Two Cushitic Systems: Somali and Oromo Nouns

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In the mid thirties Armstrong (1934) showed that Somali, one of the major East Cushitic languages, had several instances of tone alternations within words. Later on, in the late forties and mid fifties several authors (eg. Klingonheben, 1949; Andrzejewski, 1956; Vycichl, 1956) discussed the nature of these alternations and their relationship with stress in this language. As a result of this debate the suprasegmental patterns of Somali were described subsequently in great detail by Andrzejewski (eg. 1956, 1964, 1979), who used the phonemic concept of "Accentual Unit", i.e. a fixed set of alternations of tone and stress. For instance, his Accentual Unit I has high tone (H-tone) and "Even Strong Stress (i.e. a strong stress of equal intensity throughout the syllable)" (Andrzejewski, 1956, p.104) in the position __-#, but mid tone and secondary stress in the position __#_. It appeared thus that Somali was a tone language, even though it was a language where tone was somehow closely related to stress.

It was also Andrzejewski who first described a number of tonal patterns for a dialect of Orom, which is the Cushitic language with the highest number of speakers, estimated from a low of 8 millions to a high of 18 millions for Ethiopia only, cf. 'Dregg (1982, p.xiii). Indeed, Andrzejewski (1957, 1970) argued in two pioneering papers that his variety of Oromo was "a tonal language with grammatical, though not lexical tone" (Andrzejewski, 1970, p.89).

In recent years it was discovered that several other Cushitic languages had tonal alternations. For instance, Cassee (1981, p.205) claims that "almost all Cushitic languages are tone languages", and points out that "Cushitic tone is determined primarily morphosyntactically". Pitch contrasts may for instance be connected with the following categories:

(1) a. Grammatical gender:

| Re. áram | m. | 'husband' |
| arám | f. | 'wife' |
| Ar. náag | m. | 'boy' |
| naag | f. | 'girl' |
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b. Case:
- So. ɗumar
  - Absolutive: 'women'
  - Nominative
  - Genitive

c. Number:
- Da. mōr
  - sg. mōr
  - pl. mōr
  - nom: mōr
  - gen: mōr
- gāss
  - sg. gāssu
  - pl. gāssu
  - nom: gāssu
  - gen: gāssu
- kiltin
  - sg. kiltin
  - pl. kiltin
  - nom: kiltin
  - gen: kiltin

l. Verbal mode or tense:
- Kr. mā rēff
  - PL. rēff
  - 'he didn't sleep'
  - PL. rēff
  - 'don't sleep!'
- So. mā keenin
  - PL. keenin
  - 'he didn't bring it'
  - PL. keenin
  - 'don't bring it!'

r. Focus:
- PL. if tooyi
  - 'look at her (it)!' (it)
  - 'looked at HER (it)!'

However, with the important exception of Hyman (1981), even the most detailed analyses of a Cushitic tonal system, such as Owen's (1980, 1992) papers on the Sorana dialect of Oromo—the same dialect Andrzelewski studied—are mainly data-oriented empirical accounts rather than formal, principled treatments of the set of phenomena they refer to.

In this paper, I will thus discuss and try to compare to each other a set of tonal behaviours, namely the case morphology of nouns in two of the best known Cushitic languages: Somali and Oromo. I will generally assume an autosegmental theory of the form described in Clements and Goldsmith (1984b), and try to analyse within this theoretical framework the properties of the inflectional systems of Somali and Oromo. I hope that in this manner it shall be possible to identify clearly the similarities and differences between these two languages, and to gain a better understanding of the tonal typology of Cushitic, which differs in several significant aspects from better known tonal systems such as those described for Bantu languages.

2. The Somali system

2.1 General features of Somali tone

Hyman (1981) showed how the multiple pitch levels that are heard phonetically in Somali can be reduced to a binary opposition of high (u) vs. low or not-high
(7) tones, by recognizing downshift within phrase boundaries (%). For instance, the (b) sentences in (2) can be regarded as the phonemic counterparts of the (a) sentences, where the different pitch levels are indicated by means of integers from 1 (the highest level) to 4.

(2)

<table>
<thead>
<tr>
<th></th>
<th>13</th>
<th>3</th>
<th>1</th>
<th>2</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>wil</td>
<td>l</td>
<td>ka</td>
<td>m</td>
<td>dilay</td>
</tr>
<tr>
<td>b.</td>
<td>%</td>
<td>willka</td>
<td>%</td>
<td>m</td>
<td>dilay</td>
</tr>
</tbody>
</table>

11. a. was | nin | sheeko | badan |
| FOC | man | tale | that-abounds-in |
| 'he is a man who knows/tells many tales' |
| b. | % | was | nin | sheek | % | badan | % |

On short syllables the contrast can be between high and low tones only, while on long syllables the contrast is threefold: high tone vs. falling tone vs. low tone. Interestingly, long H-toned syllables often oscillate between level H-tone and rising tone; eg. 'place' can be realised both as mēl and as mēl. By positioning an optional rule of rising tone simplification, whose operation can be described as in (3) for the time being, we remain with a contrast between rising, falling, and low tones on long syllables:

(3) **Rising tone simplification**

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/     \  
L H   H L
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This makes it possible to argue that the units bearing tones in Somali are not the syllables but rather the moras. The reason why contour tones occur only on long syllables is that they are actually sequences of two tones associated with two bearing units (BU). A confirmation of this can be seen in sets of forms such as those shown in (4):

(4)

<table>
<thead>
<tr>
<th></th>
<th>Genitive of DI nouns:</th>
<th>2, 3,</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>áfar dibí</td>
<td>'four bulls'</td>
</tr>
<tr>
<td></td>
<td>áfar will</td>
<td>'four boys'</td>
</tr>
<tr>
<td></td>
<td>áfar nin</td>
<td>'four men'</td>
</tr>
</tbody>
</table>
d. Imperative sg. of root verbs:
adag    'look!'
akken    'bring!'
usg     'wait!'

If moras are seen as Bûs for tones in Somali, the sets dibl/wii/nin and adag/
akken/usg can be seen as realisations of two tonal patterns, L-l and H-l respectively, which characterise these two morphological categories. Interestingly, monocordic words such as nin and usg cannot bear contour tones, and only the H-tone surfaces.

Hyman (1981) already proposed that the Somali prosodic system should involve rules assigning and modifying accents (stars, i.e. *) at an abstract level. Each accent is assigned a H-tone at a later level, while each unaressed mora is assigned a L-tone. With some minor modifications this analysis, which posits an accentual component that feeds into the tonal component, will be followed for Somali also here.

2.2 The inflectional categories of Somali nouns

2.2.1 The case system

Four main cases are distinguished in Somali: the absolutive (Abs), the genitive (Gen), the locative (Loc), and the vocative (Voc).

The absolutive is the unmarked case, and is used for non-subjects, for focussed NPs, for citation, and generally when the other case marks do not apply.

The genitive is the case of items which are dependent on the headword of a NP, such as phrases which would be marked in English by the possessive suffix 's or by the preposition of (cf. 5.a), nouns with numerals (cf. 5.b), and so on. The genitive is overtly marked only on bare nouns and a few other categories, not on nouns with suffixed definitives, i.e. with articles, demonstratives, possessives, etc. Since the genitive inflection is borne only by the last element in the genitive phrase, even if this phrase consists in a sequence of nouns that depend on one another, as shown in (5d), this can be viewed as meaning that definitives lack an overt genitive marking. In other words, while Arméd in Cûmar Nûx Arméd has an overt Gen-marking, ka in wiî-ka lacks it even though it is morphologically and syntactically a genitive. The other constituents of these two genitive phrases, namely Cûmar and Nûx and, respectively, will are in the absolutive because they are not the last elements in their phrases. (The morphological structure of complex proper names like Cûmar Nûx Arméd, which normally identify a person genealogically, has been kindly pointed out to me by B.W. Andrzejewski).
The nominative characterises non-focussed subjects (cf. 6a vs. 6.b) and is marked only on the last element of the phrase (cf. 6.c and 6.d), like the genitive. Genitives can be reinflected for the nominative-of-genitive (Nom-of-Gen) form; e.g. 'hyaena', a D3 noun, has Abs warasahe alternating with warasab, Gen warasab, Nom warasab, but Nom-of-Gen warasab. A phrase like cf. warasab 'a hyaena's cry' with the genitive form warasab is thus used as object phrase, while as non-focussed subject phrase it is necessary to use cf. warasab with the Nom-of-Gen form warasab. (See also Hanti, 1984, for other aspects of the problem of the nominative case in Somali).
2.2.2 The five main declensions

Five sets of inflectional behaviours," have to be distinguished in Somali nouns. They are termed here first, second, third, fourth and fifth declension (respectively D1, D2, D3, D4 and D5). It is important to realise that the concept of declension is not used here in its classical sense as a class of nouns. Rather, it refers primarily to a set of inflectional behaviours; in this manner it often happens that the singular of a given noun follows one declension, and its plural another declension. For instance, the m. D1 noun dibi 'ox' has the f. D2 plural dibi, the f. D2 noun hål 'she-camel' the m. D4 plural hál, the f. D1 noun hooqō 'mother' the m. D1 plural hooqōooyin, the m. D3 noun dukshaale 'shopkeeper' the f. D4 plural dukshaaleysaasi, and so on.

2.2.2.1 The first declension. It is followed by sg. and collective m. nouns such as rág 'males, real men', xāar 'family (wife and children)', ṧorgī 'billy-goat', beénnow (in some areas beenlōow) 'liar', by pl. m. nouns such as hooqōoyin 'mothers', and by a group of pl. and collective f. nouns such as hawēney 'woman', sabbī 'saturday', biyoqōley 'female water-seller' or 'water-sellers' (in general). These feminine nouns may optionally inflect as D5 nouns.

The typical features of this declension are the absolutive with penuultimate H-tone, ultimate H-tone in the genitive, L-tones throughout in the nominative, and initial H-tone in the vocative. Monomoric words such as rág distinguish only H-toned absolutive and genitive from L-toned nominative (cf. 1.1).

