Morphologies of Asia and Africa

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Chapter 18
Chaha (Gurage) Morphology
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1. Introduction
Chaha ( eş ha) is a Gurage dialect belonging to the Ethiopian branch of the Semitic language family. It is a member of the Western Gurage group of dialects along with Ezha, Gyeta, Engegehn and Inor. Chaha itself also has some sub-dialects, Gura and Gumer. The data for this article come from the dialect spoken in the main Chaha town of Endeber and neighboring villages, such as Yeseme. Endeber is located approximately 180 kilometers southwest of Addis Ababa, the capital of Ethiopia. The 1994 census divides the Gurage into three groups according to language: Soddo, Silte and Sebat Bet. Sebat Bet translates as 'seven houses' and is a linguistic-cultural term referring to the seven main groups of the Western Gurage. There were 621,691 Sebat Bet Gurage speakers in the whole Gurage administrative zone in 1994 (Central Statistical Authority 1996); it is not known how many Chaha there are within this group. The number of Sebat Bet speakers for the Chaha Woreda, or administrative district, was 114,970, most of whom can be assumed to be Chaha speakers. This figure, of course, does not include the large numbers of Chaha who live in other areas of the district and country, particularly Addis Ababa.

2. Morphological typology
The verbal system of Chaha is highly inflectional, with prefixes and suffixes indicating categories such as person, number, gender and tense. Although the Gurage dialects have been largely influenced by Cushitic (Leslau 1952), the verbal system nevertheless retains the characteristic Semitic root-and-pattern morphology, well-known from studies of Arabic, Hebrew or Tigrinya. The "root," composed of consonants, conveys the core lexical semantics. The "pattern" refers to the stem shape and stem

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Symbols are in accordance with IPA except for the palatal affricates, for which I use [ɛ] and [ɪ]. Note that the vowel I transcribe as [a] is other authors' (Leslau, Hetzron) [a] and my [i] is their [a].

1. Description of the morphology is presented in an item-and-arrangement model. Although standard practice, this model does pose certain problems with (i) process alternations and (ii) isomorphic form-meaning correspondences.
2. There are some roots which have vocalic elements. See 3.4.
vowels which correspond to different aspecual or tense categories. The
nominal/adjectival system has some vestiges of the root-and-pattern
morphology, but is inflectionally impoverished; noun stems lack gender
and number marking altogether. For example, there is no system of internal
changes to indicate plurality ("broken plurals"), as there are in other
Semitic languages such as Arabic and Tigrinya. Notwithstanding, there are
identifiable common roots between nouns, adjectives and verbs, as the
following examples illustrate:

(1) Root Verb
k̡ms k̡masa 'he tasted'
k̡r't̡m k̡rot̡ama 'he cut into parts'
grz ganaza 'he aged'
t̡l̡b̡t̡ t̡lab̡at̡a 'he grabbed'
t̡fr̡ napara 'live'

Noun/Adjective
k̡ms'is 'tasty'
kg̡rt̡'is 'of wood'
girz 'old'
t̡wač̡a 'handful'
n̡fr̡'et̡ 'life'

a. Verbs are given in the 3ms perfective citation form. Chaha perfective verbs end
in a suffix -a in affirmative main clauses, which is usually shown in the citation form
(Leslau 1979). I omit this for simplicity.

Chaha (and other Western Gurage dialects) has undergone numerous
morphophonological changes, which can render opaque the relationship
between words formed from the same root. Characteristic changes illustrated
above include labialization, palatalization, devoicing and sonorant
alternations. Some of these alternations have also come to indicate, often
in conjunction with other affixes, particular morphological categories. See
section 5.7.

3. Verbal stem morphology

Ethiopian Semitic languages employ the root-and-pattern system of
combining a consonantal root with vowels to form verb stems. The Chaha
roots /mgu/ 'suppurate', /srs/ 'be afraid', /kkt/ 'open' and /dfr/ 'add' illustrate
the verbal root-and-pattern system in the three main aspecual verb forms—perfective, imperfective, and jussive. The medial root consonant is
devoiced in the perfective form, or /t/ is hardened to [n]; we will return to
this phenomenon in section 3.2.

(2) Perfective Imperfective Jussive
'm to suppurate' makar-a ji-magar ja-magar
'to be afraid' sonaf-a ji-saraf ji-saraf
'to open' kafat-a ji-kaat ji-kaat
'to add' dapor-a ji-dafar ji-dafar

The standard tri-consonantal perfective form is of the shape CaCaC,3
where C stands for root consonant, and the imperfective is CaC(a)C. The
vowel [i] is epenthetic—its occurrence throughout the language is largely
predictable from syllable constraints (Banksira 2000a: 25). The jussive has
two main forms: CCaC if the verb is intransitive, as with ja-mga, and if
transitive, either CCIC or CICC. The position of the epenthetic vowel
depends on the quality of the second and third consonants (Leslau 1964;
Banksira 2000a; Rose 2000). The imperative has the same form as the jussive,
minus subject agreement prefixes.

