivative of either transitive or intransitive bases whereas reciprocals are of transitive bases only. This lends support to the claim that the two types of stems are characteristically different in their derivational properties.

Because of differences in their derivational processes, the two categories also vary in the type of arguments they select in the syntax. Whereas adjutatives take singular or plural NP's as internal arguments, which are non-co-referential with the external argument, reciprocals take only plural NP's, which are co-referential with the external argument. Compare the following examples:

4. (a) Kasa lɨğ-očč - u -n anbäsa a-ggadäl - ä -ačč̆äw
K. boy-pl-def-acc lion adju- kill-pf-3mss-3pl
'K. helped the boys kill a lion'

(b) Kasa lɨğ-očč-u-n ɨrs-bä-ɨrs-ačč̆äw a-t-gadäl - ä- ačč̆äw [aggadälačč̆äw]
K. boy-pl-def-acc self-by-self-3pl cs-rcp-kill-pf-3mss-3plo
'K. caused the boys kill one another'

One final piece of evidence for the gemination argument comes from forms that drop their initial radicals. Such forms cannot derive their adjutative stems through gemination; hence, they reduplicate their penult radicals in lieu of gemination, and result in forms, which are also itertive. Observe the following:

Roots	Perfective stems	adjutative stems	
h-r-s-	härräs-	[arräs-]	as-t-ärarräs-
h-r-m-	härräm-	[arräm-]	as-t-ärarräm-
?- č-d-	?äččäd-	[aččäd-]	as-t-äčaččäd-
?-k'-f-	?äk'k'äf-	[ak'k'äf-]	as-t-äk'ak'k'äf-

The /-t-/ preceding the stems is not the passive marker /t-/ for the simple reason that the forms are not passive; in fact, they are active. The sound is the same one known in the phonology of the language to appear as a placeholder for a missing initial or final radical of a root. In the latter case, it appears in intensive forms like [bɨllɨtt] < /b-l-?-/ 'eat', or in the gerundive counterpart /mäbla-t/ 'eating/ to eat'.

And in contexts such as those above where the missing radical is intial, the prefix is also /as-/, and not /a-/; the latter is found in regular, (ie forms with no missing radicals) adjutatives as shown earlier on. The two affixes are thus in complementary distribution[7].

In cases where the penult radical is missing, the initial radical geminates for the adjutative, and also reduplicates for the iterative function. Thus, forms like the following have adjutative-iterative readings.

[7]This allomorphic variation does not extend to the causative functions of /a-/ and /as-/. In the forms in question, their function is to derive transitive, alias simple, causative stems only.

Roots	perfective adjutative stems	gloss
s-?-b-	a-ssasab-	'help someone pull something'
m-h-l-	a-mmamal-	'help someone make a vow'
w-?-l-	a-wwawal-	'help someone spend a day'

A question that follows from this relates to what happens in forms with missing initial and penult radicals? Given the observations made so far, one would expect the sound /t/ to appear in the position of the missing initial radical, and the ultimate radical to reduplicate in lieu of the missing penult radical and form iterative stems. To this stem is also attached the prefix /as-/ to derive the full form. This prediction is borne out by the only example given below:

Root	stem	adjutative (perfective)	gloss
r-?-y-	äyayy-	as-t- äyayy-	'help someone look for something'[8]

As we can see both /r/ and /?/ of the root are missing in the stem. The ultimate radical undergoes reduplication to form the adjutative-iterative stem. The placeholder /t/ appears in the position of the missing initial radical, and the prefix /as-/ is attached to the stem to form the adjutative-iterative form.

From the facts presented so far, it is possible to maintain the argument that adjutative and manner stems geminate their initial radical whenever there is one, and reduplicate the (pen)ult whenever there is none. The process is one of extension of the radical of the basic roots involved.

[8]In my dialect (Wällo) the meaning of this verb is also adjutative-iterative and not necessarily reciprocal, the meaning that seems to be overriding in standard Amharic.