(7) First declension

<table>
<thead>
<tr>
<th>Abs</th>
<th>Gen</th>
<th>Nom</th>
<th>Voc</th>
</tr>
</thead>
<tbody>
<tr>
<td>rég</td>
<td>rég</td>
<td>rag</td>
<td></td>
</tr>
<tr>
<td>xāas</td>
<td>xāas</td>
<td>xas</td>
<td></td>
</tr>
<tr>
<td>ṧorgī</td>
<td>ṧorgī</td>
<td>ṧorgī</td>
<td></td>
</tr>
<tr>
<td>hooqōoyin</td>
<td>hooqōoyin</td>
<td>hooqōoyin</td>
<td></td>
</tr>
</tbody>
</table>

2.2.2.2 The second declension. Feminine sg. and collective nouns like ḍoog 'cattle', hål 'she-camel', goōl 'lionsess', inān 'girl, daughter', carrīdūr 'children' and māndi 'knife', as well as f. plural nouns (more properly sub-plurals, because f. singular verbal forms may agree with them, cf. Puglielli and Clise, 1984, p.81 f.) like basbūdar 'trucks' and dibi 'oxen' are inflected according to this declension. It is characterised by ultimate H-tones in the absolutive and genitive, the ending -i and L-tone in the nominative, and initial H-tone in the vocative. Note that singular nouns of this declension use their D2 genitive forms, e.g., with the quantifiers nás 'half' or hål 'one', while with other quantifiers they must use their plural D4 genitive forms in -odī.
or -xid; e.g. hāl gabbūr 'one girl' vs. dhāur gabbūdhood 'several girls', toban gabbūdhood 'ten girls'.

(8) Second declension

<table>
<thead>
<tr>
<th>Abs</th>
<th>Gen</th>
<th>Nom</th>
<th>Voc</th>
</tr>
</thead>
<tbody>
<tr>
<td>hāl</td>
<td>hāl</td>
<td>hāl</td>
<td>-</td>
</tr>
<tr>
<td>goōl</td>
<td>goōl</td>
<td>goōl</td>
<td>-</td>
</tr>
<tr>
<td>cārrūr</td>
<td>cārrūr</td>
<td>cārrūr</td>
<td>cārrūr</td>
</tr>
<tr>
<td>diīb</td>
<td>diīb</td>
<td>diīb</td>
<td>-</td>
</tr>
</tbody>
</table>

f. sg. 'she-camel'
f. sg. 'lioness'
f. co. 'children'
f. pl. 'oxen'

2.2.2.3 The third declension. Masculine sg. and collective nouns in -a like tūke 'crow' or duxaşšīle 'shopkeeper', and f. sg. and collective nouns in -o like hoqyo 'mother' or socītā 'travellers' are inflected according to this declension. Their absolutive forms have ultimate H-tone, but when they occur before a pause - and consequently in their citation forms - or are followed by the focus particle ḫa, before which their final vowel is dropped, their H-tone shifts to their penultimate mora. Before the focus particle ḫa, as well as before the fuller form hāa of ḫaa, instead, the H-tone remains on the ultimate mora. As shown in (9.1.a), (9.1.b) and (9.1.d), the final e- and o-vowels of these nouns change into -x when they are followed by a suffixed morpheme or, in fast speech, by another word. (This rule also applies to final o's in D4 nouns).

(9) i. Ultimate H-tone

a. hooqsi - ḫa
mother ART
'the mother'

b. ḫaa duxaşšiš āan i agoōn
FOC shopkeeper not me know-not
'he is a shopkeeper who doesn't know me'

c. shāleey b - ūu tūkē arkey
yesterday FOC he crow
'yesterday he saw a crow'

d. tūkē ay-şān arkey
FOC I
'I saw a crow'

ii. Penultimate H-tone

a. shāleey b - ūu arkey tūkē
'yesterday he saw a crow'

b. tūkē - ḫa arkey
FOC - I
'I saw a crow'
The genitive always has ultimate H-tone, the nominative penultimate H-tone, and the vocative initial H-tone:

(10) Third declension

Abs Gen Nom Voc

dukasāndē dukasāndē dukasāndē m. sg. 'shopkeeper'

socto socto socto socto f. co. 'travellers'

2.7.2.4 The fourth declension. The following groups of nouns inflect according to this declension: (i) m. plurals in -ō like hālō 'she-camels', gahābō 'girls', or biyō 'water' (a pluralis tantum); (ii) the m. partially reduplicated plurals like nimān 'men', ʾarāf 'languages', or ceelāl 'wells'; (iii) f. plurals in -ō like mācayō 'nouns' or Gāshācayō, a place name; (iv) plurals in -āl like odayāl 'old men', or duknasālayāl 'shopkeepers', which are feminine in most varieties, but m. in some speakers; (v) m. sg. and collective nouns like hawēn 'women', rafī 'he-camel', gaašīl 'judge', or walašī 'brother'.

In the absolutive these nouns have always ultimate H-tone before pause or the focus particle ašā, but can optionally be L-toned before the focus particle (b)ašā, the particle bā and in the context X — (Z)V, i.e., when they precede the verb and are not focussed. This behaviour is shown in (11) below:

(11) a. was, [gabha]  

FOC girls 'they are girls'

b. [rati]  

he-camel FOC was-lost 'a he-camel was lost'

c. [rati]  

FOC 'a he-camel was lost' (same meaning as 11.b)

d. gahābā — bā  

girls bā not didn't-see 'I didn't see any girls'
The genitive has final H-tone, but for the m. plurals in -d which have the suffixes -óod or -aád, whose distribution is governed lexically: gábóó 'girls', mindiyyó 'knives' and most other nouns have -óod; haló 'she-camels', riýó 'goats' and a few other nouns of domestic animals have instead haládd, riysádd, etc.\(^5\)

The nominative can have final H-tone or be L-toned in all contexts, as shown in (12.a) and (12.b). As an exception to what was stated in section 2.2.1, D4 nouns can optionally be L-toned when a nominative long possessive is suffixed to them. (But they always have final H-tone when the long possessive is in the absolutive case).\(^5\)

(12) a. \(\text{gábóó}\) má arkeen?
   'did some girls see him?' (cf. also example 11.e: the sentence is ambiguous)

b. sháléy b-éey yismadeen \(\text{hawaeeen}\)
   yesterday FOC they came women
   'some women came yesterday'

c. sháléy b-éey \(\text{hala} - \text{héeqy}, \text{hala} - \text{héeqy}\)
   she-camels my were-lost
   'yesterday my she-camels were lost'

The vocative has initial H-tone, as shown in (13) below:

(13) Fourth declension

<table>
<thead>
<tr>
<th>Abs</th>
<th>Gen</th>
<th>Nom</th>
<th>Voc</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\text{gábóó})</td>
<td>(\text{gábóó})</td>
<td>(\text{gábóó})</td>
<td>(\text{gábóó})</td>
</tr>
<tr>
<td>(\text{odyaáí})</td>
<td>(\text{odyaáí})</td>
<td>(\text{odyaáí})</td>
<td>(\text{odyaáí})</td>
</tr>
<tr>
<td>(\text{gaállí})</td>
<td>(\text{gaállí})</td>
<td>(\text{gaállí})</td>
<td>(\text{gaállí})</td>
</tr>
</tbody>
</table>

m. pl. 'girls'

f. pl. 'elders'

m. sg. 'judge'

2.2.2.5 The fifth declension. Some m. singular nouns like gabyáa 'poet' and, optionally, dukaáínle 'shopkeeper' (which otherwise is a D3 noun), and several feminine sg. and collective nouns like gélley or gelléy 'corn' and, optionally,
the DI feminines like hawēnēy 'woman', biycōley 'female water-seller' or 'water sellers' (in general), etc., are inflected according to the fifth declension.

Its characteristic features are penultimate H-tone on the absolutive and nominative, ultimate H-tone in the genitive, and initial H-tone in the vocative.

(14) Fifth declension

<table>
<thead>
<tr>
<th></th>
<th>Abs</th>
<th>Gen</th>
<th>Nom</th>
<th>Voc</th>
</tr>
</thead>
<tbody>
<tr>
<td>gabyaś</td>
<td>gabyā</td>
<td>gabyaś</td>
<td>gabyaś</td>
<td></td>
</tr>
<tr>
<td>hawēnēy</td>
<td>hawēnēy</td>
<td>hawēnēy</td>
<td>hawēnēy</td>
<td></td>
</tr>
<tr>
<td>m. sg. 'poet'</td>
<td>f. sg. 'woman'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.3 Analysis of the system

2.3.1 The absolutive

As I already stated in section 2.1., I will maintain here in its broad outlines Hyman's (1981) autosegmental analysis of the Somali prosodic system, which posits a set of accent rules feeding into a tonal component.

It is convenient to regard a form similar to the absolutive as the primary form from which the other inflected forms are derived. In the case of D3 and D4 nouns, which have two forms for their absolutive, the more general form - i.e. the form with the less specific distribution - will be regarded as primary. In this manner, all classes of nouns lack inflectional suffixes in this form.

However, D2, D3 and D4 nouns have ultimate H-tone, while D1 and D5 nouns save penultimate H-tone. Monomoraic DI nouns such as ṣág 'males' or dhūl 'earth' are a sort of borderline case, because they lack a penultimate mora. The simplest solution, then, is to treat ultimate H-tone as the general case, which includes also monomoraic DI nouns, and penultimate H-tone as the special case that applies only to polymoraic D1 and D5 nouns. Since we already stated that H-tones correspond to underlying accents (i.e. stars) in the framework that is being adopted here, we have the following pattern:

(15) a. ṣasas (D1)  b. ṣag (D1)

hooguq (D1)  ṣal (D2)

* gabyaś (D5)  gool (D2)

* socoto (D3)  *

* gaddho (D4)

We can now state that in (15.a) there is the accent pattern (AP) on the last two moras, while in (15.b) there is the AP on the last mora. We introduce in this manner objects called accent patterns, which consist of accents (stars) and
empty accent slots (\textsuperscript{0}-signs), and occur on the rightmost moras of nouns. It is now possible to write the following accent association convention:

(16) Accent Association Convention (AAC):
An accent pattern AP is assigned from right to left starting from the last mora, one accentual item to each mora.