3.1. Lexical verb types

Triconsonantal verbs in Ethiopian Semitic are divided into lexical classes
(Cohen 1936; Leslau 1950). The forms illustrated in (1) are "Type A" verbs.
Chaha also has Type B, Type C, and a fourth type, Type D, not normally
recognized in other Ethiopian Semitic languages. Type B verbs are charac-
terized by a palatal consonant or a front vowel in the first vocalic position
of the stem. This occurs in the perfective and imperfective positions, but
not in the jussive.

(3) Type B verbs

<table>
<thead>
<tr>
<th>'to finish'</th>
<th>'to cut in big slice'</th>
<th>'to burn'</th>
<th>'to select'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>japa-a</td>
<td>gana-a</td>
<td>makar-a</td>
</tr>
<tr>
<td>Imperfective</td>
<td>ji-japir</td>
<td>ji-ganiz</td>
<td>ji-makir</td>
</tr>
<tr>
<td>Jussive</td>
<td>ja-dapir/ja-dapir</td>
<td>ja-ganiz</td>
<td>ja-makir</td>
</tr>
</tbody>
</table>

The initial consonant is palatalized if it is a coronal or velar obstructed,
as shown in the first two verbs. The second consonant is palatalized only
if the first consonant is a labial consonant or a coronal sonorant and the
second one is velar, as with the verb makar. Otherwise, the front vowel [e]
appears instead of [a], as with metar. Some authors claim that Type B verbs
are not formed from triconsonantal roots, but are instead quadricon-
sonantal forms, the second consonant being the glide /j/, which is
responsible for the palatalization and vowel fronting (Rose 1994b;
Banksira 2000a). Leslau (1948) proposes that Type B had a historical CeCaC or
CeCC shape, with the /e/ triggering palatalization of relevant consonants.
Hudson (1974) and Hetzron (1971, 1977) assume that palatalization is in,
some manner, part of the underlying root. Unlike Type A verbs, Type B verbs
usually show no alternation of the penultimate consonant. This is
due to the fact that they have devoicing or hardening in all aspecual forms.
However, some verbs optionally show devoicing in the jussive, as
with the verb 'finish'.

Type C verbs are characterized by the vowel [a] in the first vocalic posi-
tion in all aspecual forms, as shown in (4):

(4) Type C verbs

<table>
<thead>
<tr>
<th>'to capture'</th>
<th>'to demolish'</th>
<th>'to get lost'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>manax-a</td>
<td>banar-a</td>
</tr>
<tr>
<td>Imperfective</td>
<td>ji-manx</td>
<td>ji-banir</td>
</tr>
<tr>
<td>Jussive</td>
<td>ja-marx</td>
<td>ja-banir</td>
</tr>
</tbody>
</table>

a. Both forms are attested.
As with Type A verbs, the medial consonant alternates between between \( p \) and \( b \), with the voiceless variant appearing in the perfective, imperfective and optionally in the jussive. The same pattern of alternation is found with \( k \) and \( k' \), with \( k \) in the perfective and imperfective. These mutation patterns are found throughout the verb conjugations and will be discussed shortly in section 3.2.

Type D is described by Petros (1993) and is similar to Type B, except the initial consonant is labialized. There are few members of this class; most verbs belong to either the Type A or Type B categories. The consonant \( b' \) is realized as \( w \) in intervocalic position. Banksira (2000a) analyzes these verbs as quadriconsonantal, the second consonant being \( /w/ \).

(5) Type D verbs

<table>
<thead>
<tr>
<th></th>
<th>‘to become strong’</th>
<th>‘to feel lonely’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>( k')amar-( a )</td>
<td>( b')anas-( a )</td>
</tr>
<tr>
<td>Imperfective</td>
<td>( ji-k')anir</td>
<td>( ji-wanis )</td>
</tr>
<tr>
<td>Jussive</td>
<td>( jo-k')anir</td>
<td>( jo-wars )</td>
</tr>
</tbody>
</table>

Like Type B verbs, the jussive pattern is CaCC. The same \( [n]/[r] \) alternation also appears in Type D, with the \( [n] \) appearing in the perfective and imperfective, and the \( [r] \) in the jussive.

Due to the lexical conjugation patterns, it is possible to have homophonous triconsonantal roots that differ in their Type classification, ex. \( ba\text{-}n\text{-}\text{a-f} \) (A), \( a\text{-}\text{b\text{-}n\text{-}a-f} \) ‘yawn’ (B)\(^4\) or \( ba\text{-}n\text{-}\text{a-d} \) ‘demolish’ (C).

Quadriconsonantal verbs are also common in the language, and are conjugated as in (6). Alternation of the penultimate consonant (voiced/voiceless in the case of \( g\text{-}r\text{-}a\text{-}t\text{-}a\text{-}n\text{a} \)) occurs in the perfective and imperfective.