(b) Reduplication

In this subsection, I shall consider two types of reduplications, total and partial. The former shows iterative actions of attenuative or intensive manner of which the following are examples:

Roots	attenuatives		intensives[9]	attenuatives	iterative
s-b-r-	'break'	säbärr-	sɨbbɨrr-	säbärr-säbärr	sɨbbɨrr-sɨbbɨrr-
k'-m-s-	'taste'	k'ämäss-	k'ɨmmɨss-	k'ämäss-k'ämäss	k'ɨmɨss k'ɨmmɨss-
k-f-t-	'open'	käfätt-	kɨffɨtt-	käfätt-käfätt	kɨffɨtt-kɨffɨtt-

The two types of iteratives are formed by total reduplications of the corresponding attenuative and intensive stems. Such stems combine with the auxiliary verb /al-/ 'lit. 'say' or /adärräg-/ 'made' to form compound predicates of the type shown in the following examples:

4. (a) kasa mästawot - u - n sɨbbɨrr-sɨbbɨrr adärräg - ä - w
K. mirror - def - acc break-break do-pf -3mss-3mso
'K. broke the mirror into pieces'

(b) mästawot-u sibbirr-sɨbbɨrr al-ä
glass-def break-break say-pf-3mss
'The glass broke into pieces'

Note that the attenuative and intensive stems themselves are derivatives of the root, which has undergone gemination of the ultimate, or penult or both radicals as discussed in the preceding section.

[9]See Taddese (1980) for a syntactic derivation of such forms in line with the tradition of Generative Semantics.

In partial reduplications, one can consider three degrees. The first is where a root reduplicates only its penult radical to show iterative actions as in the following examples.

Roots	extended roots	iterative perfective stems	gloss
s-b-r-	s-b-b-r-	säbabbär-	'broke repeatedly'
k'-m-s-	k'-m-m-s-	k'ämammäs-	'taste repeatedly/lightly'
s-d-b-	s-d-d-b-	sädaddäb-	'insult repeatedly/lightly'

The second degree of reduplication is where both the ultimate and the penult radicals of a root are reduplicated, and the penult one is also geminated, all to show intensity of actions as in the following:

Roots	extended roots	iterative-intensives	gloss
s-b-r-	s-b-r-b-r-	sɨbɨrbɨrr	'break into pieces completely'
c'-r-s-	c'-r-s-r-s-	c'ɨrɨsrɨss	'finish completely'
f-r-s-	f-r-s-r-s-	fɨrɨsrɨss	'demolish completely'

Like the intensive stems we have considered earlier, these also combine with the auxiliary verb /al-/ 'lit.said' or /adärräg-/ 'made' to form compounds. Examples of structures with such verbs include the following:

5. (a) Kasa bɨrč'ɨk'k'o-w-n sɨbɨrbɨrr- adärräg - ä - w
K. glass-def-acc break- do-pf -3mss-3mso
'K. broke (smashed) the glass into pieces'

(b) bɨrč'ɨk'k'o-w sɨbɨrbɨrr - al - ä
glass-def break-say-pf-3mss
'The glass broke into pieces'

The third degree is an extension of the second in which the radicals continue duplicating themselves indefinitely,[10] perhaps, until the speaker feels he has expressed the action to his own emotional satisfaction. The following are examples.

Roots	extended roots	iterative-intensives	gloss
s-b-r-	s-b-r-b-r-b-r-b-r-...	sɨbɨrbɨrbɨrbɨrr...	'break into pieces and pieces'
f-r-s-	f-r-s-r-s-r-s-r-s-...	fɨrɨsrɨsrɨsrɨss...	'demolish into rubbles'

To show this level of intensity, 5(a) above would have the form in (6) below:

6. Kasa bɨrč'ɨk'o - w - n sɨbɨrbɨrbɨrbɨrr... adärräg - ä - w
K. glass -def-acc break,break,break do-pf-3mss-3mso
'K. broke the glass into pieces and pieces, and pieces,...'