Having introduced the AAC, the forms in (15) can be described in the following manner:

(17) a. /X/  
b. /X\textsuperscript{+}/, if D1 polymoraic and D5 noun

Note that (17.a) and (17.b) apply disjunctively, and since (17.b) is the special case, it takes precedence over the more general (17.a). Some version of Kiparsky's (eg. 1982) Elsewhere Condition can account for this. As we will see later, there are some reasons for regarding the distributional rules (17) as pertaining to the lexical entries, since they may be needed as inputs for some inflectional rules. The absolutive rule will thus have simply to specify that there are no inflectional suffixes, and that in the general case the lexical AP does not change:

(18) Absolutive case

/ X /

The following two context-sensitive rules are needed, however, in order to account for the special forms of D3 and D4 absolutes in some contexts:

(19) a. * \rightarrow *o / /\textsuperscript{##}/ \textsuperscript{aa}, if D3 noun  
b. * \rightarrow o / /\textsuperscript{h\textsuperscript{b}\textsuperscript{a}s}/ \textsuperscript{(Y)V}, optionally in D4 nouns

Rule (19.a) accounts for the behaviour observed in (9.11), rule (19.b) for (11.c-e).\textsuperscript{7}

Let us turn now to the derivation of actually occurring forms, like the following citation forms: [k\textsuperscript{\textae}]\textsuperscript{7}, [nu\textsuperscript{\textae}yo] \texttilde{} [nu\textsuperscript{\textae}yo] (in other contexts the absolute
would be [hooyə], cf. 2.1.2.3), and [gahdhe]. We have already seen that the lexical entries would be *xaa*, *hooyo* and, respectively, *gahdhe*. Being citation forms, i.e. words used in isolation in the context # # # #, they require the absolutive case. Rule (18) applies thus, and the representations don't change. In the case of the D3 noun # # *hooyə* # #, however, rule (19.a) applies and the Afx is changed into "*h". The AAC, i.e. (16), now applies and we remain with the representation *hooyə*.

In Banti (1984) I claimed that there were tone-acent melodies (TA-melodies) such as HL, LH, LL, etc. in Somali. Even if this was descriptively accurate, I think that a simpler solution can be developed by elaborating Hyman's (1981) original suggestion. Indeed, it is sufficient to posit only the melody *h*, which will associate to the starred BU according to principle (20), commonly accepted in autosegmental analyses of accent systems (cf. eg. Clements and Goldsmith, 1984b, p.13):

(20)

In addition to principle (20), however, two more specific operations are needed. Firstly, H-tones which are associated with a given mora by applying (20) do not spread to contiguous moras, except in the case of the optional process already described in (3). Secondly, unassociated moras are assigned L-tones. All this can be expressed by means of the following two rules. Notice that (21.a), which is a revised version of (3), must apply before (21.b):

(21) a. 

b. Moras not associated with a H-tone are assigned L-tones.

The derivation of the surface citation forms *xaa*, *hooyo* ≠ *hōgyo*, and [gahdhe] can now be described in the following manner:
If rule (21.a) fails to apply, we have the following variant derivation:

If rule (21.a) fails to apply, we have the following variant derivation:

2.3.2 The genitive

In accordance with the model which has been developed so far, the genitive forms can be viewed as a specific accentual profile which is imposed on the word. The only exceptions are D4 m. plurals in -6, which add also the suffixes -oOd or -aad, eg., gaabdhOod and halaad from gaabdhO 'girls' and, respectively, halO 'she-camels', cf. 2.2.2.4. The rule is thus the following one:

(24) Genitive case
   a. / / n
   b. / x +  /, if m. D4 pl. in -5

Before the /oOd/ and /aad/ suffixes a final vowel is elided according to a general rule which is needed also in other areas of the morphology of Somali (cf. section 2.2.2.3, as well as Banti, 1984; eg. labi Nnm of 'two' from /labO + 1/, tukOoO liibax 'a crow and a lion' from /tukO iyo liibax/, ma abeEsa? 'is it a snake?' from /ma aBesa Asa/, etc.).

In D2, D3 and D4 nouns not included in (24.b) the genitive is identical to the absolutive - but never undergoes either of (19.a) or (19.b) -, whereas in D1 nouns, in D4 nouns with genitives in -oOd or -aad, and in D5 nouns it is different. Indeed, the inputs of rules (24) are respectively /hooyOoOin/, /gabdhO/,
and /haweney/ in these cases, while the AP that surfaces is only the pattern specified in rule (24). This means that before the application of AAC the original APs are deleted. This can be captured through rule (25):

(25) When a new AP is assigned to a word, the old one is deleted.

Notice that since the inflectional rule of the absolutive case, i.e. rule (18), does not contain any specification about a new AP, rule (25) does not apply and the forms retain their lexical AP.

2.3.3 The nominative

This case has a wider range of forms than the two cases discussed till now. Indeed, four separate sub-rules have to be distinguished:

(26) Nominative case

a. /ɔ/  
   i. in D1 nouns and, optionally, in D4 nouns;  
   ii. in genitives;  
   iii. in the context [Poss];  
   iv. optionally in D4 nouns in the context [Poss Def]

b. /x/  
   in D4 nouns optionally, and in D5 nouns

c. /x^2 + 1/  
   in D2 nouns

d. /x^2/  
   in D3 nouns

It should be pointed out that (26.a.ii) accounts for the nominative-of-genitive forms mentioned in section 2.2.1, e.g. wasabé from wasabé 'a hyena's', or gashbód from gashbód 'of girls', carruór from carruór 'of children', etc. On the other hand, (26.a.iii) and (26.a.iv) describe the facts of note 6 and (12.a). The cases of D4 nouns that optionally have final H-tone in all contexts, and of D5 nouns with penultimate H-tone are treated in (26.b) as instances of /x/, i.e. of an inflectional rule that doesn't specify any H and consequently lets through the word's lexical AP.

2.3.4 The vocative

All the vocative forms listed in 2.2.2.1-5 uniformly have a H-tone on their first mora, and L-tones on their other moras. This contrasts with what has been seen to happen till now, i.e. with the fact that the APs we encountered involved only the last moras of words. It is necessary, then, to posit a separate type of AP, which applies from left to right rather than from right to left, and can be
distinguished by means of a superscript arrow (i.e. ）。Convention (16) has now

(27)  Accent Association Convention (AAC), revised:

i. An AP is assigned from right to left starting from the last
mora, one accentual item to each mora.

ii. A left-to-right AP (eg. ）is assigned from left to right
starting from the first mora, one accentual item to each
mora.

The rule for the vocative case will then be (28.a), and an illustration of its
operation is provided in (28.b).

(28)  a. Vocative case

\[ \frac{2}{\text{2}} \]

b. hooyooyin

\[ \frac{\text{2}}{\text{2}} \]

hooyooyin (28.a)

hooyooyin (25)

hooyooyin (27.ii)

hooyooyin (20)

hooyooyin (21.b)

3. The Oromo System

3.1 General features of Oromo tone

Andrzejewski (1957, 1970) and Owens (1980, 1982) recognise three tones in
Boorana Oromo: high, low and high-low falling tone, both on long and on short
vowels. In all the cases I could check with Abdulhalim and with other informants
who spoke varieties of Eastern Oromo, however, I often found H-tones rather than
falling tones. For instance, Boorana inni nam 'he is a person' (Owens, 1980,
p.146) or wortan 'spear' (Andrzejewski, 1970, p.92; actually 'it is a spear',

H
because Andrzejewski often uses predicative forms as citation forms, cf. also Owens, 1980, p. 181) were realised as innī (or innī) zamā and, respectively, warsana by my informants. In the few cases where I actually heard falling tones, there was no evidence for their having a phonemic status. For instance, the imperative form lālī 'look at!' could be realised either with a level H-tone or with a H-tone on its first syllable in a sentence like gurbaa lālī-lālī 'look at the boy!'. Since imperatives of this class of verbs distinctly have a H-tone on their first syllable if the vowel is short (e.g. dhāgī 'drink!' or biiti 'buy!') and usually a H-tone also when it is long (e.g. fādhi 'take!' or yamā 'call!'), it is plausible to think that in these varieties the alternants lālī and lālī are two realisations of a single phonemic lālī.

However, if in Arsii and Eastern Oromo there is a contrast between H-tones and L-tones both on short and on long vowels, with no evidence of tonal units that occur only on long vowels, and in Boorana Oromo falling tones occur both on short and on long vowels (cf. the above forms nās and waršān), it is possible to think that the units that bear tones (and accents) in Oromo are not moras as in Somali, but rather syllables. It will be seen indeed that there is never any real need to distinguish short vs. long vowels even at an abstract level in this language, as far as accessional and tonal phenomena are concerned.

3.2 The inflectional categories of Oromo nouns

3.2.1 The case system

The Oromo nominal inflectional system is more complex than the Somali system, since it involves a higher number of cases and of categories liable to inflection. A good survey of the system, at least as far as Boorana is concerned, can be found in Owens (1980, 1982). Therefore, only its broad outlines will be sketched here, yet with some modifications.

As in Somali and most other East Cushitic languages, an absolutive (Abs) case has to be distinguished. It is the case form which was termed "forma absoluta" by Moreno (1939, p. 33), and "simple case" by Owens (1980, p. 148; but already "absolutive" in Owens, 1962 p. 45). Its range of functions doesn't differ greatly from Somali. Since in the absolutive all the classes of nouns are fully distinguished from one another, we follow here Owen's (1980) practice of using the absolutive form for citation, even though Oromo speakers usually use the positive predicative for citing nouns. Since there are often complex processes of tone sandhi, whose behaviour has not been fully investigated yet, I use for citation the absolutive forms that occur before imperative or negative verb forms, which have invariable tone (cf. Owens, 1980, p. 170 ff.) and don't trigger
tone sanahi in the nouns that precede them.

