WORD FORMATION IN AMHARIC

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1. INTRODUCTION

In the descriptive literature (cf. Sloat (1978) among others), morphology has been treated as involving four major processes which, when applied to stems, produce new words. These are: (i) AFFIXATION, the addition of prefixes, suffixes, and infixes to a stem; (ii) REDUPLICATION, the repetition of all or some part of a stem; (iii) SYMBOLISM, change in the structure of the stem itself, i.e., by altering the stem in some way such as, for instance, fight /fought, or sit /sat in English; (iv) COMPOUNDING, the combination of two or more root morphemes. Although these basic ideas are still very important, such a functional approach is far from complete. Thus, in more recent works in morphology, a number of more comprehensive approaches have been proposed. Among them are the following:

(i) Derivational morphology approach (Di Sciullo and Williams (1987), Lieber (1980, 1983).
(ii) Inflectional morphology approach (Anderson 1982).
(iii) Polysynthetic morphology approach (Baker 1987).

The main objective of this paper is to sketch out the morphological structure of Amharic, a Semitic language spoken in Ethiopia, and ultimately to show whether such theoretical frameworks could handle word formation processes in this language. In particular, the paper attempts to show how word formation in Semitic languages could be explained in terms of the unified theory of "feature percolation". Most of the insights developed in here are drawn from M. Baker's morphology lectures of 1987-88 academic year. His class notes are my present guides for word structure trees and feature percolation mechanisms.

2. INFLECTIONAL AFFIXES:

2.1. Inflection of nouns and adjectives

By inflection, I mean morphemes which a) decline nouns, pronouns and adjectives for number, gender, case and the like; and b) conjugate verbs for such things as aspect, mood, voice,

number, and tense. In other words, morphemes which do not change the grammatical class of a stem such as a noun into an adjective. Amharic is one of the highly inflectional Ethio-Semitic languages. Nouns as well as adjectives are inflected for number, gender, genitive, accusative, diminutive, dative, instrumental, conjunctive, possessive, and determiner. Some examples are given below in (1):

(1) a. addis bet 'new house'
new house

b. addis-oč bet-oč 'new houses'
Pl Pl

c. addis-oč-u bet-oč-u 'his new house'
new-Pl-Det house-Pl-Poss

d. addis-oč-u-n bet-oč-u-n 'his new houses' (Acc)

Note that in (1c), the suffix -u functions both as a determiner and possessive. When it appears on the noun, the meaning is possessive, but when it appears on the adjective, it is only a determiner. It is ambiguous when it appears on nouns in isolation. For instance, bet-u may mean either 'his house' or 'the house'. The only means of disambiguating it is by adding a modifier (adjective) to the noun. So, for example, addis-u bet is unambiguous because -u has only the meaning determiner. Thus, addis-u bet-u 'his new house' is unambiguous for the same reason that the -u on the adjective addis has the meaning determiner while the u on the noun bet has the meaning possessive. That is why in (1c) above, the -u on the adjective and on the noun is glossed as determiner and possessive respectively. There seems to be a rule in Amharic that moves the determiner from the noun (head) onto the modifier in a noun phrase. This can be shown as

Adj + N + Det ===> Adj + Det + N,

Let us now examine the following phrases given in (1') and see whether this rule is indeed operative:

(1') a. *addis bet-u
b. addis-u bet 'the new house' (*'his new house')
c. addis-u bet-u 'his new house' (the new house of his)

As can be observed from these examples, (1'a) is bad because the rule that moves the determiner from the noun to the modifier is violated. (1'b) and (c) are well-formed with the same reading since the rule is satisfied. Now, the question is why does (1'a) not allow the reading 'his new house', since the rule does not apply to a possessive morpheme? Although one needs to consider the problem seriously, a plausible answer off hand would be one which relates it to the fact that adjectives agree with their nominal heads and that this is violated in (1'a). In other words, since clitic pronouns (possessive markers) behave like determiners, they must also satisfy the rule. So, (1'a) is unacceptable even for the reading 'his new house'.

Another crucial question that needs to be answered is why bet-u is ambiguous in isolation, and whether this ambiguity is lexical or structural. It has been pointed out to me by Victor Manfredi (p.c) that homophony has problems of learnablity, if it is so, then one would consider the ambiguity as being structural. In other words, the ambiguity of bet-u in isolation might be due to the fact that the possessive clitic is in the SPEC-position (closer to the head), whereas the determiner might be in the DET-position (further away from the head). Thus, when an adjective is present, the determiner cliticises to it, and when there is not, the determiner cliticises to the noun, and in such cases there is no way one can tell whether it occupies the SPEC or Det. position of an NP. Now let us turn to the examples in (1) above and see their derivations.

According to "percolation conventions" and "word structure trees" of the type given below in (2), the representation of each inflected word in (1) will be as in (3).