The second and third levels of reduplication do not, in fact cannot, show verbal features such as tense and aspect or nominal agreements such as for number and gender. These come from the forms /al-/ 'said' or / adärrägä -/ 'made/' which also render the categorial membership of the whole compound as verb. The function of the reduplication is again one of manner of action. In effect, reduplication has the same adverbial function as the gemination considered in the preceding section.

So far, we have considered gemination and/or reduplication of radicals of tri-radical roots as expressions of verbal features such as aspect (perfective) and adverbial features such as manner (intensity, iterativity, and attenuativity). In what follows, we shall consider the derivations of three types of quadri-radical

[10]See Rose (1998) for similar facts in other Ethiosemitic languages.

stems, two of which involve internal extensions of the type considered so far, and the last one involving external means.

The first type consists of quadri-radicals of which the ultimate consonant is a reduplicate (copy) of the penult radical. Examples include the following stems of durative actions:

Roots	extended roots	durative stems	gloss
b-r-g-	b-r-g-g	bäräggäg-	'get startled'
b-l-t'-	b-l-t'-t'	bälät't'ät'-	'opened one's eye wide'
f-r-t'-	-r-t'-t'-	färät't'ät'	'ran away exceedingly'
k'-r-d-	k'-r-d-d-	k'äräddäd-	'cut into smaller parts'
z-g-r-	z-g-r-r-	zägärrär-	'knocked out someone unconscious'

As can be observed, the process takes the basic root as input and copies the ultimate radical to form the extended root which gets vocalised with the aspectual vowel/ ä/ to form its durative perfective stem. The meaning of such verbs is that the action takes some time to culminate.

The second type looks like a process of total reduplication of what appears to be bi-radical roots.

Roots	extended roots	durative stems	Gloss
w-r-	w-r-w-r	wäräwwär-	'threw away'
m-r-	m-r-m-r	märämmär-	'investigated'
d-r-	d-r-d-r	däräddär-	'put in lines'

The semantic effect of the extension is the same as those in the first type in that it shows durativity or iterativity of the actions designated by the roots.

However, the representation of the root as bi-radical goes contrary to the claim made earlier on that all lexical verbs in the language are tri-radical in their

representations. In order to maintain that claim, I make the following restrictions on the representation of root consonants.

Only any two of the three radicals of a root can be identical.

This constraint limits the representation of all basic roots of the language to the following four possible types:

(i)	1-2-3	=	s-b-r-
(ii)	1-1-2	=	s-s-t-
(iii)	1-2-2	=	l-k'-k'-
(iv)	1-2-1	=	w-r-w-

Forms like w-r-w-r in the above paradigm are derivatives of type (iv) with the penult radical reduplicating to show durativity. Hence the following:

Roots	**extended roots**	**durative stems**	**gloss**
w-r-w-	w-r-w-r-	wäräwẇär-	'threw·away'
m-r-m-	m-r-m-r-	märämmär-	'investigated'
d-r-d-	d-r-d-r-	däräddär-	'put in lines'

One piece of evidence in support of a tri-radical representation of durative stems comes from the derivation of iteratives, which are a type of duratives, as we have observed earlier on. In iteratives, there is a reduplication of both the ultimate and the penult radicals, whereas in duratives, there is only the ultimate radical reduplicated. The difference between the two forms is, hence, one of degree.

Another piece of evidence comes from the semantics of such verbs. In this regard, one does not need to actually utter or hear the whole form in order to get the meaning, since the ultimate radical is at best a copy of the second. That

the speaker is referring to the form /wäräwwär-/ 'threw away' is sufficiently clear only from the form of the tri-radical /w-r-w-/. This makes the ultimate radical extra-material as far as meaning is concerned.