There is a genitive (Gen) that marks only the last word in a genitive phrase. As in Somali (cf. example 5.d), if the genitive phrase contains more than one word, its other words have the form they have in unmarked contexts, i.e. the absolutive. For instance, in examples (29.a) and (29.b) only the last words of the genitive phrases niititti gälbo‘bo 'of the skinny woman' and sâ‘s obboleettii issued 'of the cow of his sister' are in the genitive case, while niititti, sâ‘s and obboleettii are in the absolutive.

(29) a. mana niititti gälbo‘bo lâali house woman skinny look 'look at the house of the skinny woman'
b. sanâ‘ sâ‘s obboleettii isâ‘s chöggi milk cow sister his drink 'drink the milk of his sister's cow'

The nominative (Nom) marks only non-focussed subjects also in Oromo. Focussed subjects have a special subject-focus form (cf. 30.a vs. 30.b). While genitive and other cases are marked only on the last word in their phrase, nominative inflections occur on all the sister words of the head noun of the subject phrase. For instance, in example (30.a) intîli, baræeddûn and tun are all nominatives, their absolutive forms being intalæ, baræeddû and, respectively, tana.

(30) a. intîli baræeddûn tun ísâ‘ in - jâshâlanne girl beautiful this him not loved-not 'this beautiful girl didn't love him'
b. intalæ baræeddû tunâ‘tu ísâ‘ in - jâshâlanne this FOC 'it was this beautiful girl who didn't love him'
c. ęgę‘en jaldeysâ‘ ḏërtuu tail monkey long 'the tail (ęgę‘en, Nom of ęgę‘e) of the monkey (jaldeysâ‘, Gen of jaldeysa) is long'

There are, however, no nominative-of-genitive forms as in Somali, and the genitive which depends from a nominative subject is inflected like a normal genitive, as shown in example (30.c).

In copular clauses not marked for tense there is no verb, and the predicate phrase has a special morphology. As shown in examples (31), its last word is in what I suggest calling the (positive) predicative case. It is marked only tonally
in most nouns and adjectives, but also segmentally in the interrogative word mə'ali 'what?' (that has məsəli 'what is it?') and, optionally, in genitives. If the predicate phrase contains more than one word, the first one is L-toned, while the intermediate words have their unmarked absolutive shape. 10 (See also note 9 for similar behaviour in focussed subject phrases).

(31)  a. kun məsəli?
    tis what
    'What is this?'

    b. kun gurbəs yədheeq
    this boy wicked
    'this is a wicked (Abs yədheeq) boy (Abs gurbəs)'

    c. kun billəwə eysəmə isətə
    tis knife uncle his
    'this is the knife (Abs billəwə) of his (isətə, Pred of the Gen isəsə, Abs isə) uncle (Abs eysəmə)'

The negative counterparts of copular clauses such as those in examples (31.b) and (31.c) contain the invariable particles mətf or məf, while the word that precedes them has a special negative predicative (Neg Pred) form:

(32)  a. kun gurbəs yədheeq (mətə)
    this is not a wicked boy

    b. kun billəwəs eysəmə isətə (mətə)
    this is not his uncle's knife

The L-toned forms gurbəs and billəwə in (32.a) and, respectively, (32.b) show that the first word in the negative predicative phrase must be L-toned as in positive predicative phrases and focussed subject phrases; see also notes 9 and 10.

There is a case which marks only the last word in its phrase, and is called 'dative' in Owens (1980, 1982). Yet it is conceded already in Owens (1982, p.57) that it may indicate a 'locative source' in addition to a 'direct beneficiary'. Gragg (1976, p.184) includes its suffix among the ablatives and assigns it the meaning 'from', as in nanaas dhufe 'he came from the house' or mana nampəjə dhufe 'he came from the man's house' (tones are not indicated here because Gragg doesn't mark them). It appears thus that the label dative-ablative (DAD) may be more appropriate for this case. In (33) there are two more examples of it.
There are several other oblique cases in Oromo, which are discussed, eg., in Gragg (1976, p.183 f.), and especially in Owens (1980, 1982). They will not be taken into account here for lack of space. Suffice it to remember the instrumental -yj and the dative -x (an identical morpheme is used in some varieties also for conjoining NPs), which suffix to forms whose tonal pattern and segmental shape are similar to the dative-ablative, -ötti 'to, in, at', etc.

3.2. The main noun classes

Several categories can be inflected for case in Oromo: (i) nouns; (ii) adjectives; (iii) modifiers like bīr 'other' and dūr 'former' (which have the variant shapes bīrā and durā, formally genitives of the related forms bīra and ozral); (iv) personal pronouns; (v) numerals from 1 to 10 (the other numerals are adjectives); (vi) the demonstrative san 'chat'; (vii) definitives, which are a semantically heterogeneous group of morphemes characterised by the alternance k- m. vs. t- f. (cf. the Somali definitives, eg. articles, possessives and demonstratives), such as kāna 'kans 'this', tīyya 'my' and other first and second person possessives, kān 'kam 'other', kān 'kan 'which?'. kā 'ka that provides dummy heads in several types of NPs; (viii) genitives. (ix) dependent verbal forms (cf. in-argafinti, predicative of the genitive of in-argatin 'who didn't receive', in examples i.a. and i.b.in note 10). Only the behaviour of nouns will be taken into account here, because it can be more directly compared with the inflectional behaviour of Somali.

Owens (1988, p.149 ff.) and Voigt (1985) list respectively five and four morphological classes of nouns, based upon the tonal patterns and the number of syllables. However, the inflectional behaviour of nouns is distinctly linked with their final phonemes, as Andrzejewski (1970, p.69 f.) already observed. The tonal patterns, indeed, only distinguish two subtypes in two of the main inflectional classes, while the number of syllables doesn't influence the morphological behaviour in any way (with the only exception of monosyllabic nouns, of section 3.3.4).

In my opinion, it is not necessary to distinguish more than three main inflectional classes of nouns on this basis. They correspond to the classification
suggested by Andrzejewski (1970, p.89 ff.), with the only difference that I prefer to collapse his first and second classes into my first declension (D1), because they differ only in their nominative forms, which change according to gender. His Class 3 is my D2, while his class 4 is my D3.

3.2.2.1 The first declension. All the nouns that end in short -a inflect according to the first declension. They can be either masculine or feminine, and are L-toned throughout (Dla), or have H-tones on their last two syllables (Dib), like nama m. *man*, arba m. *elephant*, hilleyya m. *rabbit*, intala f. *girl*, hadda f. *mother*, adda f. *forehead, front* - all Dla nouns, or gantá m. *morning*, billawy m. *knife*, nagáal f. *peace*, heeráal f. *peace* - all Dib nouns. Also plurals in -ótá like man-ótá from nama *man* follow this declension.

Their genitive always has long H-toned -ás. The nominative has H-tones on the last two syllables in the variety examined here. Segmentally there is the suffix -I if there are two consonants before the stem-formative -a in the absolute, but -ní or -tí in masculine and, respectively, feminine nouns with just a single consonant before -a. The regular forms are thus the following ones:11

\[(35)\]

<table>
<thead>
<tr>
<th>Dia</th>
<th>Dib</th>
</tr>
</thead>
<tbody>
<tr>
<td>arbí</td>
<td>arba</td>
</tr>
<tr>
<td>áddí</td>
<td>adda</td>
</tr>
<tr>
<td>buddénní</td>
<td>buddénní</td>
</tr>
<tr>
<td>intélí</td>
<td>intala</td>
</tr>
<tr>
<td>m. <em>elephant</em></td>
<td></td>
</tr>
<tr>
<td>f. <em>forehead</em></td>
<td></td>
</tr>
<tr>
<td>m. <em>injera bread</em></td>
<td></td>
</tr>
<tr>
<td>f. <em>girl</em></td>
<td></td>
</tr>
</tbody>
</table>

The predicative has no segmental change, but the tonal pattern is of the type intaalí in Dia nouns, and buddénní in Dib nouns. The negative predicative is identical with the genitive in Dib nouns, but is H-toned throughout in Dia nouns. The dative-absolute, finally, has final long -ás in both Dia and Dib nouns, but the tonal patterns change, as shown in (35) below:

\[(35)\]

<table>
<thead>
<tr>
<th>Dia</th>
<th>Dib</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abs</td>
<td>intala</td>
</tr>
<tr>
<td>Gen</td>
<td>intálá</td>
</tr>
<tr>
<td>Nom</td>
<td>intálí</td>
</tr>
<tr>
<td>Pred</td>
<td>intala</td>
</tr>
<tr>
<td>Neg Pred</td>
<td>intálá</td>
</tr>
<tr>
<td>Dább</td>
<td>intalas</td>
</tr>
<tr>
<td>f. <em>girl</em></td>
<td></td>
</tr>
<tr>
<td>buddénní</td>
<td></td>
</tr>
<tr>
<td>buddénní</td>
<td></td>
</tr>
<tr>
<td>buddénní</td>
<td></td>
</tr>
<tr>
<td>buddénní</td>
<td></td>
</tr>
</tbody>
</table>

3.2.2.2 The second declension. D2 nouns all end in a H-toned long vowel; some of them also have a H-tone on their penultimate syllable. It is thus possible to
Somali and Oromo Nouns

Distinguish Òòa nouns like gurbaa m. 'boy', jfooléé f. 'children', oobíí i. 'word' or oograz f. 'field', from Óòb nouns like daabaa m. 'flower', hirre m. 'donkey', illilli f. 'flower', or akåkå m. 'grandfather'. Also several types of plurals are Òòb, like muw-dallí from muqaa 'child', soor-eeyfi from sooreynsa 'rich', etc.