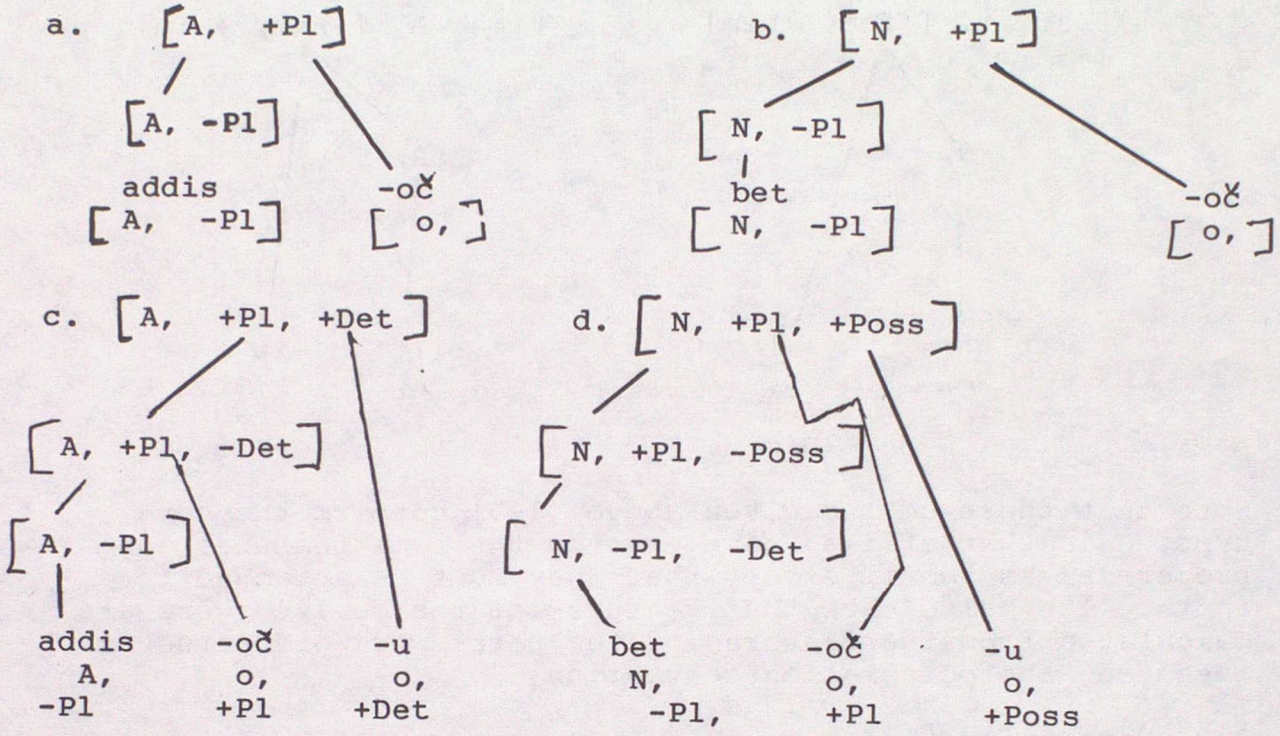
(2) PERCOLATION CONVENTIONS

a. Draw a word structure tree with each morpheme as a "leaf" (single branches over roots, otherwise binary branching).

b. All features of a lexical node go to the node dominating it.

c. All features of (any) node that does not conflict with features already on the node dominating it go to the dominating node.

(3) Representation of the words in (1b-c):



Such representations show how words get properties from their morphemes. The words given in (1d) could also be derived in the same fashion. Now, consider the following words in (4) which are inflected for the diminutive:

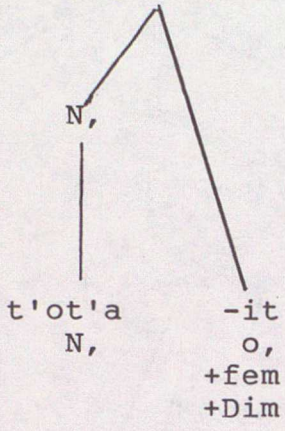
(4) a. t'ot'a --> t'ot'-it (N) c. bilt' -> bilt'-it (A)
'ape' Dim. 'smart' Dim

b. Mammo --> Mamm-it (N) d. qonǰo --> qonǰ-it (A)
Dim

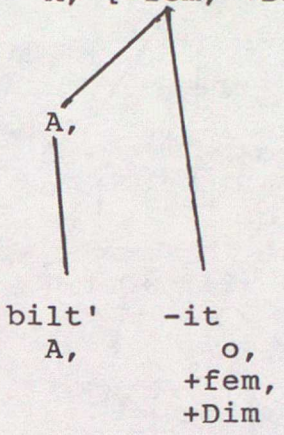
The affix -it is basically a feminine marker. It functions as a diminutive marker with the meaning small, cute, or

affectionate, when attached to nouns and adjectives. The resulting words always have the properties of the root. Thus, the affix must be 0 category and [+feminine]. The tree structure of the words in (4a,c) would be as given below in (5):

(5) a. N, [+fem, +Dim]



b. A, [+fem, +Dim]



Note that the examples given above (1-5) confirm the core hypothesis that affixes have exactly the same features and properties as roots, except that they must be attached to roots. They also show that features of the derived word are calculated from the features of the parts, by word structure trees and the percolation conventions.

2.2. Verb Inflection

Amharic is predominantly an SOV language at the surface. It is also a pro-drop language with complex verbal morphology. The verb may be inflected for such things as person, number, gender, aspect, mood, tense, benefactive, malfactive, causative, transitive, passive, relative, instrumental, dative, locative, negative, infinitive, frequentative, reciprocal, etc.. Some examples are given below:

(6) a. gäddäl- = (stem), gdl = root, ä-ä = aspect (perf.)
"kill" .Perf

b. gäddäl-ku 'I killed'
1s

c. gäddäl-ku-t 'I killed him'
3ms

d. gäddäl-ku-läe-t 'I killed (something) for him'
ben-3ms

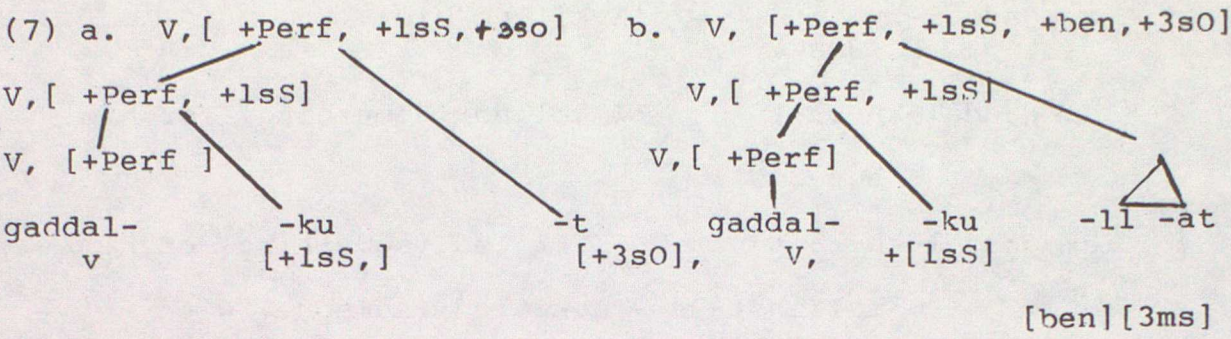
e. gäddäl-ku-bäe-t 'I killed (something) on him/
mal/inst-3sm I killed (someone) with it'