(6) Quadriconsonantal verbs

<table>
<thead>
<tr>
<th></th>
<th>‘to testify’</th>
<th>‘break something in two’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>( n\text{-}s\text{-}k\text{-}a\text{-}r\text{-}a )</td>
<td>( g\text{-}r\text{-}a\text{-}t\text{-}a\text{-}n\text{a} )</td>
</tr>
<tr>
<td>Imperfective</td>
<td>( ji\text{-}m\text{-}s\text{-}k\text{-}a\text{-}r\text{-}i )</td>
<td>( ji\text{-}g\text{-}r\text{-}a\text{-}t\text{-}i )</td>
</tr>
<tr>
<td>Jussive</td>
<td>( jo\text{-}m\text{-}s\text{-}k\text{-}a\text{-}r\text{-}i )</td>
<td>( jo\text{-}g\text{-}r\text{-}a\text{-}d\text{-}i )</td>
</tr>
</tbody>
</table>

3.2. Mutation pattern

The system of consonant mutations is an integral component of the conjugation patterns differentiating the verb types and aspectual forms. The consonant correspondences are shown below. I will refer to the voiced/\( x/r \) series as \( w\text{-}a\text{-}k \) and the voiceless/\( k/n \) series as \( s\text{-t\text{-}r\text{-}o\text{-}k \text{-}a \).

(7) Weak Strong

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>( b )</td>
<td>( b' )</td>
</tr>
<tr>
<td>( t )</td>
<td>( t' )</td>
</tr>
<tr>
<td>( x )</td>
<td>( x' )</td>
</tr>
<tr>
<td>( n )</td>
<td>( n' )</td>
</tr>
</tbody>
</table>

\( 4 \) This verb has an obligatory prefix. See section 4.

The strong consonants are the hardened or devoiced versions of the weak correspondents. However, the voiceless consonants \( [t\text{-}c\text{-}s\text{-}j] \) are not always devoiced variants of the voiced obstruents, and may simply be underlying voiceless obstruents, a situation which results in neutralization in the perfective stem. So, if a perfective form has a voiceless penultimate consonant, other verb forms must be examined to reveal whether the voicelessness is underlying or derived via devoicing. For example, \( s\text{-}a\text{-}t\text{-}a\text{-}r \) ‘he was first’ has the root \( /b\text{-}d\text{-}r/ \) (imperfective: \( ji\text{-}b\text{-}d\text{-}r\text{-}i \)), whereas \( k\text{-}a\text{-}t\text{-}a\text{-}r \) ‘he chopped’ has the root \( /k\text{-}t\text{-}l/ \) (imperfective: \( ji\text{-}k\text{-}t\text{-}l\text{-}i \)). The same problem does not arise for \( [n] \) and \( [p] \) which are allophonic variants of their underlying counterparts (Petros 1996a; Banksira 2000a). The consonant \( [k] \) is derived from \( /g/ \) or \( /x/ \) (Banksira 2000a; Kenstowicz and Banksira 1999).

The strong variants are the synchronic indication of a historical geminate consonant. Former geminate \( /r/ \) was hardened to \( [n] \) and geminate \( /x/ \) to \( [k] \), as they are currently in the related dialect, Ezha. Certain voiced geminates were devoiced. Consequently, Chaha lost surface geminate consonants, leaving behind the devoiced or hardened consonants as a residue of the former geminates. Related Western Gurage dialects illustrate this point (Rose forthcoming). Ezha has maintained gemination; Endegñ shows the stage of voiceless geminates.

(8) Ezha & Endegñ & Chaha

<table>
<thead>
<tr>
<th>‘sting’</th>
<th>‘jump’</th>
</tr>
</thead>
<tbody>
<tr>
<td>( n\text{-}d\text{-}d\text{-}a\text{-}f\text{-}a )</td>
<td>( z\text{-}g\text{-}g\text{-}a\text{-}r\text{-}a )</td>
</tr>
<tr>
<td>( n\text{-}d\text{-}d\text{-}a\text{-}f\text{-}a )</td>
<td>( z\text{-}k\text{-}a\text{-}k\text{-}r\text{-}a )</td>
</tr>
<tr>
<td>( n\text{-}d\text{-}d\text{-}a\text{-}f\text{-}a )</td>
<td>( z\text{-}k\text{-}a\text{-}k\text{-}r\text{-}a )</td>
</tr>
</tbody>
</table>

Not all verbs with voiced medial obstruents show the alternation pattern, as seen above with the verb \( n\text{-}d\text{-}d\text{-}a\text{-}f\text{-}a \). As first pointed out by Banksira (2000a), the nature of the final root consonant is responsible for whether mutation occurs. Rose (forthcoming) and O’Bryan and Rose (2004) argue that it is the phonetic duration of the final root consonant which largely determines whether gemination takes place in the perfective form in Endegñ, and by extension, whether mutation occurs in Chaha. In Endegñ, the sonorants and some voiced stops (i.e., /g/, /d/) condition gemination; in Cha ha it is primarily the sonorants and /t/ (Banksira 2000a).

The four triconsonantal verb Types differ not only in their stem shapes, but also by the mutation patterns which occur in the three aspectual forms. The gemination patterns key to the verb forms of other Ethiopian Semitic languages are here translated into consonant mutations, indicated by \( C_{\text{m}} \) (see [9] on p. 408). All illustrative triconsonantal verbs have medial \( [t]/[n] \) alternations.\(^5\) The quadriconsonantal form is also illustrated.