All Òò nouns end in -VV while Òòb nouns have in-ternal endings in -as. The genitive of gurbaa is thus gurbaas, of illilli, illilliis, etc. The nominative has always -n after the long vowel, while the tonal pattern is similar to the absolute. In the predicative, negative predica tive and dative-ablative, apart from the -VV ending the tonal pattern of Òòa nouns parallels Òò nouns, while Òòb nouns are similar to Òò nouns.

(36)

<table>
<thead>
<tr>
<th>Óòa</th>
<th>Òòb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abs</td>
<td>gurbaa m. 'boy'</td>
</tr>
<tr>
<td>Gen</td>
<td>gurbaas</td>
</tr>
<tr>
<td>Nom</td>
<td>gurbaan</td>
</tr>
<tr>
<td>Pred</td>
<td>gurbaa</td>
</tr>
<tr>
<td>Neg Pred</td>
<td>gurbaas</td>
</tr>
<tr>
<td>Òòb</td>
<td>gurbaas</td>
</tr>
</tbody>
</table>

3.2.7.3 The third declension. All the nouns ending in -n are inflected according to this declension. They are partly old pluralia tauta containing the stem-formative -san and -an like bisan 'water' or aan 'milk'. (In foon 'meat' and loon 'cattle' the stem-formative coalesced with the root vowel, cf. So. So 'meat' and lo 'cattle'). Also has plurals like mumk-an from mum 'tree', ilm-an from ilma 'son', or saas-án from saas 'cow' follow this declension.

The nominative of Òò nouns is identical with the absolutive, while in their other inflected forms, they add -ii when pi and Òò nouns end in long vowels.

(37)

<table>
<thead>
<tr>
<th>Òò</th>
<th>Òòb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abs</td>
<td>bisaan m./pl. 'water'</td>
</tr>
<tr>
<td>Gen</td>
<td>bishaanii</td>
</tr>
<tr>
<td>Nom</td>
<td>bishaan</td>
</tr>
<tr>
<td>Pred</td>
<td>bishaan</td>
</tr>
<tr>
<td>Neg Pred</td>
<td>bishaanii</td>
</tr>
<tr>
<td>Òòb</td>
<td>bishaanii</td>
</tr>
</tbody>
</table>

I did not find Òò nouns with a H-tone on their stem parallel to Òòb and Òò nouns. Further research is needed, however, especially as far as plurals are concerned.
3.2.2.4 Reinflected genitives. It has been stated in 3.2.2 that genitive forms can be reinflected for other cases. In section 3.2.1 (cf. example 30.c) we saw that this does not happen when the genitive depends on a nominative head noun, given in predicative phrases a genitive may remain unchanged, although there is often the enclitic T-toned particle -tī. For example, in example (31.c) the predicative phrase can be biliwaa eysūmā isātī rather than biliwaa eysūmā isātī.

In negative predicative and dative-ablative phrases, however, genitives are always reinflected. The stems of these reinflected genitives don't end in -VT like the simple genitives, but in -VT, to which -ī is added as in D3 nouns. The tonal patterns have few peculiarities, as shown in (38) below. Examples of reinflected genitives are, beside isātī in (31.c), isātī in (32.b) and in-argatñiti in examples (i.a) and (i.b) under note 10.

(38)

<table>
<thead>
<tr>
<th>intāʦa</th>
<th>iliili'tī</th>
<th>Gen of inta la (D1a)</th>
<th>Gen of iliili (D2b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pred</td>
<td>[intāʦa]</td>
<td></td>
<td>[iliili'tī]</td>
</tr>
<tr>
<td>Neg Pred</td>
<td>intaːatī</td>
<td></td>
<td>iliili'itī</td>
</tr>
<tr>
<td>D3</td>
<td>intaːatī</td>
<td></td>
<td>iliili'iti</td>
</tr>
</tbody>
</table>

It should be pointed out that, in a historical perspective, iliili'iti is probably not to be analysed as iliili'iti-tī, as we suggested above, but rather as iliili'iti-i, just like iliili'iti-fī and iliili'iti-ii. (For final -i, cf. māl-ī, Pred of māl 'what?'). The tonal behaviour shows that there has been a morphological reanalysis, and that -tī is synchronically a separate - even though an enclitic - word. Otherwise the tonal pattern would be *iliili'iti-tī, as in the negative predicative form.

3.3 Analysis of the system

3.3.1 The absolutive

Oromo noun forms always contain a stem (St), which consists of a root at least - ie., when it doesn't contain also derivational suffixes -. and a stem-formative (For), cf. Gragg (1976, p. 194). Stem forms can be accented or accentless: D1a and D2a stems are accentless (intal, gurb); while D1b and D2b stems are accentted (buddon, ili). Stem-formatives also can be accentless like a or accented like -ie, at, at, it, et, at, an, etc. Since stems can be accented on their last syllable only, there will be but one lexical AP, namely (1.a), associated from right to left as in Somali, yet only in D1b and D1a, D2a and D3 nouns have no lexical AP. (Alternatively, they have null lexical AP, ie. 0).
The units that bear the accents in Oromo, however, are syllables and not moras as in Somali. As a consequence, our AAC will have to be revised as in (39), which applies cyclically at each morphological level.

(39) Accent Association convention (AAC), revised (first part only):
An AP is assigned from right to left starting from the last BU, one accentual item to each BU.

We thus have the following derivations:

(40) a. D1a  D1b
     intal a  buddeen a  stem level, (39)
     intal a  buddeen a

b. D2a  D2b  D3
     gurb qa  illill ji  bish gan
     gurb qa  illill ji  bish gan  stem level, (39)
     gurb qa  illill ji  bish gan  word level, (39)

If we let apart D2b nouns like illillji for the time being, the absolutive forms can be derived quite straightforwardly by positing for this case a rule like (41), which states that the absolutive is marked by the tone-melody $H$.

(41) Absolutive case

/ X /

$H$

If it applies to D2a and D3 nouns, rule (41) associates a $H$-tone with the starred final syllable. The other syllables remain unassociated and rule (42) will apply. (Notice that 42 is rule 21.b expressed in a manner that can apply both to Somali and Oromo).

(42) Bu's not associated with any tone are assigned L-tones.

Rule (42) can also account for D1a nouns like intala. Since they contain no accents, the melody $H$ of rule (41) cannot be assigned to any BU, and consequently rule (42) must assign L-tones to every syllable. Dib nouns like buddeena show that tone spread applies rightwards across syllable boundaries in Oromo. This can be captured through rule (43), which is a fairly general case in tone langu-
ages, but does not exist in Somali.

(43) If there are more V-sites than tones, the last tone in the melody spreads rightwards to unassociated sites.

DIB nouns, like illili, have two underlying accents according to (40,b). This may be a problem because rule (41) is formulated so as to entail that the melody spreads to the whole word and not to each of its underlying accents. In the next section we will see that a simple solution is to delete any accent that occurs on the right of a given accent. After such a rule applied, DIB nouns can be treated like DIB nouns.

3.3.2 The genitive

Genitive forms end distinctively in a H-toned long vowel. Within the framework developed here this can be captured by stating that the rule for (not-reflected) genitives is the following one:

(44) Genitive case

\[ X \rightarrow VV \]

The AAC (39) associates the accent with the last syllable of the form.

Rule (44) presupposes that also segmental phonemes can be treated as autosegments (for an overview of such an approach see, eg., Van der Hulst and Smith, 1982b). In particular, it is necessary to posit a rule of vowel spread very similar to (43). The well-known Well Focusedness Condition (WFC), in so far as it prohibits association lines to cross (cf. e.g. Clements and Goldsmith, 1984b, p.10), will ensure that a vowel doesn't spread to empty vowel slots across consonants. As a consequence, the VV slots remain empty in DIB nouns.

(45) If there are more V-sites than vowels, a vowel spreads rightwards to unassociated V-sites.

The V-sites that remain empty after the application of (45) are assigned the vowel i. This is a sort of default case which parallels rule (42):

(46) V-sites that cannot be associated with other vowels are assigned the vowel i.
We can thus have the following derivations:

\[(47)\]  
\[
\begin{align*} 
\text{D1a} & \quad \text{D2b} & \quad \text{D1} \\
\text{VCCCVVV} & \quad \text{VCCCVVV} & \quad \text{CV C VCCVV} \\
& \quad \text{VCCCVVV} & \quad \text{VCCCVVV} \\
& \quad \text{VCCCVVV} & \quad \text{VCCCVVV} \\
\end{align*}
\]

\[(48)\]  
\[
\begin{align*} 
\text{a. } v \rightarrow \emptyset & / \quad [v V]_{\text{Suf}} \\
\text{b. } \emptyset \rightarrow v & / \quad [v V]_{\text{Suf}} \\
\end{align*}
\]

Rule (48.a) applies to D1 and D2 nouns yielding intal as and, respectively, lili lli. Rule (48.b) applies only to D2 nouns, yielding lili lli'ii from lili lli lli.