It is, however, not always the case that the last radical is a copy of the second since there are also forms like /k-r-k-m/, along with /k-r-k-r/. But the last radical in such forms seems to be a continuant, again lending support to the argument of predictability adduced to earlier on and also in the section below. Such degree of predictability is not apparent in any other tri-radical stems. For example, given a form like /t'äb-/, one cannot tell what the last radical of its extension would be since the possibilities are many and varied. Forms like /t'äbbäs-/ 'roasted', / t'äbbäk'-/ 'watched', and /t'äbbäb-/, 'become tight' /t'äbbä /'holy watered' are all possible candidates. Such is not the case with the forms of the representation shown in type (iv)

1.3.2.2 External Extensions

(a) Quadriradical Roots

The forms here include the third type of quadri-radical stems mentioned earlier. Their derivations seem to involve no reduplication of the type (i) and (ii) observed in the preceding section. But they have some feature, which they share with reduplicatives in the sense that one of the four radicals is always predictable. For this we need to observe forms like the following:

Roots	stems	gloss
k'-n-d-b	k'änäddäb-	'slit the eye brow'
g-n-f-l	gänäffäl-	'spill over'
t-n-b-y-	tänäbbäy-	'forecast'
d-f-r-s-	däfärräs-	'became muddy'
t'-w-l-g-	t'äwälläg-	'withered'

b-r-g-d-	bäräggäd-	'open violently'
m-n-g-l-	mänäggäl-	'toppled down'
w-n-ğ-l-	wänäğğäl-	'incriminated'
s-n-b-t-	sänäbbät-	'stayed for a while'
č-n-k-r-	čänäkkär	'crucified or nailed'
š-n-k-f-	š änäkkäf-	'tied loosely'

A close examination of the list reveals that the second member (left to right) of all root radicals is one with the feature [+continuant]. Whereas other positions allow any kind of radicals, this particular position is sensitive to only those which have this feature. In other words, the second radical is predictable and hence, need not be shown in the underlying representations of all such roots[11].

[11] A reviewer pointed out that the feature [+continuant] covers 13 of the 27 (48%) consonant phonemes of the language and may hence generate forms that are not existent in current usage. He also contends that whereas epenthesis involves one vowel, the insertion of a consonant with the feature [+continuant] in the second position of a tri-radical root extends to 13 consonants.

The statistics may serve a good purpose in other areas, but surely not here. The claim here is that the second consonant in quadri-radical roots has the feature [+continuant] and is hence predictable. This feature may be shared by as many as 13 or even more consonants, and also vowels, just as the feature [+consonantal] is shared by the entire consonant phonemes of a language. That is why the system accounts for a variety of existing as well as non-existing but possible forms. Like any linguistic rule, it accounts for a good deal of the quadri-radical forms of the language with very few exceptions, which is natural given that no rule is foolproof. The exceptions serve as a point of departure for future research on the subject. In fact, from the list of ten forms which the reviewer considered exceptions, only two, /bät'ärräk'-/ and /fät'ärräk'-/, are genuine exceptions; the rest are consistent with the rule; it only requires a closer examination.

The reviewer also questioned as to why the /š/ of /ašk'abbät'-/ does not appear in the adjectival (sic) /k'äbbat'/k'äbač'/ and in the passive (sic) /yik'bät-/ and went on to say that the rule is 'imprecise and incorrect'. First of all, forms like /k'äbbat'-/ k'äbač'/ are not adjectival nor are forms like /yik'bät-/ passive. Secondly, the paper does not claim that adjectivals show

In vocalised non-verbal stems like the following, the position immediately following the first radical is one of epenthesis.

Roots	[-v [stems]]	gloss
b-l-t'-	bɨlt	'clever'
f-r-d-	fɨrd	'verdict'
w-r- s	wɨrs	'inheritance'

From this, one may extend the notion of epenthesis to the representation and /or derivation of roots, and argue that in quadriradicals of the type under consideration, the second radical, which as stated above, is specified for the feature [+ continuant], has an epenthetic role, analogous to that of the vowel /ɨ / in stems like /bɨlt'/ 'clever', for example. This means that quadri-radicals are derived from tri-radical bases by inserting a segment with the feature [+ continuant], in the position immediately following the first radical of the tri-radical root. The process is, thus, one of extension of the basic tri-radical root with the insertion of a continuant radical as epenthesis. This means that quadri-radical roots like /z-n-t'-l-/ could be analysed as deriving from basic tri-radical ones of the type /z-t'-l-] with a consonantal continuant segment like /n/ or /s/ or /š/ etc. inserted in the position between the first (initial) and the second radicals of the base. This base form does not exist in the current usage of the language although it is a well-formed root since it is consistent with the constraint forwarded above about root structures.