\(^5\) Banksira (Petros 1996a; Banksira 2000a) argues that there is no underlying contrast between \( [r] \) and \( [n] \), but a single phoneme \( /s/ \), which is realized as \( [n] \) under predictable conditions. Notably, \( [n] \) occurs in word-initial position and pre-nasally; \( [r] \) in mon: other environments.
3.4. Weak roots

Like other Semitic languages, some Chaha verbs only have two surface consonants, but their roots historically had, or are synchronically assumed to contain, three elements. The third root segment is either a glide /w/ or vowel /a/, attributable to former guttural consonants. Prunet (1996) analyzes the vowel /a/ as an underlying pharyngeal glide in the related dialect, Inor. These “weak” segments fuse with other elements in the verb root, causing palatalization or vowel fronting in the case of /i/, or labialization or vowel rounding in the case of /u/. Some examples of verbs with root /a/ are shown in (10).

(10) a-initial a-medial a-final
Perfactive anâβ-a dakâ-a sama
Imperfective ji-ar系数 ji-dak系数 ji-sama
Jussive ji-ar系数 jo-dak系数 ja-sama

The final [a] of a-final stems is deleted preceding 2nd and 3rd person plural subject suffixes, ex. samo ‘they kissed’ < sama-o.

Roots containing /w/ in initial and medial position are shown in (11).

(11) w-initial w-medial w-final
Perfactive watak系数 fa-x系数 ta系数
Imperfective ji-wata系数 ji-p系数 ji-t系数
Jussive ja-t系数 ja-t系数 ja-t系数

The initial consonant [w] often elides in the jussive if the verb is intransitive, as with ‘fall’ ja-t系数, but not if transitive, where the stem shape is ja-w-C-C: ja-wât系数 ‘invent’. There are exceptions to this pattern, though, ex. ja-sd系数 ‘take’ *ja-wsdl. The medial /w/ labializes the initial consonant if labilizable (velars and labials), as with fa-x系数. Otherwise, it fuses with the stem vowel /a/ to create a round vowel [o], ex. tómä ‘fast’, or is realized as [u] if there is no stem vowel. Banksira (2000a: 222) argues that /w/ in final root position triggers both palatalization of an immediately preceding root consonant and labialization of the rightmost preceding root consonant, so a verb such as k系数-a系数 ‘have dysentery’ is formed from a root /k系数w系数/.

There are no verbs with a surface consonant [j] in the initial position, unlike w-initial verbs.6 Verbs with [j] in other positions have vowel fronting or palatalization:

(12) j-initial j-final
Perfactive teg系数 bak系数
Imperfective ji-teg系数 ji-bax系数
Jussive ja-teg系数 ja-bx系数

The perfective 3rd person plurals and the non-perfective 2nd and 3rd person plurals of j-final verbs lack palatalization of the second consonant: ex. jifi-bax系数. The 3rd person plural has a glide [w]: bak系数ko系数 ‘they cried’.

3.5. Reduplicated verbs

Chaha has three kinds of reduplicated verbs, in which a root consonant is repeated in a systematic fashion. The first is the well-known Semitic 122 pattern of ‘doubled verbs’, in which the final consonant is repeated. There is no systematic semantic notion of repetition or pluractionality associated with this pattern, and it is generally assumed that the root is biconsonantal with repetition of the final consonant to conform to the canonical triconsonantal shape.7 These verbs in Chaha may belong to Types A, B, C or D. Mutation occurs with [r]/[n] and with [B]/[p] only.

(13) A /ß系数/ B /ft系数/ C /ß系数/ D /k系数w系数/
Perfactive banark系数 fet系数-t系数 baz系数系数 k系数-sner系数
Imperfective ji-far系数 ji-fet系数 ji-baz系数 ji-k系数-sar系数
Jussive ja-far系数 ja-fat系数 ja-baz系数 ja-k系数-w系数

Quadricriconsonantal verb forms may have repetition of the last consonant in a 1233 pattern or total reduplication in a 1212 pattern. The former are assumed to have a triconsonantal root, and the latter a biconsonantal root. This type of reduplication conveys a notion of repetition, physical impairment, or “local movement,” defined as actions close to the body or small repetitive movements (Prunet and Petros 1996). These verbs

6. There are verbs that begin with [s]: et系数-s系数 ‘got really mad’, or en系数-k系数 ‘vomit’, but at least en系数系数系数系数-a系数 conjugates like a Type B verb, so this is probably the source of the vowel fronting.

7. Although see Gafo (2003) on an alternate approach to the same class of verbs in Arabic.
conjugate like regular quadriconsontal forms. The 1233 type is usually not related to triconsonantal forms with the same consonants. Note that mutation of the penultimate consonant is possible, as shown by zirasər-; there is no extension of the devoicing to the other half of the consonant pair.