In (6), we observe that the order of the affixes is fixed in such a way that the subject agreement comes right after the stem, followed by the direct object clitic, and then by the dative (ben., mal., inst. marker,) and finally by the indirect object, that is, object of preposition, clitic. Any exchange of position would result in an exchange of role in the grammatical functions of the respective clitic/agreement affixes. So, for example, the 1pl agreement -n and the 2fs clitic -š would give us:

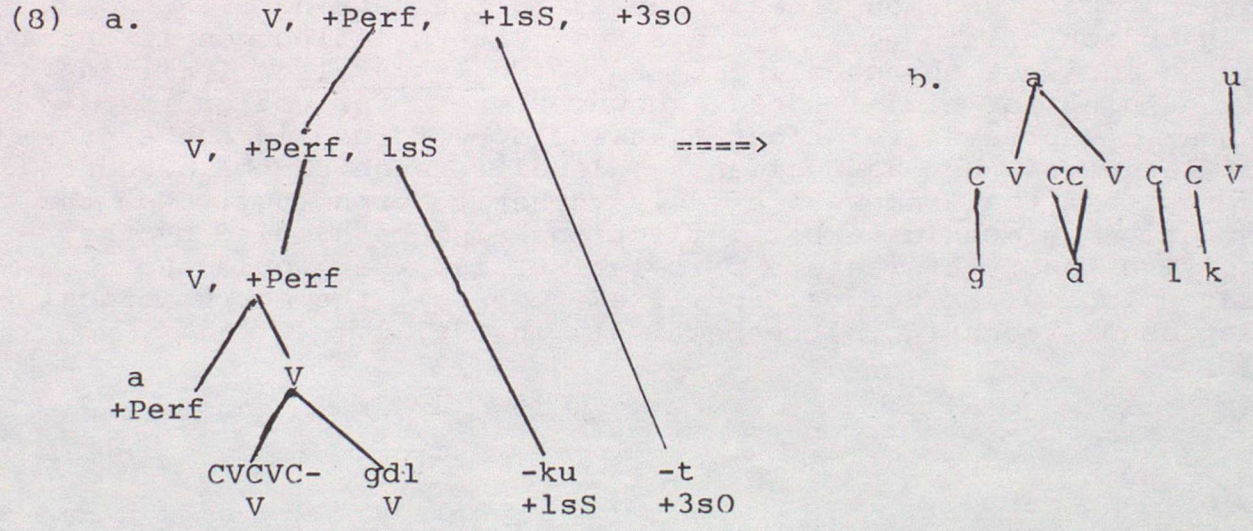
gäddäl-n-š 'we killed you' , but
gäddäl-š-n 'you(f) killed us'.

The exchange of position of -n and -š has altered the grammatical function of each suffix in the string.

An object clitic never appears in the verb inflection if there is an indirect object clitic. So, gäddäl-ku-t-lät 'I killed (something for him)' is bad. However, verb inflection in Amharic expresses relations that would be formed in the syntax of languages such as English. This difference can be accounted for within the framework of polysynthetic Morphology. Now the question is: could verbal inflections also be handled by the unified theory of feature percolation, and what would the morphological structure look like? Consider the morphological representations (6c,d) respectively in (7a,b).:



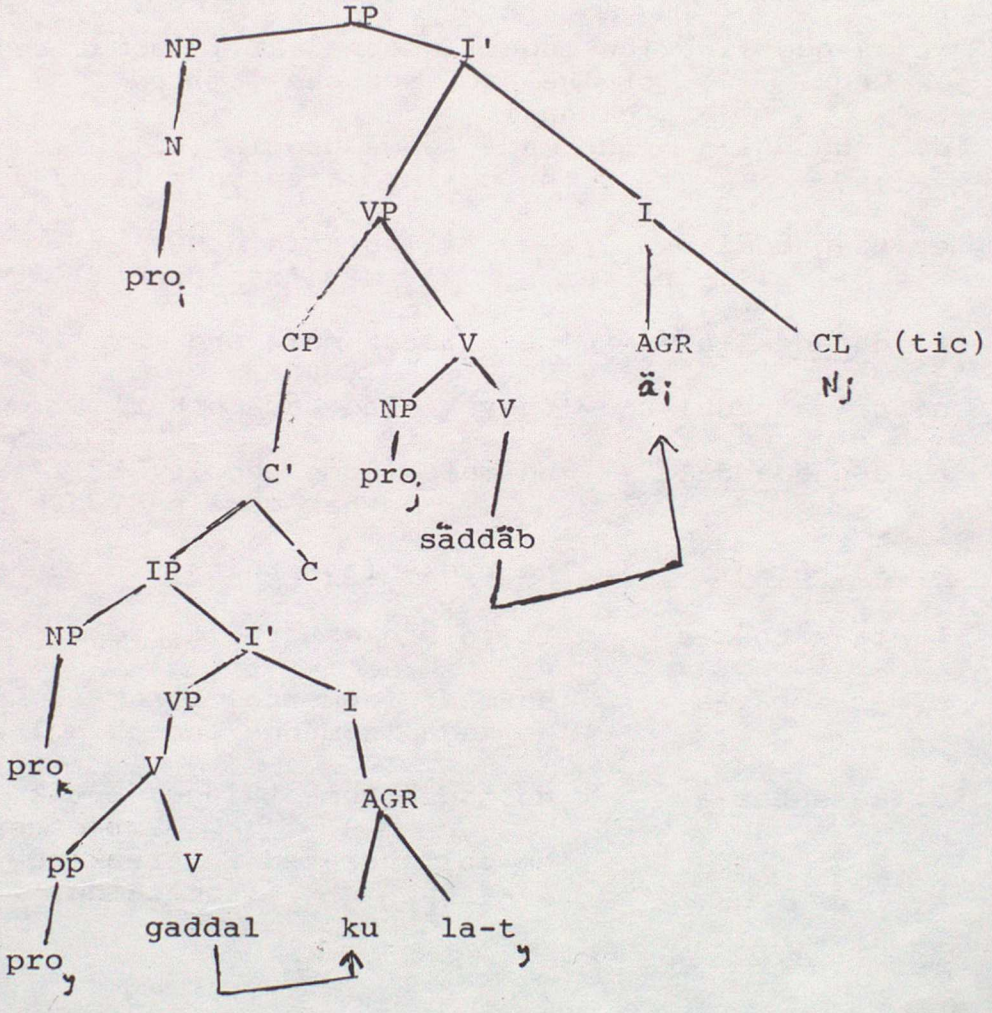
In structures such as (7), there seem to be some discrepancy in the assignment of features to the stem gäddäl- because Amharic is a non-concatenative language such that the aspect markers interlock with the root, that is, the consonantal roots and the aspect vowels interlard. In other words, gäddälä is not a single morpheme, but a combination of the consonantal root gdl which refers to the theme of 'killing' and the perfective aspect marker ä. Such a structure does not seem to be plausible given the assumption that word formation processes involve discrete morphemes, and that features of the derived word are calculated from the features of each morpheme." Thus, an alternative tree structure representation of (6c) would be (8a) below:



An analogous tree structure can be drawn for (6d), and that all other verb inflections in Amharic could be handled in the same fashion.

So far, we have seen verbal inflections of suffixation. But there are complex verbal forms which involve prefixation, infixation, reduplication as well as rearrangement of the consonantal roots and vowels into different patterns. The form in the brackets in (9) is one such complex verb.

9. [silä-al-a-tä-gädäddäl-ku-lä-t] säddäbä-N 'He insulted me because I didn't make (some people) kill each other for him



Note that the actual surface (phonetic) form of (9) is not as given above. A lot of phonological processes have to take place before we get to the surface as represented below:

/silă-al-a-tă-gdăddăl-ku-lă-t -----> [slalaggădaddălkullăt]
since-Neg-CAUS-PASS-kill-1sS-ben-3msp

Some more examples of such complex verbs are given in (10):

(10) a. găddăl-ă 'he killed ' (simple/active)
-3ms

b. tă-găddăl-ă 'he is killed' (passive)
PASS-

c. as-găddăl-ă 'he made (someone) kill (something)'
CAUS- or 'he had (someone) killed'
(causative)

d. a-ggadăl-ă 'he made (some people) kill each other'
or 'he collaborated in killing someone'

e. tă-gaddăl-u 'they killed each other'
-3pl (reciprocal)

f. găd<u>add</u>ăl-a 'he killed more and more'

g. tă-gă<u>dadd</u>ăl-u 'they killed each other'

h. a-ggă<u>dadd</u>ălă 'he made (some people) kill each other'more and more'

(11) a. săbbăr-ă 'he broke (something)'

b. tă-săbbăr-ă 'it is broken or, it broke'

c. as-săbăr-ă 'he made (someone) break (something)'
'he made (someone/something) broken'

d. a-ssabăr-ă 'he made (some things) break each other'
'he collaborated in breaking (something)'

e. tä̆sa̲bbä̆r-u 'they broke each other'

f. sä̆ba̲bbä̆r-ä̆ 'he broke (something) over and over'

g. tä̆-sä̆ba̲bbä̆r-u 'they were broken over and over', or 'they broke each other'(passive reciprocal)

h. a-ssä̆ba̲bbä̆r-ä̆ 'he made some people break each other'

As can be seen from the examples above, there are a number of affixes which are grammatical function-changing. Some of these are listed below:

tä̆- = passive
a- = transitiviser of ergative
as- = causative
-CV- = frequentative/intensive (where C = root penultimate and V = [a]
-a- = reciprocal marker (infixed after root-penultimate)
al- = negative
Kä̆- = conditional (if)
slä̆- = reason/cause (since, for, because)

In Amharic, the 3ms perfect form of a verb is usually taken as the base form. The choice is based on nothing other than its lesser complexity. We shall adhere to this same form throughout the discussion. (11a) is a triconsonantal verb. The root is g̲d̲l̲ 'kill'. The -a- which is inserted between the radicals of the root is an aspect marker. Since the consonants of the root carry semantic values, we assume that they must have a category, and that this category is V (verb). The suffix -aw- is the 3ms subject marker in the perfective form of a verb. Thus, the phonological representation of (10a) would be as given below in (12):

(12) aspect = a a = 3ms (vocalic tier)

[gaddal-a] -- C V CC V C V = Verb (skeletal tier)

g d l = root (consonantal tier)

Note that the morphological and syntactic tree structures of(11a) are analogous to those of (8) and (9) respectively.

Now let us consider (11b) where the grammatical function (GF) changing prefix is added to the stem. The prefix is ta- and it is a passive marker. It is a GF-changing morpheme as can be seen from the examples in (13):

13. a. Girma Kasa-n gäddäl-ä-w
-Acc kill-3msS-3msO
'Girma killed Kasa'

b. kasa bä- Girma tä-gäddäl-ä
by PASS-kill-3ms
'Kasa was killed by Girma'

C. Kasa tä-gäddäl-ä
'Kasa was killed'

The two sentences in (13a-b) mean basically the same thing, but they have syntactic differences. The accusative marker -n has cliticised on kasa, and the object clitic suffix on the verb of (13a) is left out in (13b-c). The verb also behaves like an intransitive one in (13b-c) suggesting that a change in thematic roles has taken place as a result of the tä- affixation. Girma is the nominative subject in (10) but an oblique object in (11); Kasa is an object in (10) but a subject in (11). Furthermore, the agent may be left out as in (13c). The new 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

In the structures in (13b-c), one can easily tell that Kasa is the subject from the agreement relation holding between it and the passive verb.

