

Peanian Analysis of Amharic Part Two Derivation and Grammar Algebra

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1. Simplification

In part one, dedicated to Amharic without inflexion, there have been analysed and simplified the principal sections of Amharic grammar except adjective. As it was said many times the language without inflexion has its peculiar characteristic in simplifying words and phrases, that's to say its peculiarity lies in expressing concepts with a great simplicity without seeking complicated mechanism of sentence-building. Now through the analysis made by G. Peano on Latin and by myself on Tigrigna, I can say that there are various ways of simplification that could be synthetized in four groups.

The first way of simplification consists in the *elimination* of the inflexions in a part of speech and consequently in *replacing* them with particles or other isolated words. For instance in the expression

Roman = Roma + n = of Rome

the inflexion «n» of the adjective «Roman» has been eliminated and replaced with the genitive preposition «of» leaving isolated (that's to say without inflexion) the noun «Roma» (in English Rome).

The second way of simplification consists in *suppression*, that's to say the elimination of inflexions or the whole of grammatical parts considered unnecessary to express a concept. Such suppression must be distinguished from the previous one because here there is not any replacement to be made. You can

find an example in part one of this work where the Amharic article has been eliminated without being replaced with any other word or particle.

The third way of simplification is made with the *substitution* of a complete *sentence*, considered having many inflexions and a complicated syntax, with another one that has the same meaning, but a simple and easy structure. For example the Italian sentence

Di cancro si muore

translated in English as «Everybody dies of cancer», has the reflexive form «si muore» (everybody dies) and the preposition «di» (of) that governs the substantive «cancro» (cancer). Now this sentence is too much complicated and could be substituted by the following one:

Cancro uccidere (Cancer kill)

This one is made of two words (noun and verb without inflexion), but it keeps the meaning of the first one. Moreover in this way of simplification are also included all the substitutions that indicate the passage from one part of speech to another (we'll see them in the next paragraphs) like for instance:

slanting	=	that slants
(adjective	=	relative pronoun + verb);
free	=	that has freedom
(adjective	=	relative pronoun + verb + noun);
rich	=	with richness
(adjective	=	preposition + noun); etc.

At last the fourth way of simplification is used a little, because it implies the use of *artificial words* instead of inflexions. For example if you want to eliminate the inflexion of passive conjugation you can use the «P» mark placed before a verb as indicator of the passive form. You can also find other examples in

De latino sine flexione where Peano uses artificial words like «to, quem, ton,...».

The above-mentioned simplification procedures, described here as rules, could be applied to an inflexion either individually or together. For example in Tigrigna the pronoun «all» presents itself as a pronominal inflexion:

kūllūnā «all us» (in English «all of us»)
kūllūnā = kūllū + nā (all + personal suffix)

Now you can eliminate this inflexion using one of the two rules of simplification, exactly those that previously have been determined as *elimination-replacing* (the first one) and *suppression* (the second one). Then proceeding with the simplification you have:

kūllū + nā = kūllū + n ḥ nā (all + personal suffix = all + we)

that's elimination of the inflexion «nā» and its replacement with the personal pronoun «n ḥ nā» (we). However in the language without inflexion it is useless to say «all we» because it should be enough to say simply «we». So it means that the pronoun «kūllū» (all) should be suppressed:

kūllū n ḥ nā = n ḥ nā (all we = we)

Therefore you can say that have been applied two procedures for the simplification of one pronoun as the following scheme shows:

kūllūnā = kūllū + nā = kūllū n ḥ nā = n ḥ nā
(all us = all + pers. suff. = all we = we)

The simplification, as we'll see further, besides eliminating inflexions and simplifying sentences with complicated syntax, it has also the extraordinary ability to change one part of speech into another making possible the elimination of certain grammatical

categories.