(14) k'imat'at-ə | fık'afək-ə | ooze'
dirazaz-ə | nisənas-ə | 'be very blunt'
siratət-ə | zirasər-ə | 'feel ill at ease'
firəkək-ə | sirəsar-ə | 'cut meat into strips'
'remove layers of plant one by one'
'level floor of house by scraping'

Some verbs of this type have a prefix (i)n-, ex. in-kirətətə 'tilt', which has no clearly identifiable meaning.

The final pattern of reduplication in verb forms is 1223, a type known as the frequentative, a common form in Ethiopian Semitic languages (Leslau 1939; Rose 2003). Unlike the other patterns, this type of reduplication is generally derived from a corresponding verb form, and adds an extra syllable, either with the vowel [a] or [ə]. The frequentative conveys the notion of intensity and repetition of the action of the regular verb. Mutation patterns are the same as other quadriconsontal forms; again, devoicing can affect the penultimate consonant, but not extend to the other half of the pair. Its conjugation pattern differs slightly from other quadriconsontal forms in the jussive: cf. CaCCC and CCAaCC. Type B verbs with the vowel [e] (i.e., met'ərə) lack the [e] altogether in the frequentative. Type B verbs with palatalization have palatalization in all frequentative forms, including the jussive. Note that although the regular Type B has mutation of the penultimate consonant in every aspectual form, the frequentative reveals the nature of the underlying root, as seen with the verb jokəna.

(15) Frequentative

<table>
<thead>
<tr>
<th>A sapara</th>
<th>B metərə</th>
<th>B jakoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>sifərapa-ə</td>
<td>mitərat-ə</td>
</tr>
<tr>
<td>Imperfective</td>
<td>jə-ʃapir</td>
<td>jə-mətarə</td>
</tr>
<tr>
<td>Jussive</td>
<td>jə-ʃapir</td>
<td>jə-mətarə</td>
</tr>
</tbody>
</table>

There are restrictions on what kinds of regular verbs may form frequentatives. First, the verb cannot be intransitive. Second, it cannot already contain reduplication of the three types discussed previously. Third, the verb cannot be quadriconsontal. Other Ethiopian Semitic languages allow frequentative formation from these types of verbs (Rose 2003). Fourth, it is not clear that Type C and Type D verbs can form the frequentative.


9. This verb has an alternate pronunciation with all [k]: jə-ʃkim 'let him hit with a fist repeatedly'.

3.6. Compound reduplicative verbs

There is a class of compound verbs in Chaha that is composed of a reduplicative stem and either the verb bara 'say' or the verb amanə 'make'. The stem has the shape 1v2+2v or 1v22 where v = one of the vowels [ə], [a] or [i]. Banksira (2000b) identifies several semantic classes of compound reduplicative verbs, including feelings (anger, desire), mental disorder, manner of walking, growth and physical properties such as liquid, brightness, odor and noise. Examples are given in (16) with the verb bara.

(16) b̥ab̥a bara | 'wander'
baq̥q̥a bara | 'smell bad'
'k̥wafək̥a bara | 'fluff out'
'k̥wafək̥a bara | 'clash, clank'
zaθəf bara | 'walk gracefully'
təbəbbara | 'stare rudely at'
tıkıkbara | 'do a little'
čəm bara | 'wait, linger'
č̥aŋ̥a bara | 'rustle'
zagg bara | 'enlarge'
č̥əm bara | 'fight hard'
zaff bara | 'sit gracefully'
təbbbara | 'do a little'
tikkbara | 'stare at'

There are sometimes pairs of related meanings between CvCCvC and CvCC forms, as exemplified by the last three pairs in (16). The longer form generally has more intense meaning. Verbal affixation appears on the supporting verb, ex. gabb barə-m 'they calmed down' or bab̥a amanə-xa-t 'I made someone wander'. A suffix -t forms nominals: k̥wafək̥a-ə-t 'homelessness', and adjectives can be formed from the nouns with the suffix -a: k̥wafək̥a-ə-t-a 'homeless' (Banksiro 2000b: 8).

4. Derivational verbal prefixes

There are three valence-changing prefixes in Chaha, a-, t(a)- and at-. These occur closest to the stem, while other prefixes, such as negation and subject markers, are affixed outside the derivational prefixes.

The prefix t(a)- is known as the passive-reflexive. It attaches to transitive verbs to form the passive (Petros 1996b), as shown by the following examples:

(17) a. Amadu injapa sapara-ə-m
   Amadu glass break.pf.-3ms-past10
   'Amadu broke a glass'

b. injapa tə-sapara-ə-m
   glass pass-break.pf.-3ms-past
   'a glass was broken'

The addition of the prefix t(a)- causes internal vowel stem changes, namely adding the vowel [ə] in the second vocalic position of the imperfective and jussive for all verb types, including quadriconsontal. In

10. The suffix -m is a main verb marker/past tense marker (see 5.1).
addition, mutation occurs in the imperfective of all verb types, including Type A. When preceded by another prefix, the form of the passive prefix is [1].