(14) a. Kasa ine-n gäddäl-aN
K me-Acc kill-3msS-1sO

b. ine bä-Kasa tä-gäddäl-ku
I by- CAUS-kill-3fsS
'I was killed by Kasa'

c. ine Kasa-n gäddäl-ku-t
-1s-3msO
'I killed Kasa'

d. Kasa bä-ine tä-gäddäl-ä
-3msS
'Kasa was killed by me'

The examples in (14) reveal that Kasa is the surface subject in the passive sentences, which is evidence for the change of thematic role as well as GF changes. (15) below is a formal representation of the grammatical function changes and the corresponding thematic roles.

(15)

V		tä + V	
gäddäl-ä		tä-gäddäl-ä	
agent	theme	agent	theme
|	|	|	|
SUBJ	OBJ	OBL	SUBJ

The GF pattern given above, reveals how syntax can change GFs around, and how morphology can show such changes. Now let us also look at (10c) where the causative affix is added to the verb stem, thereby affecting its GF. This is illustrated in the following:

(16) a. Girma Kassa-n gäddäl-ä-w
-Acc -3msS-3mso
'Girma killed Kasa'

b. Almaz Girma-n Kasa-n as-gäddäl-äč-w
CAUS-kill-3fsS-3mso
'Almaz made Girma kill Kasa'

c. Almaz säw gäddäl-äč
man -3fsS
'Almaz killed a man'

d. Girma Almaz-n säw as-gäddäl-ä-ät
man -3msS-3fso
'Girma made Almaz kill a man'

In (16a), the subject is an agent, the object is the theme and the verb doesn't show any GF morphemes. The arguments of the verb are as shown below:

SUBJECT------> AGENT
OBJECT-------> THEME

In (16b), the causative morpheme as- is prefixed to the verb. Since it has a verbal meaning, it can introduce a new theta role into the picture, as shown in (16b,d), where a "causing" agent is introduced. There are some clues suggesting the change. In (16b), for example, the accusative marker-n is cliticised on Girma (the old agent) following and as a result of the addition of the new agent Almaz. Notice that there is no clitic on Girma in (16a) where it is the subject, which shows that a change of thematic role has taken place and that Girma has become an OBJECT, and Kasa an oblique object. Notice also that in (16b) there is no clitic on the verb in agreement with the patient (object) Kasa, whereas in (16a) there is the object clitic -w. This same clitic w appears in (16b), but in agreement with Girma. Kasa remains with no clitic on the verb to agree with it because it is an oblique object . Now, one may wonder as to how to tell that in (16b) the clitic -w is in agreement with Girma and not with Kasa. Consider the following examples:

(17) a. Almaz Kasa-n gäddäl-äč-w
-3msS-3fso
'Almaz killed Kasa'

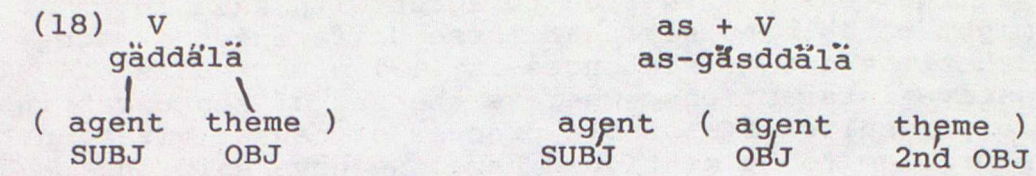
b. Girma Almaz-n Kasa-n as-gäddäl-ä-at
-3msS-3fso
'Girma made Almaz kill Kasa'

In (17a) the object clitic -w agrees with Kassa, but this clitic does not appear in (17b). Instead, an object clitic -at '3fs' that agrees with Almaz appears, and Kasa remains with no clitic on the verb to agree with. This confirms that a shift of thematic role has taken place when the causative morpheme is attached to the verb. Hence, in the causative sentence given above, the old subject becomes the object while the old object becomes 2nd object when a new agent (subject) is introduced. Thus, the verb has three arguments, and the syntactic rule in operation is:

CAUSATIVE RULE:

add new agent = SUBJECT
SUBJECT ------> OBJECT
OBJECT ------> 2nd OBJECT

The remaining question now is how this rule can theoretically be explained/expressed and how we can show that the relationships have been changed. The Grammatical-function pattern is given in (18):



The Gf pattern given in (18) represents all of the examples given above for causative. It reveals that the basic relationship between thematic roles and grammatical functions is changed. However, examples(16b,d) seem to be a bit controversial among some speakers of Amharic. Some feel that they are entirely unacceptable, some hesitate to decide "yes" or "no", some get the readings after being given a context, while some accept them readily. All of the Amharic speakers I have consulted accept them without any problem.

The passive-causative counterpart/alternative of the forms in (18a,b) are given in (19) respectively:

(19) a. Almaz Kasa-n bä-Girma asgäddäl-ač-w *as-tä-gäddäl-ä-čw
by- -3fsS-3msO
'Almaz made Kasa be killed by Girma'

b. Girma Almaz-n bä-säw as-gäddäl-ä-at *as-tä-gäddäl-ä-at
by- -3msS-3fsO
'Girma made Almaz be killed by a man/somebody'

If we accept the idea that the sentences in (16b,d) are entirely unacceptable by native speakers of Amharic, we need to revise our causative rule given above as follows:

Revised CAUSATIVE RULE:

add new agent = SUBJECT
SUBJECT -----> OBLIQUE

The set of sentences in (19) and (16) are semantically the same but there are clear syntactic differences: Girma is marked as a direct object in (16b) but an oblique i.e. in

oblique case (goal) in (19a). Kasa is 2nd OBJECT in (16b) but direct object in (19a). By 2nd OBJECT we mean something analogous to letter in "he wrote her a letter" in English. Moreover, the object clitic -w on the verb which used to agree with Girma in (16a) has now shifted to agree with Kasa in (19a). We might be able to say that these differences are due to the fact that the set of sentences in (19) are results of passive-causative interactions, whereas the set of sentences in (16) are merely results of a single process of causativization. There is one problem to be mentioned here: we have said that (19) is passive-causative, but the passive morpheme is not visible. How do we, then, account for this? This takes us back to the ambiguity problem manifested in (11c) and (12c) above. Observe the following sentences:

(20) a. as-gäddäl-ä-w 'he made him be killed/kill someone'
CAUS-kill-3msS-3msO

b. ind-y-gädl adärräg-ä-w 'he made him kill someon'
Comp-3ms-kill made-3msS-3msO

c. ind-y-ggäddäl adärräg-äw 'he made him be killed'
(ind-y-g-gaddal = ind-y-ta-gaddal)
CAUS-be-killed

d. bä-säw as-gäddäl-ä-w 'he made him be killed by
dy someone'

(21) a. as-säbbär-ä-w 'he made it be broken/break
CAUS-break-3msS-3msO something'

b. ind-y-säbr adärräg-ä-w 'he made it break something'
Comp-3ms-break made-3msS-3msO

c. ind-y-ssäbbär adärräg-ä-w 'he made it be broken'
(ind-y-s-sabbar =ind-y-ta-sabbar)
CAUS-be-broken

d. bä-säw as-säbbär-ä-w 'he made it be broken by
by- someone'

As can be observed from the examples given above, (20a) and (21a) are ambiguous. Sentences given in (21b-d) disambiguate (21a), while those given in (20b-d) disambiguate (20a). Moreover, gemination of the first consonant of the root in (20c) and (21c) has been viewed as a result of assimilation of the passive morpheme tă- with the 1st radical of the root which follows it. Such a phonological process does occur, not only in the perfect forms of passive derivation/formation, but also in infinitives as shown below:

mă-gdăl 'to kill'
mă-g-gădăl 'to be killed' (*ma-ta-gadal)

Assimilation of the passive morpheme tă- with the 1st consonant of a root has also been exhibited in reciprocals such as a-ggaddăl-ă 'he made some people kill each other' and a-ssabbăr-ă 'he made some things break each other' given in (11d) and (12d) respectively. Here, not only does assimilation of the passive morpheme tă- take place, but also a deletion of [s]. This again leads us to an extended problem of the causative morpheme, that is, whether there are two different morphemes, a- and as-, or only one morpheme as- for causative. This means we have to account for the reason why and when [s] gets deleted, or we have to accept that we have two different causative morphemes. The following data give some hint as to the nature/behaviour of the causative morpheme in this language:

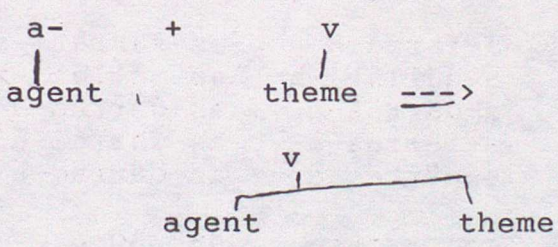
		(transitviser)	(causative)	
	Simple	a- prefix	as-prefix	gloss
(22) a.	fărrăt'-ă	a-fărrăt'-ă	as-fărrăt'-ă	'burst'
b.	qăllăt'-ă	a-qăllăt'-ă	as-qăllăt'-ă	'melt'
c.	dărrăs-ă	a-dărrăs-ă	as-dărrăs-ă	'arrive'
d.	fărrăs-ă	a-fărrăs-ă	as-fărrăs-ă	'be ruined'
e.	dărrăq-ă	a-dărrăq-á	as-dărrăq-ă	'be dry'
f.	saq-á	----------	as-saq-á	'laugh'
g.	dănăggăt'-ă	----------	as-dănăggăt'-ă	'fear'
h.	tănn-a	----------	as-tănn-a	'sleep'
i.	dănnăs-ă	----------	as-dănnăs-ă	'dance'
j.	wăss-a	----------	as-wăss-a	'lie'

k. gäddäl-ä	----------	as-gäddäl-ä	'kill'
l. säbbär-a	----------	as-säbbär-ä	'break'
m. sätt'-ä	----------	as-sätt'-ä	'give'
n. s'af-ä	----------	as-s'af-ä	'write'

In the data given above, (22a-e) are ergative (unaccusative) i.e., verbs having only one argument (theme). (22f-j) are unergative i.e, verbs with only one argument which is agent. (22k,l) are transitive verbs which take two arguments (agent and theme). (22m,n) are transitive verbs which take three arguments (agent, theme and goal). As can be observed from the data, the causative morpheme as- can be prefixed to any of the four types of verbs, whereas the prefix a- can only be attached to ergative verbs. It is, then, plausible to assume that the function of a- is only to add an agent. In other words, a- has nothing to do with transitive-intransitive distinctions as has been suggested in the descriptive literature (eg. Bender & Hailu, 1978).

In a functionalist approach a-and as- have been treated as showing 'direct' and 'idirect' causers respectively. Such an approach lacks generality. I shall argue, instead, that the prefix a- is required only in ergative verbs which, as stated above, lexically lack an agent argument. This suggests that since two agent arguments cannot be associated with a single predicate, one can conclude that the causative morpheme in Amharic is only as-. The morpheme a- only adds an agent argument to verbs which lack one. The relationship between the argument structure of such verbs and the morpheme can be expressed as follows.