2. Grammar algebra

G. Peano has been one of the early studios who introduced mathematical techniques in the study of natural languages. However since he was very enthusiast for his work, he didn't settle the rules of grammar algebra. You can find a settlement of grammar algebra rules in P. Freguglia who first clarifies the use of the principal symbols like

«=» equality mark,
«+» juxtaposition mark,
«-» inverse juxtaposition mark,
«0» null and void value,

then he enumerates, as algebraic expressions, the axioms from which he derives several theorems.⁵

In grammar algebra it's matter of applying the principal mathematical axioms to grammatical and linguistic equivalences. However the mathematical axioms applied to a grammar do not pretend to represent the equivalence with absolute exactness as it happens in pure maths. In fact in pure mathematics, where everything is calculated with absolute accuracy and without uncertainties or doubts, the subject should become complicated if you say, for example, «one apple», because you should be compelled to explain and specify what you mean by «one», that's to explain if you are referring or not to the weight, the size or other attributes of the apple. While grammar algebra is useful to make operations like equations, factorizations, etc. without pretensions to mathematize every linguistic expression or the cultural nuances of the words.

3. Language without inflexion, grammatical categories and

⁵ P. FREGUGLIA, *L'algebra della logica*, Roma, Editori Riuniti, 1978, pp. 72-75.

linguistic universals

When you make a research on natural languages you could ask yourself if there exist grammatical elements common to all languages. Can you say, for instance, that pronouns, substantives, verbs, adjectives and syncategorematic particles are linguistic universals? If you want to give an answer to such question you could follow a research route in which you can start wondering, for instance, if there exists substantive in all languages and perhaps you can give intuitively an affirmative answer, because you could think that mainly language is designation of objects, actions, etc. However for such research route you have to consider some observations upon the structure of the language without inflexion and upon the natural languages. In fact you should understand the concept of grammatical category. For instance in the language without inflexion or in the languages that tend to miss inflexions it is difficult to say whether a word belongs or not to a grammatical category. In fact if you take English language, that has few inflexions, and you say «light» you can verify that this is nothing else but a simple word, that's to say it doesn't belong to any part of speech. What sets it in a particular grammatical category is the *use*, not the structure of the word itself. In fact it could be *used* as a verb, a noun or an adjective. In other words in the language without inflexion the distinction among the parts of speech is established in the context in which words are used, while on the contrary it often happens that the inflexions are generally index of identification of a grammatical category. In fact if you take the Italian word «spero», it is immediately identified by its inflexion as a verb conjugated in the present tense of the indicative mood, first singular person; while in English the same word, «hope», could be identified as a noun or a verb according to the way it is used. However there are also some grammatcal categories that have a determinate structure, in such cases the use in not necessary to identify their grammatical structure. Therefore you can say that since the language without inflexion removes the inflexions it also eliminates the distinction among parts of speech converting

words, as Peano says, into elements «sine grammatica» (without grammar). However, as it was said previously, the «sine grammatica» words gain a precise grammatical definition according to the way they are used.

In the world many natural languages, that could have more or less inflexions, present various linguistic and grammatical particularities in which it is possible to find the different uses of grammatical categories. In fact if you think how pronouns, adjectives, nouns, verbs, adverbs, etc. are used in different languages you can understand that the concept of grammatical category itself includes several meanings and nuances. To give an idea of how grammatical elements are used in diversified and unforeseeable ways I'll mention some grammatical and linguistic particularities of Hausa language.⁶ Hausa has morphologic and syntactic features deeply different from European languages and Abyssinian languages. Hausa doesn't have verbs «to be» and «to have» and it doesn't have adjective either, then sentences like

Italy is beautiful and has the sea
(noun - verb to be - adjective - verb to have - noun)

are expressed in the following way:

Italy with beauty and with sea (noun - noun - noun)

As you can observe in the Hausa expression the verbs and the adjectives are substituted by the preposition «with» by which Hausa signifies possession, and by the so-called «subordinate noun».⁷ The last-mentioned is used to express qualities or other indications and it's different from the one called adjective by the European languages; for example the expression

⁶ It is a language spoken mainly in Niger and Nigeria, but it is also widespread in some areas of Camerouns, Ciad and neighbouring States.