D2a and D3 nouns clearly show that the accent of the formative is deleted before the genitive suffix. This can be stated through rule (49). (See section 3.3.6 for a revision of this rule).

\[(49)\]  
\[
\begin{align*} 
& \rightarrow \emptyset / \quad \text{For Suf Gen} \\
\end{align*}
\]

In D1b and D2b nouns, even after rule (49) applied to the last ones, we are left with two underlying stars; buddeenas and lili lli'ii. This creates a problem in our framework, just as the absolutive of D2b nouns did (cf. section 3.3.1). Indeed, since in Oromo we meet with at least two tonal melodies, is. *H* and *HL* (see sections 3.3.4 and 3.3.6 for the second one), the tonal melodies we found in rules (41) and (44) cannot be treated as basic tone melodies that are associated whenever a star is met within the domain of a word. Rather, they apply only once in such a domain, and accent rules must ensure that their context is proper-
ly specified. A simple solution is to posit a rule like \((50)\), that deletes any
accent to the right of a given accent in a word.

\[(50) \quad \rightarrow \quad 0 \quad / \quad Y \quad \]

Rule \((50)\) must be ordered after rule \((49)\), otherwise its output would remove all
the possible inputs of rule \((49)\). This can be obtained if \((50)\) is regarded as a
basic accentuation rule (BAR), which applies after the operation of the accentual
rules at each level. In this manner, we can have the following derivations:

\[(51)\]

\[
\begin{array}{ll}
\text{D1a} & \text{D1b} \\
\text{intal} \quad a \quad \text{VV} & \text{buddeen} \quad a \quad \text{VV} \\
\text{intal} \quad a \quad \text{VV} & \text{buddeen} \quad a \quad \text{VV} \\
\text{intal} \quad a \quad a & \text{buddeen} \quad a \\
\end{array}
\]

\[
\begin{array}{ll}
\text{stem level and inflected} \\
\text{word level, (39)} \\
\text{segmental rules} \\
\text{D2a} & \text{D2b} & \text{D3} \\
\text{gurb} \quad a \quad \text{VV} & \text{iillii} \quad i \quad \text{VV} & \text{bish} \quad a\text{n} \quad \text{VV} \\
\text{gurb} \quad a \quad \text{VV} & \text{iillii} \quad i \quad \text{VV} & \text{bish} \quad a\text{n} \quad \text{VV} \\
\text{gurb} \quad a \quad \text{VV} & \text{iillii} \quad i \quad \text{VV} & \text{bish} \quad a\text{n} \quad \text{VV} \\
\text{gurb} \quad a \quad \text{VV} & \text{iillii} \quad i \quad \text{VV} & \text{bish} \quad a\text{n} \quad i \quad \text{VV} \\
\text{gurb} \quad a \quad \text{VV} & \text{iillii} \quad i \quad \text{VV} & \text{bish} \quad a\text{n} \quad i \quad \text{VV} \\
\end{array}
\]

\[
\begin{array}{llll}
\text{stem level, (39)} \\
\text{lexical word level,} \\
\text{(39)} \\
\text{(50)} \\
\text{inflected word} \\
\text{level, (39)} \\
\text{segmental rules} \\
\text{D2a} & \text{D2b} & \text{D3} \\
\text{gurb} \quad a \quad \text{VV} & \text{iillii} \quad i \quad \text{VV} & \text{bish} \quad a\text{n} \quad i \quad \text{VV} \\
\text{gurb} \quad a \quad \text{VV} & \text{iillii} \quad i \quad \text{VV} & \text{bish} \quad a\text{n} \quad i \\
\end{array}
\]

Tone association and tone spread apply subsequently to the intermediate representa-
tions intalās, buddeenās, iillii'i'i, etc., as we already saw in section 3.3.1,
and yield intalās, buddeenās, illili'i'i, etc.

3.3.3 The nominative
It has been shown in sections 3.2.1-3 that nominative forms vary considerably
according to the inflectional class of the noun. D2 nouns add a final -n but
have the same nasal patterns as their absolutes, while D3 nouns don't change
at all. This can be captured through rule \((52)\).
(52) Nominal case (i)

a. /X+ni/, if D2 noun

\[ H \]

b. /X/, if D3 noun

\[ H \]

D1 nouns, instead, have a more complex behaviour. There are three suffixes, i.e. -i, -ni and -ti, whose distribution is governed by the phonological context and by gender. They are not added to the full lexical form, but replace the D1 stem-formative -a. In addition to this, the tonal pattern is different from the absolute in D1a nouns: while this is always L-toned, their nominative has H-tones on the two final syllables. It is not difficult to derive the surface forms if we regard the D1 nominatives as characterized by an AP ** or *. Since BAR (50) reduces anyhow an AP ** to *, and there is no positive evidence to discriminate between these two APs, the second one will be chosen here, because of its similarity with the AP of Somali D1 nominatives. Our accent association convention (39) ensures that this AP associates with the last two syllables in the form. (See section 4. for the possibility of treating the AP *o as a pre-accent). In D1b nouns it is reasonable to postulate that the accent of the AP *o reassociates vacuously with the already starred penultimate syllable.

If now we remember that we indicated with the symbol St in section 3.1 the part of a noun that precedes the stem-formative, i.e. that we regard any singular or plural noun as consisting of [St For]N, the rule for the nominative of D1 nouns can be represented as follows:

(53) Nominal case (iii)

a. /St+1/, if D1 noun with stem in -CC

\[ H \]

b. /St+ni/, if m. D1 noun with stem in -C

\[ H \]

c. /St+ti/, if f. D1 noun with stem in -C

\[ H \]
3.3.4 The predicative

The final L-tones, in the predicative forms of D1b and D3b nouns, i.e. in the types buddéens and ijjiiii, show that we have here a different tonal melody than in the absolutes buddéend and ijjiiii. The most obvious candidate is the tonal melody €\text{€}L.

The predicative forms of D1a, D2a and D3 nouns, which all have accentless stems, have an H-tone on their first syllable. If the predicative tonal melody is €\text{€}L, these forms must have an accent on their initial syllable. As in Somali vocatives, this must be an accent that associates from left to right rather than from right to left. We can thus describe the predicative forms with the following statements:

(54) Predicative case

\[ \begin{align*}
\text{a. } & /X/, \text{ if the stem is accentless} \\
& \text{€}L \\
\text{b. } & /X/ \\
& \text{€}L
\end{align*} \]

Just as the first part of our AAC was reworded in (39) by replacing ‘more’ with ‘bearing unit’ (BU) in order to accommodate also the Oromo facts, the second part of the AAC, when properly reworded, can provide for the left-to-right association of the AP to D1a, D2a and D3 nouns. In D2a and D3 nouns such as gurbáa and bisháan the output of (54) has two underlying accents: gurbáa and bisháan, respectively. The BAR (50) ensures that only the first accent survives. Genitives must be excluded from both (54.a) and (54.b), otherwise we would have forms like ‘intalaa or ‘iijjiiii’. We thus need a further statement like (55), where the brackets show the optional character of t1.

(55) Predicative case

\[ /X\ (t1)/, \text{ if } X = \text{genitive noun form} \]

The predicative forms of monosyllabic D3 words like fóom ‘meat’ and lóm ‘cattle’, which are identical to their absolute forms, show that if there are more tones than BUs in Oromo, the tones that cannot be associated are deleted. This can be captured through the following statement:
(56) If there are more tones than BUs, the tones that cannot be associated are deleted.

In other words, when the predicative tone melody NL is associated, e.g., with *en only the H-tone can associate, while the L-tone is deleted.

3.3.5 The negative predicative

The framework that has been developed so far suffices to describe the negative predicative forms through rule (57):

(57) Negative predicative case

a. / X + ][V W ] /, if the stem is accentless and if X * genitive noun form

b. / X + V/ •

The segmental rules (45), (46) and (48), which were developed for the genitive forms, account for the processing of the underlying suffix VV until it reaches its surface form. The proviso in (57.a) had to be added because the accent pattern • does not occur with reflexed genitives of Dla, D2a or D3 nouns, which are respectively *intalashiti, gurba'shatii and bishaanlitii rather than *intalashiti, *gurbashatii or *bishaanlitii.

The internal • in the reflexed genitives shows that rule (44) is not enough, but has to be integrated with (59):

(59) Genitive case (continued)

/ X + ][V W t ] /, in the context _ Buf

Rule (58) lacks any indication of the tone melody, because this is provided by the final case rule, e.g. for negative predicative forms by rule (57.b).

3.3.6 The aitive- ablative

D1b and D2b forms like budheenas and, respectively, illii'itii show that there is a VV-suffix also in this case, like in the genitive and negative predicative, while the tonal melody is NL. In Dla nouns there is no underlying accent, and the tonal melody NL cannot be associated. The default rule (42) will then apply, and correctly produce L-toned forms like intalaa.
However, Di and D3 forms like gurba'as or bihsanii, as well as reflexed genitives like intulaa'ii or illa'iti show that there is something more involved in these forms. Indeed, what happens is that any accent on a stem-formative or on the genitive suffix is deleted before the dative-ablative suffix. This means that a rule like (59) applies in these forms:

(59)  \[ \text{S} \rightarrow \text{Suf} \]

It is easy to see that rule (59) is just a more general formulation of rule (48), which applies in genitive forms. Suppose then that we call all the inflectional suffixes that trigger rule (59) deaccenting suffixes (Suf). The dative-ablative case can thus be described as in (60), while (61) is a revised formulation of the genitive rules (44) and (58).

(60)  \begin{align*}
\text{Dative-ABLATIVE CASE} \\
\text{S} + \text{VV} \\
\text{S} \rightarrow \text{Suf}
\end{align*}

(61)  \begin{align*}
\text{Genitive case (revised)} \\
\text{a.} & \quad \text{S} + \text{VV} \\
\text{b.} & \quad \text{S} + \text{VVt}, \text{in the context } \text{Suf}
\end{align*}

4. Conclusions

In discussing the Somali and Oromo systems in sections 2.3 and, respectively, 3.3, we saw that these two languages have very simple sets of tone rules which involve the Basic Tone Melody H for Somali, and the two tone melodies H and HL for Oromo. The actually occurring surface forms can be easily derived with the help of general association principles and rules that have often been found to operate in tone languages. In this respect the main difference between Somali and Oromo lies in the fact that Somali lacks tone spread across syllables - the only kind of tone spread observed in Somali involved H-tones spreading leftwards within syllable boundaries, under one possible interpretation of rule (21.a) -.
while in Oromo tunes associate freely rightwards. This makes the Somali system similar, at least superficially, to typical pitch accent systems such as those of Indo-European languages like Ancient Greek or Lithuanian. Interestingly, however, the Somali facts can also be accounted for by positing a Basic Tone Melody $\hat{\text{m}}$, with the L-tone freely associating with BUs to its right, provided that a rule like (56) deletes L-tones that would remain unassociated in forms with the H-tone on their final mora. In a synchronic description of Somali this is unnecessary, since if tones cannot spread across syllable boundaries, a default rule like (21b) or (42), which is independently necessary, can account for all the forms with L-tones that occur to the right of the H-toned mora. It is clear, however, that diachronically it is not difficult for the one system to change into the other.