<table>
<thead>
<tr>
<th>(18) Passive-reflexive</th>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>'was broken'</td>
<td>'was lost in lawsuit'</td>
<td>'was demolished'</td>
</tr>
<tr>
<td>Imperfective</td>
<td>ta-sapar-a</td>
<td>ta-rakar-a</td>
<td>ta-panar-a</td>
</tr>
<tr>
<td>Jussive</td>
<td>ji-t-sapar</td>
<td>ji-t-rakar</td>
<td>ji-t-panar</td>
</tr>
<tr>
<td></td>
<td>ja-t-sapar</td>
<td>ja-t-rakar</td>
<td>ja-t-panar</td>
</tr>
</tbody>
</table>

Finally, the prefix ti(-) conveys the notion of reciprocal, along with a change in the first vowel of the stem to [a]. Ex. makara 'give advice' → to-makara 'give each other advice' or kant'a 'despise, have contempt for' → to-kant'ir'a 'despise each other'. The reciprocal cannot be formed directly from transitive verbs of the type CaC, where the second root element is /a/, ex. sam'a 'kiss'. These verbs require reduplication of the initial consonant, and alteration of the vowel to [a]: to-sawama 'kiss each other'.

The prefix a- forms the causative, and can attach to any verb type with no concomitant change in the internal stem shape or mutation patterns. Nevertheless, it has semantic restrictions on its association. It associates to certain transitive verbs but not others (Petros 1993): ex. t'afal'at'a 'grasp' → a-t'afal'at'a 'make grasp' but sapara 'break' → *a-sapara 'make break'. Second, it associates to intransitives and renders them transitive:

<table>
<thead>
<tr>
<th>(19a)</th>
<th>k'bab</th>
<th>nat'ar-a-m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>butter melt.pf.-3ms-past</td>
<td>'the butter melted'</td>
</tr>
<tr>
<td>b.</td>
<td>Anadu k'bab</td>
<td>a-rat'ar-a-m</td>
</tr>
<tr>
<td>Anadu butter caus-melt.pf.-3ms-past</td>
<td>'Anadu melted the butter'</td>
<td></td>
</tr>
</tbody>
</table>

According to Petros (1996b), the prefix a- can attach to all unergative verbs except 'go' and 'descend', ex. dak'a 'laugh' versus a-dak'a 'make laugh'. It cannot attach to unaccusative verbs unless they have a transitive/intransitive alternation, such as basara 'cook' vs. a-basara 'cook something' or k'at'a 'be tired' versus a-k'at'a 'tire someone'. For example, the verb nanaka 'dream' does not have a causative *a-nanaka 'make someone dream'.

The prefix at-, generally viewed as a combination of the other two derivational prefixes, indicates factitive or causative of passive (Hetzron 1977;72). Unaccusative verbs which lack causatives with a- do have them with at-, generally interpreted as the causative of the passive: ex. at-sapara 'cause to be broken'.

The difference between the a- prefix 'causative' and the at- prefix 'factitive' can be demonstrated with the verb rot'a 'run': a-rot'a means 'he made someone run (i.e., spurred them) but at-rot'a means 'forced someone to run (i.e., by chasing)'. See Ueno (2000) for more on at-causatives.

A large number of verb stems do not occur without a prefix. These are dubbed 'prefix-necessitating stems' in Petros (1994). Thus, one may find triplets such as a-k'apara 'pass over', tak'apara 'receive, accept' and at-k'apara 'respond, talk back', but no plain stem *k'apara. Petros argues that prefix-necessitating stems are bound stems that require prefixes to provide external arguments. He lists several categories of verb stems that require a prefix, such as verbs of involuntary bodily movement (a-benara 'yawn', a-xara 'shout', a-rad'a 'shudder'), verbs of transfer or possession (such as the *k'apara stem above, or *nara ta-nara 'learn', at-nara 'teach') and inchoative/causative pairs where the prefixes disambiguate (a-drakata 'hurry [intr.]' and a-drakata 'hurry [trans.]').

5. Inflectional verbal affixes

The main order of verbal affixes is as follows. Inflectional affixes include tense markers, negation and subject and object affixes. Note that in perfective stems, there are no subject prefixes, only subject suffixes. Non-perfective may have just prefixes or a combination of both.

(20) Negation-Subject-Valence-Verb stem-Subject-Object-Tense

5.1. Main verb marker or tense marker -m

The perfective form has a final suffix -m, which has been described as a main verb marker (Hetzron 1977) or as a past tense marker (Petros 1996c). The -m is not present in two specific formations: with a negative prefix (21a) and in subordinate clauses: compare (21b) with the relative clause in (21c).

<table>
<thead>
<tr>
<th>(21a)</th>
<th>Amadu an-dak'a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amadu neg.-laugh.pf.-3ms</td>
<td>'Amadu didn't laugh'</td>
</tr>
<tr>
<td>b.</td>
<td>tirama garad ġan-ač-im</td>
</tr>
<tr>
<td>yesterday girl come.pf.-3fs-past</td>
<td>'the girl came yesterday'</td>
</tr>
<tr>
<td>c.</td>
<td>tirama ja-čan-ač garad markama ban-ač</td>
</tr>
<tr>
<td>yesterday rel.-come.pf.-3fs girl pretty be.pf.-3fs</td>
<td>'the girl who came yesterday was pretty'</td>
</tr>
</tbody>
</table>

Some verbs acquire an extra glide after the first consonant when at- is added: sand'a 'be scared' → at-sand'a 'scare someone'. It is not clear what conditions this glide.