⁷ CH. KRAFT & A. H. M. KIRK-GREENE, *Hausa (Teach Yourself)*, New York, David McKay Company, 1973, 9th impression 1985.

the white skin (adjective - noun)

in Hausa construction becomes as follows:

the whiteness of skin (noun - noun)

where «whiteness» is subordinate noun and «skin» is independent noun. Moreover Hausa doesn't have verb conjugation: temporality is expressed by personal pronouns. In fact in addition to the normal personal pronouns (to which is added an impersonal pronoun) it has also other pronouns that are conjugated in order to express temporality. For example the sentence

I feel tired (verb - adjective)

in Hausa construction becomes

I (of the continuous aspect) with tiredness
(personal aspect pronoun - noun)

where «I (of the continuous aspect)» is the personal aspect pronoun, first singular person, conjugated in the continuous aspect, while «tiredness» is subordinate noun. In Hausa other than these there are also other particular features such as the following: Hausa does not have passive form (everything is expressed in active form); it doesn't distinguish gender in plural number; it doesn't have adverbs, they are substituted by adverbial nouns (e.g.: «daily = by day»).

As you can see by these few notes, noun (considered as the sum of subordinate nouns, independent nouns, adverbial nouns, verbal nouns, etc.) and pronoun are the two basic points of Hausa language: in fact noun could substitute many parts of speech that in other languages are expressed by adjective, verb or adverb. However what's important here is to show that the grammatical categories do not have the same aspect in every language, that's to say some parts of speech could be present in some languages or absent in others, or they could be used in a certain way by a

language and in another way in other languages. For instance in classical Latin there is a declined adjective, while in Hausa it doesn't exist; in Amharic verbs are conjugated, while in Chinese there isn't a conjugation of verbs. One of the reasons why the grammatical categories do not have a regular aspect in every language is due to the different ways they are used in the natural languages: for example what in Italian is adjective, in English could be also an adverb and in Hausa a noun:

Italian: duro (adjective)
English: hard (adjective or adverb)
Hausa: hardness (subordinate noun)

In fact in Hausa if you want to express the quality of what's hard you don't use adjective, but subordinate noun (e.g.: «the stone is hard = stone with hardness»). This means that grammatical categories could have different features according to the languages, but it also means that they could change with each other, that's to say Peanianly they could be derived. Derivation is a particularity that you'll see in the next paragraph; for example if you express the following equation you pass from one grammatical category to another:

the stone is hard = stone with hardness
(article + noun + verb + adjective = noun + preposition + noun)

Now the first (the stone is hard) is an Italian construction, while the second (stone with hardness) is a Hausa construction. Then the above derivation could be defined as the passage from one language to another, besides being the passage from adjective to substantive.

Therefore to speak about grammatical categories as linguistic universals beginning from the hypothesis that any language must necessarily express attributes with adjectives, happenings of actions with verbs, namings with nouns, etc. you risk to make the mistake of Aristotle, who unaware of non-Indo-European languages thought that verbs were used to express

temporality, besides actions.⁸ However this doesn't mean you cannot speak about linguistic universals according to grammatical categories, it just means that you may pay attention when you want to give any definition and explain what's the meaning of a grammatical category. When you speak about linguistic universals it's better, at the moment, to linger on those structural features common to all human languages summarized by Roger Brown (1965) such as phonemes, the meanings arbitrarily given to words, all languages combine words in a methodical way to form sentences, etc.⁹

4. Derivations

The principal meaning of derivation is that the linguistic expressions could be expressed in different ways allowing the passage from one grammatical category to another. For instance the sentence «he has freedom» could be replaced by «he is free»: in the replacement you pass from a grammatical structure consisting of «pronoun - verb - noun» to another consisting of «pronoun - verb - adjective» without changing the meaning of the first sentence. Derivations permit to analyse, through an algebraic-grammatical analysis, the inflexions and the morphological and syntactical structures that change one part of speech into another.