(23)



23) implies that the causative morpheme as- can only be prefixed to verbs which cannot take a- for the reason that there would be two competing agents for the same syntactic position. So, for example, as-a-saq-ä 'he made someone laugh', as-a-färrät'-ä "he made something burst", as-a-gäddäl-ä 'he made someone kill somebody', etc, are unacceptable. Another support

that as- never occurs where a- occurs is manifested in reciprocal-passive interactions such as the following:

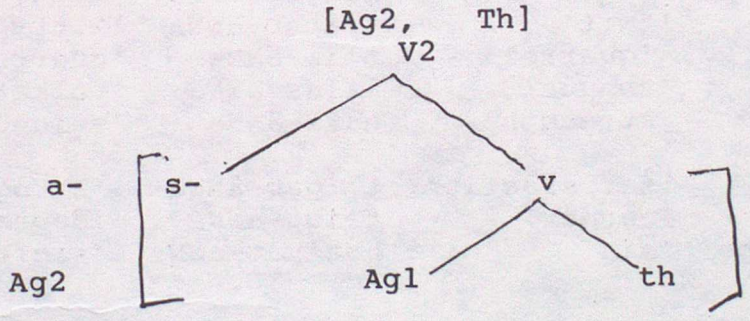
(24) a. a-ggädaddäl-ä *as-ggädaddäl-ä (*as-tä-gädaddäl-ä)
'he made (some people) kill each other'

b. a-ssäbabbär-ä *as-ssäbabbär-ä '*as-tä-säbabbär-ä)
'he made (something) break each other'

(24) shows that as- cannot be prefixed to verbs where the agent has been absorbed i.e., where the thematic and/or syntactic roles of either the subject or the object has been changed. This is to say that since in a passive sentence, the object becomes subject and the agent becomes goal, the a- prefix is required to give agent to the verb which already lacked its agent in the process of passivisation.

To sum up the discussion, I would like to suggest an alternative analysis which has been pointed out to me by V. Manfredi(p.c). At a deeper level, we might try to relate the two morphemes, a and as-, by proposing that as- is composed of a- + s-. We shall assume that a- always adds an agent theta role, but that the addition of an agent to a verb will only be allowed if that verb has no agent already present in its argument structure. For instance, ergative verbs such as fälla 'it boiled' and mätt'a 'he came' have only a theme, and a- adds an agent theta role to them yielding afalla 'he boiled (something)' and amätta 'he brought (something)' respectively. Then the role of s- becomes clear: it is to embede one argument structure within another:

(25)



Given (24), we shall predict that, just like other derivational morphology, the result of affixation will have the properties of the affix (head). This means that the s- prefix creates a new verb, and as such it requires that the GFs of the verb root be changed. Since these changes are going to be based on percolation, we shall predict that the theme is not affected, only the inner Ag is.

So far, we have seen noun as well as verb inflections, including the function of some category-changing affixes in the verb morphology of Amharic. Below, we shall briefly look at the behaviour of derivational affixes and compounding

1.3. DERIVATIONAL AFFIXES

In Amharic, there are many derivational ,ie, category changing affixes. We shall consider only those which are productive. Among these are the following:

(26). Noun to Adjectival noun (-äNNa)

	STEM	GLOSS	DERIVED FORM	GLOSS
a.	färäs	'horse'	färäs-äNNa	'horseman'
b.	isport	'sport'	isport-äNNa	'sportsman'
c.	gazet'a	'newspaper'	gazet'-äNNa	'news man'
d.	qolla	'highland'	qoll-äNNa	'highlander'
e.	däga	'lowland'	däg-äNNa	'lowlander'
f.	bet	' house'	bet-äNNa	'family member'
g.	t'ena	' health'	t'en-äNNa	'healthy one'
h.	čiggir	' trouble'	čiggir-äNNa	'needy one'
i.	t'ibäb	' wit'	t'ibab-äNNa	'witty one'
j.	t'il	'quarrel'	t'il-äNNa	'quarrelsome'
k.	milas	'tongue'	milas-äNNa	'talkative one'
l.	hayl	'strength'	hayl-äNNa	'strong one'
m.	t'igab	'satisfaction'	t'igab-äNNa	'arrogant one'
n.	t'igg	'corner'	t'igg-äNNa	'dependent one'
o.	hat'yat	'sin'	hat'yat-äNNa	'sinful one'

p.	Gondär	place name	gondär-iNNa	'Gondar dialect'
q.	Färänsay	France	Färänsay-iNNa	'French language'
r.	Oromo	ethnic name	Orom-iNNa	'Oromo language'
s.	and	one	and-äNNa	'first'
t.	hulätt	two	hulätt-aNNa	'second'
u.	sost	three	sost-äNNa	'third'

(27) Noun to Adjective (-am, -amma, -awi)

a.	sissit	greed'	sissit-am	'greedy'
b.	habt	'wealth'	habt-am	'wealthy/rich'
c.	gäd	'luck'	gädd-am	'lucky'
d.	tärara	'mountain'	tärar-amma	'mountainous'
e.	koräbta	'hill'	koräbt-amma	'hilly'
f.	dingay	'stone'	dingary-amma	'rocky/stony'
g.	biher	'nation'	biher-awi	'national'
h.	Itio'pia	Ethiopia	Itiop'i-awi	Ethiopian
i.	America	America	Americ-awi	American

(28a) Adjective to Noun (-innat)

a.	dägg	'kind'	dägg-iannät	'kindness'
b.	moNN	'foolish'	moNN-innät	'foolishness'

(b) Adjective Noun

c.	barya	'servile'	bar-innät	'slavery'
d.	färi	'coward'	fari-nnät	'cowardice'
e.	leba	'thief'	leb-innät	'theft'
f.	arbäNNa	'brave'	arbäNN-innät	'heroism'
g.	sissitam	'greedy'	sissitam-innät	'greediness'
h.	biherawi	'national'	biherawi-nnät	'nationalism'

(29) Verb to Noun/Ag.noun (a...a...i, i...at)

a.	sbr	break	säbar-i	'breaker'
b.	brk	bless	bärak-i	'blesser'

(30) Verb to Noun/Ag.noun

c.	ft'r	'create'	fit'r-ät	'creation'
d.	?wq	'know'	?iwq-ät	'knowledge'

The suffixes given above(26-30), are mostly category-changing affixes. Based on the theories of Williams (1978a, 1981a) and Selkirk (1982) that words have heads and that the properties of the head are those of the whole, and that such affixes, therefore, enter into the configurations corresponding to the schema given below in (31) = (Selkirk's (3.21):