12. Also, verbs beginning with [a] do not take the a- prefix, but instead use at- with some stem changes: anaf'a 'milk' → atanaf'a 'cause to be milked'.
The main clause restriction prompted Hetzron to label -m a main verb marker. However, there are two future tense markers in Chaha (-te and -fo) which appear in the same position on the verb stem (word-finally) and have the same distribution as -m, namely, only appearing in main clauses and in non-negative constructions; see section 5.2. This parallel points towards an interpretation as a tense marker. I have glossed it in examples as “past.”

Other tenses are expressed with auxiliary verbs. The durative/habitual past is formed from the imperfective and the auxiliary ‘be’ in a bare stem form: bana; ex. t-tz-o bana ‘you (pl.) were watching’ or ji-can bana ‘he was coming’. When negated, the verb has b- and the imperfective negative marker a- preceding the stem: b-a-t-tz-o ‘you (pl.) were not watching’ or b-a-j-can ‘he was not coming’. The perfective stem and auxiliary ‘be’ expresses past perfect: ex. kaft-a-m bana ‘he had opened’. When negated, the perfective negative marker an- occurs on the main verb: an-kaft-a bana ‘he had not opened’. See section 5.4 for more on negation. In both cases bana may be reduced to [ba] with no apparent alteration of meaning.

### 5.2. Future tense

Unlike other Ethiopian Semitic languages, the imperfective form in Chaha and most Western Garage dialects is only used for the present tense, not the future. The future is expressed by one of two suffixes attached at the end of the verb stem following subject and object markers. According to Hetzron (1996), the definite future -te attaches to present/imperfective stems and refers to predetermined events with external control. The indefinite future -fo attaches to jussive stems and is more subjective, conveying uncertainty, willingness or desire. The difference between them is illustrated with Hetzron’s example (1996: 103) of the question ‘Is he going to Addis Ababa?’

(22) a. jawa j-arte?
Shoa 3ms-go.impf.-def.fut

(i.e., has it been decided?)

b. jawa ji-war-fo?
Shoa 3ms-go.juss.-indef.fut

(i.e., will he be allowed to go, is it likely he is going?)

The jussive verb stem is used as the base for -fo, but the subject markers are those normally used for the imperfective. Compare: j-n-zgar-o ‘let them jump’, ji-n-zgar-o ‘they are jumping’ with ji-2-zgar-o ‘they might jump’.

### 5.3. Infinitive

Chaha has two infinitive forms. They are formed by affixing wa- or -ot to the jussive stem: ex. wa-gef ‘to break’ or sif-ot ‘to break’. They may be affixed with possessive/definite markers: walsf-ata ‘his breaking’.

14. Petros (1996c) treats these as auxiliaries.
15. Addis Ababa is referred to by the province name Shoa [jawa] in Chaha.

### 5.4. Negation

The negative marker is an- with perfective verb stems and a- with non-perfective. The affirmative perfective verbs are given with the final main verb marker/past tense marker -m to show the contrast with negative forms. The /n/ assimilates in place of articulation to a following consonant.

(23) dapara-m | ‘he added’
banara-m | ‘he didn’t add’
jadafir | ‘he added’
ajadafir | ‘he doesn’t add’
jadafir | ‘he added’
ajadafir | ‘he doesn’t add’
jadafir | ‘let him add’
ajadafir | ‘let him not add’
jadafir | ‘let him fly’
ajadafir | ‘let him not fly’

a. The a-j sequence is pronounced [e]: edafir and etat.

There is also a prohibitive marker, in- (which assimilates its place of articulation), that attaches to perfective stems with the same sense as the negative jussive: in-dapara ‘let him not add’, et al. a-j-dafir [edafir] ‘let him not add’. The usage distinction between the two is not clear. Since future tense markers cannot co-occur with the negative prefixes, the forms ajadafir and ajadafir [edafir] could also have a future interpretation as ‘he will not add’ and ‘he might not add’, respectively.

### 5.5. Copula

The present tense copula is attached to nouns and adjectives as a word-final suffix. All forms except 3ms and 3p have an initial [n]:

(24) 1s | -nxw | 1p | -ndo
2ms | -nxo | 2mp | -nu
2fs | -nxl | 2fp | -nxo
3ms | -u | 3mp | -ro
3ls | -na | 3fp | -roma

Examples: malkama-n ‘she is pretty’; bana-u [bora] ‘it is ox’; gwa-teffl-ana-ro ‘they are my brothers’. The negative copula is an-xara from the verb xara ‘to become’, conjugated in the perfective form, ex. malkama anxa ‘she is not pretty’. The existential-locative is nara with no final -m: ex. gara nara ‘there is a lion’ and the negative is enx: ex. gara enx ‘there is no lion’.