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extension of roots; on the contrary, it claims that they do not, and that is why they are distinguished from verbals as well as nominals like /ašk'abbač'/ since these do extend roots. In light of such gross misconceptions of basic facts, the remark 'imprecise and incorrect rule' is uninformative at best and infelicitous at worst. For the sake of clarity of terms, forms like /yik'bät-/ are active (not passive) jussive stems, whereas those like /k'äbač'/ are nominals, if this may help.

The insertion of the continuant radical does not seem to have any semantic (in terms of thematic roles) or syntactic (in terms of argument structures) effect unlike the gemination and/or reduplication of radicals considered in the preceding section, which do show such effects on derived forms. The effect of the operation here seems to be phonological in the sense that it leads to the formation of new lexical items by extending the basic form[12].

Following the assumption made above and the arguments forwarded, one would derive any quadri-radical root from tri-radical bases by inserting a segment with the feature [+continuant] in the position between the initial and the second radicals in type (i), and following the ultimate radical in type (iv) roots. In both type (i) particular segment to be inserted should be different in its features from segments preceding and/or following it. For example, a tri-radical root would not allow the continuant /s/, to be inserted in between the two constraint which is probably akin to the OCP (Obligatory Contour of Goldsmith (1976). It disallows representations of forms with segments/features occurring in adjacent positions, thus, excluding /*s-s-s-t/, as ill formed,[13] while permitting others with non-adjacent of /s/ as in /s-r-s-t/, /s-m-s-t/, /s-l-s-t/ etc., as well - formed.

[12] The situation seems to be parallel to English words like [pit] and [kill] becoming [spit] and [skill], respectively, with the addition of the sound [s] and with the new forms rendering meanings which are different from those of their base forms. The fact that the sound is also none other than [s], a continuant, makes the process even more predictable than it is in Amharic, since it limits the choice to not any continuant but to a subset, with the feature [+strident]. The difference between the two languages in this respect is that the English **kill** exists as an actual form, occurring in current usage whereas, the Amharic /z-t'-l/ is only a potential one.

[13] OCP is more stringent since it allows no representation of segments with identical features in adjacent positions. In Amharic, the constraint is a bit relaxed since it allows two such segments.

(b)Quinqui-radicals

Some of the forms cited in the literature as examples of quinqui-radical roots include the following: (Leslau, 1995:455ff; see also Bender and Hailu, 1978).

ašk'ädaddäm-	<-š-k'-d-d-m-	'caused to race one another'
ašk̆äfäkkäf-	<- š-k-f-k-f-	'caused to be orderly'
ašm^{w}änämm^{w}än-	<- š-m^{w}-n-m^{w}-n-	'caused to be pretty'
ašmädämmäd-	<- š-m-d-m-d-	'caused to be incapacitated'
ašfädäffäd-	<- š-f-d-f-d-	'cause to be sexy'
ažg^{w}ädäg^{w}g^{w}ä$^{\prime}$-	<-ž-g^{w}-d-g^{w}-d-	'cause to be in abundance'
ašk'änät't'är-	<-š-k'-n-t'-r-	'threw away violently'

Following the argument forwarded above, one would treat all such forms as deriving from tri-radical roots with internally or externally added radicals. Of these, the last two employ only the external means of root extension, which inserts an additional radical immediately preceding the initial radical. The others employ the process of reduplication, which is internal, and the insertion of a segment, with the feature [+continuant], as stated earlier on. Thus, the derivations of the first and the last forms are as follows:

		extensions		
Roots	**internal**	**external**	**perfective stems**	**gloss**
k'-d-m-	k'-d-d-m-	- š-k-d-d-m-	a-šk'ädaddäm-	'caused to race one another'
k-t'-r-	-k'-n-t'-r-	- š-k'-n-t'-r-	a-škänät't'är	'threw away violently'