The derivations that Peano deals with are noun, verb and adjective, but it's also possible to make derivations with other parts of speech such as adverb and pronoun. When you analyse a language you can make few or many derivations, it depends on two elements: the language you want analyse and the kind of analysis you want make. For instance if you want make a research

⁸ Aristoteles, *Liber de Interpretatione*, in *Aristotelis Categoriae et Liber de Interpretatione*, rec. L. Minio-Paluello, Oxonii, E Typographeo Clarendoniano, 1949, rep. 1966.

⁹ R. BROWN, *Social Psychology*, New York, Free Press, 1965; ID., *A First Language: The Early Stages*, Cambridge, Mass., Harvard University Press, 1973; ID., *In Memorial Tribute to Eric Lenneberg*, in «Cognition» 4, 1976, pp. 125-153.

on adverbs and adjectives of Italian and English in order to verify analogies and distinctions, you can analyse the derivation *adverb from adjective* (Av - Ad).¹⁰ In fact such derivation is possible both in Italian and in English, but sometimes in different ways and sometimes in similar procedures. For example in Italian from the adjective «veloce» (fast, quick) you obtain the adverb «velocemente» adding the suffix «mente»

veloce + mente = velocemente
velocemente = in modo veloce (in a quick way)
Av - Ad = velocemente - veloce = mente = in modo

Now in English the derivation could be similar to Italian if you use an adjective like «quick», where you obtain the adverb «quickly» adding the suffix «ly»; but if you take an adjective like «fast» the derivation wouldn't be possible because the adjective coincides with the adverb:

fast = fast¹¹ (adjective = adverb)

This means that derivations are possible where the morphological and syntactical structure of a language allows it. Another example could be given by the derivation *adverb from noun* (Av - S)¹² in Italian and in Hausa. In Italian from the noun «giorno» (day) you obtain the adverb «giornalmente» (daily) adding the suffix «almente»:

giorno + almente = giornalmente
giornalmente = ogni giorno (every day)
Av - S = giornalmente - giorno = almente = ogni

¹⁰ Av-Ad: adverb minus adjective.

¹¹ You can observe that “fast” besides being adjective (rapid) and adverb (quickly), it is also substantive (empty stomach) and verb (to starve): four parts of speech, one word only.

¹² Av-S: adverb minus substantive.

While in Hausa the above derivation couldn't be possible because there aren't adverbs: in fact instead of «daily» Hausa uses the expression «by day», that's an adverbial noun.

Derivations put in evidence all the operations concerning prefixes and suffixes, which when they are added to words they give rise to new grammatical categories. You can take an example from Amharic language where noun adding personal suffixes give rise to new words that are neither nouns nor pronouns, but other grammatical categories; e.g.: «bēt» (house) is noun, but when it takes a personal suffix and become «bētyē» (my house) it is a new grammatical category that here I call it pronominal substantive. In this case the derivation will be called *pronoun from substantive* (P - S):¹³ in fact from the substantive «bēt» (house) you obtain the pronominal substantive «bētyē» (my house) adding the personal suffix «yē» (1st sing. pers.):

$$\begin{aligned} b\bar{e}t + y\bar{e} &= b\bar{e}ty\bar{e} \text{ (noun +suffix = pronominal substantive)} \\ b\bar{e}ty\bar{e} &= yan\bar{e} b\bar{e}t \text{ (my house with suffix = my house without} \\ &\quad \text{suffix)} \\ P - S &= b\bar{e}ty\bar{e} - b\bar{e}t = y\bar{e} = yan\bar{e} \end{aligned}$$