(31) x^n [Y^m X^{af}]x^n

The lexical entries would be:

(32) a. -aNNa

Ø: /aNNa/
£: N
sem: one who does/is "x"
U: [N-]

b. -am

Ø: /am/
£: A
sem: having the properties of "x"
U: [N -]

c. -amma

Ø: /amma/
£: A
sem: having "x"
U: [N-]

d. -awi

Ø: /awi/
£: A
sem: belonging to "x"
U: [V]

e. -innät

Ø: /innat/
£: N
sem: having the quality of "x"
U: [N,A-]

f. -i

ø: /a..a..i/
ɛ: N
sem: one who does "x"
U: [V -]

g -at

ø: /..at/
ɛ: N
sem: having the quality of "x"
U: [V-]

There is one question to be raised here: there are derived forms such as those in (26g-o) above, which behave more like adjectives than nouns. (26d,1) are illustrated below in (32):

(33) a. Kasa hayläNNa naw
K. strong is
'Kasa is strong'

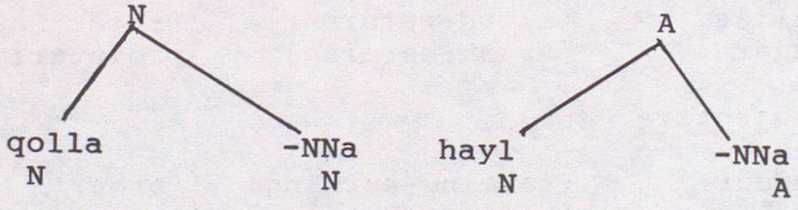
b. Kasa hayläNNa säw näw
K. strong man is
'K. is a strong man'

c. Kasa bät'am hayläNNa näw 'kasa is very strong'
very

d. *Kasa bät'am qolläNNa näw 'Kasa is very lowlander'

Using syntactic tests to determine the category of (26d,1), we could see that hayläNNa 'strong' behaves like an adjective. Therefore, it is possible to say that the category of -aNNa is not only N but also A. Hence, the morphological structures of (26d,1) would be as (33a,b) respectively:

(34)



As can be seen from all of the examples given above, Amharic suffixes are clearly heads, which is to say that each has the same category features as its mother. Before concluding that suffixes in Amharic are the heads of their constituents and that they occur to the right of the base, let us consider derivations of compounds.

1.4 COMPOUNDING

Compounds in Amharic are a type of word structure made up of two constituents, each belonging to one of the categories noun, adjective, or verb. The compound itself may belong only to the category noun or adjective. My purpose here is not to provide an extensive description of compounding in Amharic, but to consider only the essential features. The compounds given below are representative samples of the class of compounds that predominates in the language.

(35) Noun + Noun

a. birät-mit'ad	(iron-oven)	'pan'
b. timhirt-bet	(lesson-house)	'school'
c. barr-af	(door-mouth)	'entrance'
d. mad-bet	(meal-house)	'kitchen'
e. bet-ä-kiristian	(house-of christian)	'church'

(36) Noun + Noun

f. liq-ä-mäbär	(chief-of chair)	'chairman'
g. higg-a-mängist	(law-of government)	'constitution'

(37) Noun + Adjective

a. aläm-aqqaf	(world-embracing)	'international'
b. libb-wolläd	(heart-borne)	'novel' (writing)
c. sira-at't'	(job-lacking)	'unemployed'
d. däm-mällas	(blood-returner)	'Proper Name'
e. wäz-addär	(sweat-earning)	'proletarian)'

(38) Verb + Adjective

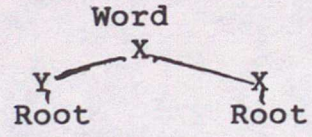
a. arso-addär	(farming-earning)	'farmer'
b. särgo-gäbb	(hiding-enter)	'insurgent'
c. därso-mäls	(arriving-turn)	'round-trip'
d. awqo-abbäd	(knowing-mad)	'seemingly-mad'

As we see from examples (34-36) above, a compound noun in Amharic consists of a noun followed by a noun, and a compound adjective may consist of a noun or a verb on the left followed

by an adjective. The paradigms of compound types given in (34-36) contain several gaps. Many are missing (eg. A + N, P + N, A + A, N + V, A + V, etc.), and it seems clear that Amharic is not as rich as concatenative languages such as English in regard to this process of word formation. Moreover, in Amharic, it is difficult to identify compounds from phrases and nouns from adjectives because, in particular, adjectives syntactically behave almost like nouns. However, from the limited class of compounds conidered here, we may see that they have a head, and that the head is on the right. Note that a few compound types such as those in (34e-g) do not fall into this general class for they are left-headed. But it could be argued that such left-headed compounds should instead be analysed as bound roots, and that their appearance as words is governed by rules /f what has been calle$ "nonnative compounding" as opposed to "native cgmpounding (cf.Selkirk, 1982 on the notion of nonnative compounding). Such compound words are typically of Geez origin, and compounding of Geez origin is extremely common particularly in specialized lexical items. Thus, gi6en the Right-hand Head Rule of Williams, (1981a), none of these borrowed compounds will qualify as the head of its constituent, but each will have a right-hand sister as its head.

In sum, the vast majority of Amharic compound types are right-headed, and the heads of these compounds display the syntactic and semantic characteristics that are expected of heads in general:

(39)



(40a) [N N] [birät mit'ad]

(b) [N N] [aläm aKKäf]

(c) [N N] [arso adär]

The configurations in (39) and (40) show that in Amharic compounding, the head of a morphologically complex word is the right hand member of the compound, and that the role of the head seems to be clear, ie, it determines the category features of the word as shown in (40).

1.5 Conclusion On the basis of the brief survey we have made, it seems possible to conclude that suffixes in Amharic are basically the heads of their constituents, that is to say, they enter into the configuration given in (30), and that compounds are right-headed constructions.

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