A more elaborate system of rules is required in both languages in order to account for the ‘binding-site’ of the tonal melodies, i.e. for the choice of the BU the H-tone in the melody associates with. To this end we have designated one of the tones in the melody as accented, and invoked the general principle (20) that associates accented tones with underlying accents, indicated by means of an asterisk as usual, cf. e.g. Clements and Goldsmith (1984b, pp.13 ff.). In addition to this, four kinds of accent patterns were posited, which associate to their bearing units (BUs) with the help of an accent association convention, formulated in (27) for Somali and partly revised in (39) in order to accommodate also the Oromo facts (cf. section 3.3.4 as well). In this manner, accent patterns are treated as autosegments that bind to their BUs from right to left in both languages, with the exception of AP $\tilde{\text{v}}$, which binds from left to right. The APs that were found to occur in both Somali and Oromo are (i) $\tilde{\text{v}}$, (ii) $\tilde{\text{v}}$, (iii) $\tilde{\text{v}}$, and (iv) $\tilde{\text{v}}$, i.e. the lack of any accent. The third AP, which occurs lexically in polymoraic D1 and D5 nouns, and in the absolutive - in some contexts only, however - and nominative of D3 nouns in Somali, and in the nominative of D1 nouns in our variety of Oromo, is the only AP that involves two accentual items. Since its result is that an accent is placed immediately to the left of a designated BU, it is identical to a pre-accent, i.e. to an accent that shifts to the BU that precedes it. Goldsmith (1984, p.26) introduced the symbol $\tilde{\text{v}}$ for the opposite notion of post-accent in Tonga, a Bantu language, and consequently a pre-accent could be represented as $\tilde{\text{v}}$, associated with its designated BU by the AAC. The two representations, namely $\tilde{\text{v}}$ and $\tilde{\text{v}}$, are in my opinion almost equivalent, and I choose here the first one simply because this does not involve an additional symbol.

Accent patterns are assigned lexically to nouns in both Somali and Oromo.
In Somali the two APs * and _ associate to whole words, AP * being the more general case, cf. (17). In Oromo, instead, the AP * is assigned both to stems and to stem-formatives, but some stems and stem-formatives are accentless. If a word has lexically two underlying accents, the second one is deleted by the Basic Accentuation Rule (50), a sort of stepping-up rule that applies after the other accentural rules of each level or cycle applied.

The Somali and Oromo systems of case inflections involve both segmental suffixes and accents. In Oromo also tone melodies have to be specified for each case. The general format that was used here for case inflections is not transformational, but simply describes the relevant features or a given case form. Typical instances are (18) and (26.c) for Somali, and (41) and (53.a) for Oromo, repeated here in (62):

\[(62)\]
\[a. \text{Somali absolutive case (} = 18)\]
\[
\begin{array}{l}
/ X / \\
\end{array}
\]
\[b. \text{Nominate case in Somali D2 nouns (} = 26.c)\]
\[
\begin{array}{l}
/ X' l / \\
\end{array}
\]
\[c. \text{Oromo absolutive case (} = 41)\]
\[
\begin{array}{l}
/ X / \\
\end{array}
\]
\[
\begin{array}{l}
* \\
\end{array}
\]
\[d. \text{Nominate case in Oromo D1 nouns with stem in -CC (} = 53.a)\]
\[
\begin{array}{l}
/^{st}X' l / \\
\end{array}
\]
\[
\begin{array}{l}
* \\
\end{array}
\]

Rule (18) states that the absolutive case in Somali does not require special affixes or APs; as a consequence, a noun will retain its lexical AP. Also in Oromo the absolutive case (cf. 41 = 62.c) does not require special affixes or APs. Yet, it is characterized by the tonal melody * , which binds with the lexically accented BU. (In D1 nouns the tonal melody * cannot associate with any BU because there are no underlying accents. The default rule then applies and the form surfaces as L-toned).

In the nominative of Somali D2 nouns like goddi 'lions', an -i is added to the lexical form of the word, and the AP o is imposed on the form. The lexical AP * is then deleted according to the basic accentation principle (25), which we found necessary to posit for Somali but not for Oromo. This null AP can
then be associated with the last BU by the AAC, and the form will surface as L-toned, i.e. gool-i. Rule (53.a = 62.d), instead, states that in the nominative case form of this class of Oromo nouns the suffix -i is added not to the lexical form of the word, but rather to its stem only. The AP *o is then associated by the AAC yielding forms like ibidd-i from D1a ibidd-a m. ‘fire’ or jabëny-i from D1h jabëny-a m. ‘strength’ (realised as [jabënyi]). When the melody ̀ is associated and the tone rules apply, the H-tone spreads to the last syllable and the final forms are respectively ibidd- and jabëny-

It should be pointed out, however, that rule (18 = 62.a) cannot account for all the absolutive forms of Somali nouns. In a few contexts, in fact, D3 nouns and- optionally - D4 nouns undergo special rules that change their APs from * into *o and, respectively, o, as stated in (19.a) and (19.b). In note 7, it was already observed that there are parallels to the occurrence of plural D4 nouns with AP o in the context ___ (T)V in Arbore, a language that belongs to the same sub-group as Somali within East Cushitic. Accordingly, at least part of the special rule (19.b) may be a relic of an older stage of the language. It often happens, indeed, that synchronically idiosyncratic and anti-systemic behaviours are reflexes of systems that were fully operative in the past. It is thus possible that also rule (19.a) should be explained diachronically.

Finally, it is necessary to remember that we found a peculiar accentual behaviour in the Oromo genitive and dative-ablative forms, which we preferred to regard not as the reflex of a different AP, but as the output of rule (59). This rule deletes an accent on the morphemes that occur between the stem and any of these two suffixes, which were therefore called deaccenting suffixes.

I hope that the data discussed in this paper may shed some light on the typology of the prosodic systems of East Cushitic languages. Even though several of the facts we dealt with can be analysed along different lines, it seems to be clear that both Somali and Oromo have prosodic systems that involve a somewhat elaborate set of accent rules and a very simple set of tone rules.

NOTES

*The Oromo and Somali data in this paper were collected both in Italy with the support of research funds from the Dipartimento di Studi Glottoantropologici of the University of Rome, and in Somalia while the author was conducting research with funds from the Italian Ministry for Foreign Affairs within the framework of the Project for the development of the Somali language, in cooperation with the Somali National University and the Somali Academy of Science, Arts and Literature.
The following abbreviations should be explained:

Ar.  Arbore, Omo-Tana, East Cushitic;
Da.  Dasenech, Omo-Tana, East Cushitic;
Di.  Diraya, Oromoid, East Cushitic;
Or.  Oromo, Oromoid, East Cushitic;
Re.  Rendille, Omo-Tana, East Cushitic;
So.  Somali, Omo-Tana, East Cushitic.

ART  article
FOC  focus particle
INT  interrogative particle.

1. The Somali data are based mainly on the variety spoken by Dr. Cabdinaasir M. Abukar, an educated Somali born in Gaalkacyo (Mudug) like Hyman’s (1981) main informant. However, reference is made also to the more Southern varieties spoken by Prof. Cize M. Eyaad, born in Ceel Bur (Galgudud), and Prof. Maxamed Muse Ahmed. Broadly speaking, it can thus be claimed that these data fairly represent central varieties of Standard Somali as it is spoken by educated speakers.

The Oromo data are instead based mainly on the speech of Abdulahiim Mohamed Sheekh Abdisalam, who was born in the Bale province of Ethiopia in an area inhabited mainly by Arsii (Arsii) Oromos, and has been several years one of the speakers in the Oromo programs of radio Mogadishu. His variety is thus different both from Boorana, upon which Andrezewski’s (1957, 1970) and Owens’s (1960, 1962) analyses are based, and from the Mecca (Mecha) and Tuulama (Tulema) varieties spoken in Gojjam, Wellegga, Illubabor, Kefa, Shewa and Wello, which were described eg. by Moreno (1939) and Gregg (1976, 1982), and are the main basis for literary varieties of Oromo as a result of several factors ranging from the traditionally high level of literacy among Western, ie. Mecca, Oromos to the fact that most of the Oromo speakers of Radio Addis Ababa are from Mecca and Tuulama areas. Data on Eastern varieties of Oromo, however, are from Abduhaimiin Ahmed and Anish Hashad, both born in Zire Dawo.

2. For an explanation of the term ‘D1 noun’ see section 2.2.2.

3. Somali is transcribed here according to the Somali national orthography. Its main peculiarities are:

- ‘ is a glotal stop, [ʔ];
- c is a voiced pharyngeal fricative, [ɕ];
- dh is a voiced retroflex stop, [ɖ];
- kh is a voiceless velar or uvular fricative, [x] or [χ];
- x is a voiceless pharyngeal fricative, [χ].

Somali tones are indicated throughout according to Hyman’s (1981) analysis, for which see section 2.1.

4. A number of minor types such as lāba 'two' (Abs lāba = labā, Gen lāba, Nom lāba = labi), etc., are not taken into account here, for obvious reasons of space.

It should be pointed out that Hyman (1961), who was able to collapse a number of types that Andrezewski (1964, 1979) had been forced to keep apart, oversimplified the system. Indeed, he put together in his first declension (D1) Andrezewski’s first three declensions (all masculine) and his fourth declension (all feminine), which have very different inflectional behaviours. I prefer instead to split Hyman’s first declension into a D1 (the type Abs orgi, Gen orgi, Nom orgi ‘billy-goat’) and a D2 (the type Abs mindi, Gen mindi, Nom mindigi ‘knife’). While D2 is followed only by
feminine nouns, D1 includes several masculine nouns as well as a group of feminine nouns (hawedhe 'woman', sahib 'Saturday', mlig 'right side', etc.). Optionally, however, these feminine D1 nouns have a different behaviour, in so far as they may follow the fifth declension.