Similarly when possessive is expressed by a verb you have the derivation pronoun from verb (P - V);¹⁴ in fact from the verb, for example, «gaddala» (to kill) you obtain the pronominal verb «gaddala n̄» (he killed me) adding the personal suffix «n̄»:

$$\begin{aligned} gaddala + n\bar{4} &= gaddala n\bar{4} \text{ (verb + suffix = pronominal verb)} \\ gaddala n\bar{4} &= lan\bar{e} gaddala \text{ (he killed me = to me he killed)} \\ P - V &= gaddala n\bar{4} - gaddala = n\bar{4} = lan\bar{e} \end{aligned}$$

As you can observe the pronominal substantive and the pronominal verb are two new grammatical categories in comparison with the verb and the substantive, exactly as it

¹³ P-S: pronoun minus substantive.

¹⁴ P-V: pronoun minus verb.

happens in English when you add the suffix «ly» to the adjective «quick» giving rise to a new grammatical category that's the adverb «quickly». Moreover the derivations have been called «pronoun from substantive» and «pronoun from verb» instead of «pronominal substantive from substantive» and «pronominal verb from verb» because I wanted to emphasize the pronominal root of the derivations.

In the following paragraphs will be analysed the derivation of substantive, verb and adjective of Amharic showing all algebraic operations and how it's possible to pass from one part of speech into another through the simplification of suffixes and prefixes that feature the Amharic inflexions.

4.1 Adjective from verb (A - V)¹⁵

If you take the stem of an Amharic verb, that's given by the 3rd sing. masc. pers. of the perfect aspect, that's to say if you take a verb of Amharic without inflexion, for example «tamāra» (study) and you add the suffix «ī» you obtain the adjective «tamārī» (student). Algebraically expressed it becomes:

$$\S 1 \quad \text{tamārī} = \text{tamār(a)} + \bar{\text{i}} \text{ (adjective = verb + suffix)}$$

However the adjective «tamārī» has the same meaning of the word «'iyammāmmār» (that studies). Such word is formed by

$$'^{\text{U}}\text{yam} + \text{māmmār} \text{ (relative pronoun prefix + verb root)}$$

In paragraph 4.4 of part I, relative pronoun prefixed to verbs has already been simplified: the particle «ya» has been considered as a simple relative pronoun. Therefore the expression «'iyammimmar» becomes:

¹⁵ A-V: adjective minus verb.

$$\begin{aligned} \text{'}\overset{U}{y}\text{amm}\bar{t}\text{mm}\bar{a}r &= \text{'}\overset{U}{y}\text{am} + \text{m}\bar{t}\text{mm}\bar{a}r = \text{ya tam}\bar{a}r\bar{a} \\ &(\text{that studies} = \text{rel. pron. pref.} + \text{verbal root} \\ &= \text{rel. pron.} + \text{verb}) \end{aligned}$$

In fact «m̄mm̄ār» is the verbal root of «tam̄ārā» suffixed to the relative pronoun prefix «'ṭyam». Now let's take the first equation and continue doing the operations:

$$\begin{aligned} \text{tam}\bar{a}r\bar{t} &= \text{tam}\bar{a}r(\text{a}) + \bar{t} \text{ (adjective} = \text{verb} + \text{suffix)} \\ \text{tam}\bar{a}r\bar{t} &= \text{ya tam}\bar{a}r\bar{a} \text{ (adjective} = \text{rel. pron.} + \text{verb)} \\ \text{tam}\bar{a}r(\text{a}) + \bar{t} &= \text{ya tam}\bar{a}r\bar{a} \text{ (verb} + \text{suffix} = \text{rel. pron.} + \text{verb)} \\ \text{tam}\bar{a}r(\text{a}) - \text{tam}\bar{a}r\bar{a} + \bar{t} &= \text{ya (verb} - \text{verb} + \text{suffix} = \text{rel. pron.}) \\ \bar{t} &= \text{ya (suffix} = \text{rel. pron.}) \end{aligned}$$