The first reduplicates the penult radical to derive the extended root /k'-d-d-m/, which serves as the base for the iterative stem /k'ädaddäm-/. This reduplicated root can further extend itself to /š-k-d-d-m/ by inserting /š/, a continuant again. The resulting form is form /-šk'ädaddäm-/ becomes the input for the reciprocal /tä -šk'ädaddäm-/ 'raced one another'. When the causative /a-/ is attached to this reciprocal stem, the / tä-/ deletes because this is what it does if it cannot

assimilate with the initial consonant /k'/ of the basic root /k'-d-d-m/. The assimilation cannot take place because there is no adjacency between the radical and the affix /t-/, the inserted sound /š/ intervening between them. That this is so is evident from the assimilation of the same sound in the reciprocal causative form /ak'k'ädaddäm/ </a-tä-k'ädaddäm/ 'caused to race one another'. The prefix /tä- / is attached to the iterative stem /k'ädaddäm-/ giving the form / tä-k'ädaddäm-/ 'raced one another'. When the causative prefix /a-/ is attached to this form, the /t/ of / tä-/ assimilates to the initial radical of the stem, as expected, since the adjacency requirement is now satisfied[14].'

One cannot argue here that, in forms like /a-šk'ädaddäm-/, /š/ is part of the causative affix, as assumed in the descriptive literature. The reasons for this are: (a) the causative in the language is /a(s)-/ as attested in all verbal stems other than quinqui-radicals (Appleyard 1972); (b) the sound /š/ occurs in the reciprocal/reflexive form /tä-š-kadaddam-/, which would not have been the case had / š / been causative, since the two morphemes are mutually exclusive; and (c) the passive, and not the causative, is closer to the stem, which means that the expected derived form would be the anti-passives, /as-t-stem/ and not the anti-causative form /tä-as-stem/, since the latter option is not available for the language. In other words, the causative cannot be input for the passive. Hence, the most plausible thing to do is maintain the argument of radical extension in which segments like / š / are introduced to form extended stems like /-šk'ädaddäm-/ to which the causative/transitive prefix /a-/ is attached to derive causative/ transitive verbs. It is the insertion of such continuant segments like /š/, /n/ and (/ž/) etc, which is the cause for the consideration of forms like /aš-/, /täš-/, /an-/, /tän-/ as exponents of an expressive morpheme.

1.4 In summing up, we have argued in this paper that the verbal roots of Amharic consist of only three radicals of which only any two could be

[14] The prefix /tä-/ occurs only as /t-/ in the context of a preceding morpheme.

identical. Such roots are the input for the formation of various types of verbal and nominal stems. The process of derivation involves reduction, and extension of one or two of the three radicals. The reduction involves only a set of consonants traditionally known as laryngeals to which are, exceptionally included, though marginally, /b/ and /r/. The extension includes the insertion of new radicals, and the reduplication and /or gemination of existing.

The inserted radjcals are those with the feature [+continuant] and t of insertion is that of epenthetic or prothetic, the former in quadri-r the latter in quinqui-radicals. The process of reduplication, which al gemination, affects any of the three basic radicals. The ultimate and radicals are extended to express adverbial notions of *durativity*, *intensity* and *attenuativity* of actions. The initial radical is extend *adjutativity*, in verbal and manner nominals. This is how th expresses adverbial functions since it does not have lexical adverbs.

We have also shown that external to the extension and reduction processes of roots are affixations. The affixes are the transitive/causative /a-/ and /as-/ on the one hand, and the passive/reflexive /tä-/ on the other. There are no other affixes in the derivation of verbal stems just as there are no radicals other than the three consonants in the representation of basic roots. What have been considered as expressive morphemes in earlier works, are concatenations of the prefixes mentioned above and the radicals inserted preceding the initial radical of basic roots.

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