5. Some pluralia tantum of this group may have a genitive without -ood when they have a semantically singular meaning. For instance, caano 'milk' can have the genitive caano with the numeral hāl 'one' in the phrase hāl caano 'one cup of milk'.

6. There are short possessive suffixes in Somali, e.g. is. -ady, 2s. -kaa, etc., which are used mainly with terms referring to close relatives (saheb 'father', hodo 'mother', waalal 'brother', etc.) or to god. Otherwise the possessive suffixes also contain as article or demonstrative and are then called long possessives, e.g. rati-ga-ro 'your camel', rati-ga-gan 'this camel of yours', etc. With short possessives a noun is always 1-toned in the nominative. There are thus Abs D3 sabb-haa 'your father', D4 waalal-kaa 'your brother' vs. Nom sahaa-haa, waalal-kaa. With long possessives, instead, the behaviours diverge: Abs D3 fard-haa-ga 'your key', D4 hale-haa-ge 'your sue-camel' vs. D3 fuur-haa-ga but D4 hale-haa-ge hale-haa-ga (cf. also 12.c).

1. Andrzejewski points for D4 nouns (his sixth declension) a special accentual unit, i.e. AUI, which is realised before a pause like his AUI in this position (i.e. mid tone with secondary stress), but before another syllable like his AUI in this position (i.e. mid tone with absence of stress). Since his AUI corresponds to Hyman's and my accent and K-tone, and his AUI to our lack of accent and L-tone, Andrzejewski's claim about this class of nouns is that they are accented only before a pause, but are unaccented elsewhere. Hyman (1981, p.119), however, already observed that D4 nouns can optionally be accented or unaccented when they occur as non-focused objects, i.e. in the absolutive in the context illustrated by (11.e). Since this optional lack of accent also occurs before the particles baa and bii independently from an intervening pause, I think that the most proper treatment should not be positing a separate accentual unit or tone, but rather invoking an optional accent deletion rule like (19.b).

Interestingly, at least for the context _Y_ (Y. V this rule that deletes the final accent and the K-tone in D4 nouns may derive from an older stage of the language. Indeed, in Arbore, a related language spoken in Southern Ethiopia between Lake Stephanie and the River Omo, plural nouns in -ol, -al, and -el like koab 'sandals' (So. kaab), ilk 'teeth' (So. ilk), Ind's 'eyes' (So. indho), bicc 'water' (So. bigd), etc., lose their final K-tone in exactly this position, as shown in example (1) below, drawn from Hayward (1984, p.156). (The spelling is adapted to the general system suggested by Esse, 1982, for East Cushitic languages; c stands in Arbore forms for [tf].)

(1) bicc mē kaj wärzbata? water what with you-draw
what is it you draw water (Abs bicc) with?

8. Raised vowels such a in waran indicate 'vowel coloured breaths', i.e. final voiceless vowels, in Oromo studies starting from Andrzejewski (1957). They are retained here mainly for Boorsma fores. In all other respects, however, I use the 'new Oromo script' which has been developed in recent years by several groups of Omoros who are publishing books and journals in their mother-tongue with Latin characters. It is similar to the Somali system is so far as it does not use diacritics and can be typed.
with any standard keyboard. Its main peculiarities are the following:

(i) ' is a glottal stop, [ʔ];
  c is a voiceless ejective alveolar affricate, [ʧ];
  ch is a voiceless alveolar affricate, [ʧ];
  dh is a voiced implosive alveolar stop, [ʤ];
  kh is a voiceless velar fricative, [x];
  ny is a palatal nasal, [ȵ];
  ph is a voiceless ejective bilabial stop, [pʰ];
  q is a voiceless ejective velar or uvular stop, [kʰ] or [qʰ];
  x is a voiceless ejective alveolar stop, [tʰ].

Tones are indicated according to Andrzejewski’s and Owens’s system, i.e. V or Vv for H-tones, V or Vv for L-tones, and Ṽ or Ṽ for falling tones (in Booran). Notice that in this manner Ṽ indicates a level H-tone in Oromo, but a falling tone in Somali!

9. Subject focus inflections occur only on the last word in the subject phrase, while its first word has to be L-toned. Intermediate words are in the absolutive:

(i) a. mucas ḍherás isifī - tu aanān ḏuğa
  child tall her FOC milk drank
  ‘he was her (isifī-tu, subject focus form of Gen isifī) tall (Abs ḍherás) child (Abs mucas) who drank the milk’

b. qazzlu kānā - tt ḍanna
  priest this FOC good
  ‘THIS PRIEST is good’ (from Owens, 1982, p.56)

10. There is often a pause after the first and even after the second word of a long predicate phrase in a slow and accurate style. A word with (at least) a H-tone in its absolutive shows up in its absolutive form in such cases, while a L-toned word has all its syllables raised to H, as shown in the examples below:

(i) a. tun obbolēytti ## nāmitchā ## gooda ḍaša in - argatinītti
  this sister man share his not received-not
  ‘this is the sister (Abs obbolēytti) of the man (Abs nāmitchā) who didn’t receive his share’

b. kun obbolēyya ## nāmitchā ## gooda ḍaša in - argatinītti
  this brother
  ‘this is the brother (Abs obbolēyya) of the man who didn’t receive his share’

Generally speaking, it emerges from Owens (1980) and from my data as well that there are heavy restrictions upon the occurrence of L-toned words in a number of contexts, and that there are different kinds of processes that create H-tones in such cases. One of them is illustrated in (1.a) and (1.b) above. The Alternating Tone Rule described by Owens (1980, pp.171 ff.) can be viewed in this perspective, if its action is limited to creating a H-tone on the first syllable of some classes of basically L-toned words. Anyhow, this is a field which deserves further investigation.

The last word of predicative phrases is marked only tonally also in other Southern varieties of Oromo; e.g. for Booran see Owens (1980, p.178 ff.; 1982, p.48 ff.). In Eastern varieties this is true only for words in short -a, e.g. tuni inta ‘this is a girl’. DZ nouns add -dha like several Northern varieties, e.g., inni jābaadha ‘he is strong (Abs jābaa)’, kun
gurbaa gaaheeda 'this is a bad boy'. Instead, D3 nouns aad -i. like maal 'what is it?' (abs aad 'what?') in Abdulhalim's variety, eg. kuni bishaa si 'this is water'.

11. Sewael sandhi processes often involve the final phonemes of the stem and the initial n or t of the nominative endings. For instance, final d and t assimilate to n: arkonni from arfeeda 'beard', namoonni from samoota 'man', x with following a yields either flixni, flindhi, or flir'i from flixa 'top, point'; ay with r yields either nagayni or nagaynfi from nagayaa 'peace' in Abdulhalim's variety, etc.

It should also be pointed out that while the nominative D2 and D3 forms are generally the same in all varieties of Oromo, D1 nominatives change considerably. For instance, Boorana generalises -i to all the D1 masculines (-ni is retained only in forms like nageenni from naga 'peace', where the stem had a final y, cf. nagayd in other varieties), and -t to all the D1 feminines, introducing it also in cases like additi from add 'forehead' (cf. addi in Arssi, addi in Eastern Oromo, etc.). Waata, the Southernmost Oromo variety described by Mine (1981), has -fin and -tfin with the same distribution as -i and -ti in Boorana, eg. muftin from muk 'tree' (elsewhere makni, mukni), hintaltini from hinti 'girl', etc. Mecca Oromo, instead, generalises the masculine forms in -ni to most of the words that have -ti in Arssi and Eastern Oromo, and retains the old feminine ending only in hasti from haadda 'mother' and, optionally, in a few other nouns like lafa 'ground, earth'. (Mecca forms lack *one marks because no toner are marked in the sources).

12. No Oromo noun can exist in its bare root. Yet the actual distribution and functions of the different stem-formatives, as well as their relationships with the derivational suffixes, have still to be worked out.

13. Rules (46.a) and (46.b) are specific to some Arssi varieties. Eastern varieties spoken, eg., in the Dire Dawa area, and some Southern ones like Boorana behave differently and require different rules, as shown in (1) below. (The Boorana data are from Owens, 1980, pp.156, 161).

(1)

<table>
<thead>
<tr>
<th>DI</th>
<th>D2</th>
</tr>
</thead>
<tbody>
<tr>
<td>abs nama</td>
<td>gurbaa</td>
</tr>
<tr>
<td>gen nama</td>
<td>gurbaa'as</td>
</tr>
<tr>
<td>dab nama</td>
<td>gurbaas</td>
</tr>
<tr>
<td>abs nama</td>
<td>gurbaa</td>
</tr>
<tr>
<td>gen nama</td>
<td>gurbeadhaa × gurbaa</td>
</tr>
<tr>
<td>dab nama</td>
<td>gurbeadhaa × gurbeas</td>
</tr>
<tr>
<td>abs nam</td>
<td>gurbaa</td>
</tr>
<tr>
<td>gen nam</td>
<td>gurbeas</td>
</tr>
<tr>
<td>dab nama</td>
<td>gurbeas</td>
</tr>
</tbody>
</table>

14. Gragg (1976, p.183) regards -i as derived from -ni after a consonant cluster, eg. harkii - harkii from harka 'hand'. This, however, requires an ad hoc phonological rule for nouns, because the normal treatment in other areas of the morphology of this language is i-epenthesis, eg. argita and argina from /arg + ta/ and, respectively, /arg + na/, 2s. and ip. of the present tense of arg-du 'to see'. Also Boorana forms like additi from add 'forehead' (cf. note 11) vs. Arssi addi may show i-epenthesis from underlying /addi + ti/. As a consequence, I prefer to treat synchronically forms like m. artisans and f. addi as containing a separate suffix -i, which occurs only after geminate consonants or consonant clusters.
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