Adjective from verb is a derivation that you can obtain following the formula «A - V»

$$\begin{aligned} \text{A} - \text{V} &= \text{tam}\bar{a}r\bar{t} - \text{tam}\bar{a}r\bar{a} \text{ (adjective} - \text{verb)} \\ \text{A} - \text{V} &= \text{tam}\bar{a}r(\text{a}) + \bar{t} - \text{tam}\bar{a}r\bar{a} \text{ (verb} + \text{suffix} - \text{verb)} \\ \text{A} - \text{V} &= \bar{t} \text{ (suffix)} \end{aligned}$$

Now replacing the suffix «t̄» with the relative pronoun «ya», because «t̄ = ya», you have

$$\text{A} - \text{V} = \text{ya}$$

Take into account that in Amharic the adjectives have also different suffixes from «t̄», while the derivation A - V (adjective from verb) is always equal to «ya». Taking other examples you have:

$$\text{h}\bar{e}y\bar{a}\overset{U}{g} = \text{ya h}\bar{e}d\bar{a} \text{ (goer} = \text{that goes);}$$

'azzā^uz = ya 'azzaza (commander = that commands);
 ṭabbāqī = ya ṭabbaqa (supervisor = that supervises);
 'aṭābī = ya 'aṭṭaba (washer = that washes); etc .

4.2 Verb from adjective (V - A)¹⁶

If you want to obtain verb from adjective it's enough to add «hōna» (be, become) to the adjective derived from its verb as shows the following equation:

§2 tam āri hōna = tam āra (student become = study)

Now if you developpe this equation you have

tam ār(a) + ī + hōna = tam āra (verb +suffix + hōna = verb)
 tam ār(a) - tam āra + ī + hōna = 0
 (verb - verb + suffix + hōna = 0)
 i + hōna = 0 (suffix + hōna = 0)

Replacing the suffix «ī» with the relative pronoun «ya», according to the equivalence obtained in §1, in the equation «ī + hōna = 0» you have:

ya + hōna = 0 (rel. pron.+ hōna = 0)

In the previous derivation you have obtained «A - V = ya». Then replacing «ya» with «A - V» in the equation «ya + hōna = 0» you have:

$$\begin{aligned} A - V + hōna &= 0 \\ hōna &= V - A \end{aligned}$$



¹⁶ V-A: verb minus adjective.

V - A = hōna

Therefore following the same process you have the derivation of the other verbs from their adjectives:

dabaddaba = dabdābī hōna (beat = become beater);
waddada = waddā^Ug hōna (love = become lover); etc .

4.3 Abstract noun from verb (S - V)¹⁷

In this derivation from an abstract noun, for example «frāt » (fear), could be obtained the verb «farrā » (fear) adding the verb «'allaw » (have):

§3 frāt 'allaw = farrā (have fear = fear)

Before proceeding with the analysis of the above expression you should take into account that in Amharic, as in many African languages, there is not the verb to have. Generally the African languages, in which the verb to have does not exist, provide for a replacement in many ways. For example in Hausa it is replaced by the preposition «with» (e.g.: «I have a ball = I with ball»). Amharic, as Tigrigna, takes the verb to have from the verb «'alla » (to be). In fact if you suffix the personal pronouns to the verb «'alla », it takes the meaning of the verb to have in a similar structure to the classical Latin:

'alla = «to be» (properly translated as «is»)
'allān = 'alla + n̄ (is to me, I have)
'allah = 'alla + h (is to you m., you m. have)
'alla^U s = 'alla^U + s (is to you f., you f. have)
'allaw = 'alla + w (is to him, he has)

¹⁷ S-V: abstract substantive minus verb.

'allāt = 'all(a) + āt (is to her, she has); etc .

However the verbs of Amharic without inflexion do not have conjugation, therefore the only verbal form without inflexion would become «'allaw» (have). Anyhow the latter has an inflexion that's the personal suffix «w», which could be simplified in the following way:

'allaw = 'alla + w (have = is + personal suffix)
 'allaw = lassū 'alla (have = to him is)
 'allaw = la + ssū + 'alla (have = to + personal suffix + is)
 'allaw = 't^ussū 'alla (have = to he is)

where «lassū» (to him) has already been simplified previously as a possessive pronoun with «la 't^ussū» (to he). However you can see that the new verbal form without inflexion is made of three words «la 't^ussū 'alla» (to he is); then let's choose «'allaw» as a verb without inflexion with the meaning of the verb to have. So let's take the first equation in §3 and proceed with the algebraic operations:

frāt 'allaw = farrā (abstr. noun+'allaw = verb)
 f(ar)rā + t+'allaw = farrā (verb +suffix+'allaw = verb)
 f(ar)rā - farrā + t+'allaw = 0 (verb - verb +suffix+'allaw =
 0)
 t+'allaw = 0 (suffix+'allaw = 0)

You can obtain the derivation of an abstract noun from adjective following the formula «S - V»:

S - V = frāt - farrā (abstr. noun.-verb)
 S - V = f(ar)rā + t - farrā (verb + suffix - verb)
 S - V = t (suffix)

Now *verb from abstract noun* (V - S) is the opposite and it's obtained in the following way. Take the equation «t + 'allaw = 0» and replace the suffix «t» with «S - V»:

$$\begin{aligned} S - V + 'allaw &= 0 \\ 'allaw &= - S + V \end{aligned}$$

V - S = 'allaw

Therefore following the same simplification process you'll obtain the other equivalent derivations like for example:

$$\begin{aligned} sqāy 'allaw &= tasāqaya \text{ (have ache = ache);} \\ 'i \overset{U}{\text{frat}} 'allaw &= 'affara \text{ (have shame = feel ashamed); etc.} \end{aligned}$$

4.4 Abstract Noun from Adjective¹⁸

This kind of derivation is based on a simple linguistic mechanism that shows how the difference between the abstract noun and the adjective is only formal, because the first follows the verb to have while the second follows the verb to be. In fact if you take, for example, the adjective «naṣā» (free) and the abstract noun «naṣānnat» (freedom) you can observe that the difference between them is due to the use of the verbs to be and to have as the following equations shows:

$$naṣānnat 'allaw = naṣa hōna \text{ (have freedom = be free)}$$

Then besides from the verb, you can obtain also abstract noun from adjective. In fact the adjective «naṣā» (free) has the following equivalence of meaning:

¹⁸ S-A: abstract substantive minus adjective.

§4 $na\ \dot{\bar{a}} = na\ \dot{\bar{a}}nnat\ ya\ 'allow = ka\ na\ \dot{\bar{a}}nnat\ g\bar{a}r$
(free = that have freedom = with freedom)

The third expression ($ka\ na\ \dot{\bar{a}}nnat\ g\bar{a}r$) is formed by two prepositions, in which the first (ka) has the meaning of «with», while the second ($g\bar{a}r$) means «together». In fact in Amharic the preposition « ka » (with, in, from) must be joined to « $g\bar{a}r$ » (together) in order to have the meaning of «with, together with, in company of». In Amharic the preposition « ka » is prefixed to noun ($kanasannat$), while in Amharic without inflexion is isolated. Moreover you could notice that the third expression « $ka\ na\ \dot{\bar{a}}nnat\ g\bar{a}r$ » (with freedom) is a Hausa construction: in fact in Hausa possessive is expressed by the preposition «with» (there is not the verb to have), then instead of «have freedom» you say «with freedom».

Therefore let's take and develop one of the equations in §4:

$na\ \dot{\bar{a}} + na\ \dot{\bar{a}}nnat\ ya\ 'allow$
(adjective = abstr. noun + rel. pron. + 'allow)

$na\ \dot{\bar{a}} = na\ \dot{\bar{a}} + nnat + ya + 'allow$
(adj. = adj. + suffix + rel. pron. + 'allow)

$na\ \dot{\bar{a}} - na\ \dot{\bar{a}} = nnat + ya + 'allow$
(adj. - adj. = suffix + rel. pron. + 'allow)

$nnat + ya + 'allow = 0$
(suffix + rel. pron. + 'allow = 0)

Using the formula «S - A» you'll obtain abstract noun from adjective:

$S - A = na\ \dot{\bar{a}}nnat - na\ \dot{\bar{a}}$ (abstr. noun - adj.)

$$S - A = na\dot{\varsigma}\bar{a} + nnat - na\dot{\varsigma}\bar{a} \text{ (adj.+suffix - adj.)}$$

$$S - A = nnat \text{ (suffix)}$$

If you take the equation « $nmat + ya + 'allaw = 0$ », you'll obtain the opposite « $A - S$ » replacing the suffix « $nmat$ » with « $S - A$ »:

$$S - A + ya + 'allaw = 0$$

$$ya + 'allaw = - S + A$$

$$A - S = ya + 'allaw$$

However « $ya + 'allaw$ » is equal to « $ka\bar{g}\bar{a}r$ » because of the equivalence:

$$na\dot{\varsigma}\bar{a}nmat ya + 'allaw = ka\bar{g}\bar{a}r$$

$$na\dot{\varsigma}\bar{a}nmat - na\dot{\varsigma}\bar{a}nmat + ya + 'allaw = ka + \bar{g}\bar{a}r$$

$$ya + 'allaw = ka + \bar{g}\bar{a}r$$

(abstr. noun + rel. pron. + 'allaw = prep. + abstr. noun + prep.)

(abstr. noun - abstr. noun + rel. pron. + 'allaw = prep. + prep.)

(rel. pron. + 'allaw = prep. + prep.)

Therefore you have that:

$$A - S = ya + 'allaw = ka\bar{g}\bar{a}r$$

Now following the same process you have other equivalences:

$$hab\bar{t}\bar{a}m = habtnnat ya + 'allaw = ka\bar{g}\bar{a}r$$

(rich = that have richness = with richness);

$$g\bar{o}baz = g\bar{u}bznn\bar{a} ya + 'allaw = ka\bar{g}\bar{a}r$$

(young = that have youth = with youth);

$$\dot{\tau}ank\bar{a}r\bar{a} = \dot{\tau}ank\bar{a}r\bar{a}nmat ya + 'allaw = ka\bar{g}\bar{a}r$$

(strong = that have strength = with strength); etc.

5. Conclusion

This work has been conducted in order to pursue three purposes:

- (a) to find and determine the linguistic and grammatical structures of Amharic;
- (b) to corroborate the results obtained from the previous pioneeristic research made on Tigrigna language;
- (c) to make a careful study and clear up further on some concepts concerning simplifications, grammatical categories and derivations.

Amharic is a language characterized by many inflexions: you can deduce it by observing the remarkable number of prefixes and suffixes. The analysis of Amharic has shown many similarities with Tigrigna, a language of the same linguistic group; the difference between Amharic without inflexion and Tigrigna without inflexion is almost non-existent. In fact the structures of both languages are almost identical, even if there are some exceptions such as: Amharic has the article, while in Tigrigna it doesn't exist; Tigrigna distinguishes genders in the second plural person, while Amharic does not; etc.

I have made a careful study of simplifications, grammatical categories, linguistic universals and derivations analysing some languages with deeply different structures in order to give a comparative view of the linguistic and grammatical features. Particularly derivations have shown how a linguistic expression could be expressed in different ways, using different grammatical categories, according to the language they belong; in fact the grammatical categories are changeable, that's to say they do not follow fixed rules: for instance what's adjective in a language could be adverb in another one; or a language could express quality with adjective, while another one could do the same with substantive. Briefly derivations have shown that grammatical categories have various meanings and nuances which need to be defined each time.