The past tense copula is ban-o (no final -m) and the negative form is annapara, from the verb nara ‘to live’: ex. gap bana ‘it was a lion’ versus gap annapara ‘it was not a lion’. Petros (1996c) analyzes bana as two morphemes: a prefix -a- attached to the verb ana. This is due to the fact that in subordinate clauses, we find tana and jana. Compare tirama garaa

16. Petros (1996c) and Banksira (2000a) analyze the [n] as a present tense marker, so the negation is a-.
17. The 1s imperative subject marker is a- in the affirmative, but n- in the negative: ex. a-dafir ‘I add’ but n-n-dafir ‘I don’t add’. This also occurs with other preceding prefixes: ti-n-dafir ‘while I add’.
bet t-an-x' 'yesterday a girl was at home' versus bet j-an-x' garad 'the girl who is at home' and garad x'ita bet t-an-x' et wat'am 'while the girl was at home, the sun rose'. The j(o)- appears on verbs in relative clauses and the t- indicates 'while, when' in subordinate clauses. See section 5.9 on subordination.

5.6. Converbs

There are two converbs: the t-converb and the m-converb (Hetzron 1977: 94). When joining a sequence of events in a sentence, only the last verb is fully inflected; the first verb is conjugated as a converb.

The t-converb (Hetzron 1977), or the "pseudo-gerund" (Leslau 1950, 1969), is formed by suffixing -ta to a stem identical to the 2nd singular feminine imperative, which exhibits palatalization of a stem consonant (see 5.7). This stem is then further affixed with past tense/perfective subject suffixes. Examples in (25) are shown with the 2s masc. subject, ex. niks fi-xa 'your biting'.

(25) 2s masc. converb gloss
    niks niks-ta-xa 'bite'
    firox firox-ta-xa 'tolerate'
    siptir sipti-ta-xa 'break'
    nik'im nik'im-ta-xa 'collect'
    sidid sidi-ta-xa 'drive cattle'
    nik'i' nik'i'-ta-xa 'take apart'

The t-converb is used before negative verbs, and before non-perfective forms. The converb and main verb agree in subject; the main verb carries additional object marking, negation and tense.

(26) a. niks-ta-xa a-t-tif\'a-n
    bite-cvb.-2sms neg.-2sms-spit out juss.-3msO
    'don't bite it and spit it out!'

b. ta-zapi-ta-č t-ar-te
    pass-return-cvb.-3sfs 3fs-go.impf.-def.fut
    'she will go back'

The m-converb does not have a special stem form, but consists of the suffix -m attached to the first in a sequence of verbs of any aspect. Like the t-converb, it cannot carry tense or object markers. Typically, the converb and the governing verb have the same aspectual stem form.

(27) a. ji-safiri-m j-ar-te
    3ms-break-cvb. 3sms-go.impf.-def.fut.
    'he will break and go'

b. ti-safiri-o-m t-ar-o ba(na)
    2mp-break.impf.-2mp-cvb. 2mp-go.impf.-2mp be(aux).pf.
    'you (pl.m) were breaking and going'

In addition to the converbs, the suffix -ta is used when two events are serial or consecutive. It is optional in serial constructions:

(28) not'-ači-m-(ta) bet gapa-či-m
    run.pl.-3fs-cvb.-3ta house enter.pl.-3fs-cvb.
    'she entered the house running'

5.7. Subject affixes

Like other Semitic languages, Chaha verbs are marked with subject affixes—suffixes in the perfective aspect, and a combination of prefixes and suffixes in other aspects. These are the same no matter the lexical classification of verb roots. The 2nd person imperative is given here in place of the jussive; the 2nd person jussive appears with prefix t- in negated forms: a-t-kift 'don't open!'. The impersonal functions as an agentless pseudo-passive, when the subject is unknown or is not directly addressed, as in waxem atarim 'how did one spend the night?' said to a group. The impersonal has a required object marker, the 3ms -i if no other object markers are expressed.

(29) 1s     Perfective Imperfective Jussive
    kaft-t-x\'    a-kift     ni-kift
    2ms    kaft-xa     ti-kift     kift
    2fs    kaft-xi     ti-kariki     kif\'e
    3ms    kaft-a     ji-kift     ja-kift
    3fs    kaft-ač     ti-kift     ti-kift
    1p    kaft-ni     ni-kift-ni     ni-kift
    2mp    kaft-xu     ti-kift-o     kift-o
    2fp    kaft-xim     ti-kift-ama     kift-ama
    3mp    kaft-o     ji-kift-o     ja-kift-o
    3fp    kaft-ama     ji-kift-ama     ja-kift-ama
    Impersonal
    kaft-x\'i     ji-kaft-či     ja-kaft-či

The impersonal and the 2fs non-perfective forms are characterized by palatalization of the final /l/ in the verb root above. In addition, the impersonal has labialization of the penultimate root consonant /l/. The impersonal undergoes a simple rule of palatalization: palatalize the final coronal obstruent of the stem (Leslau 1967). The palatalization rule for the impersonal is: palatalize the right-most velar or labial consonant, unless already palatalized. Some examples are shown in (30) below. Note that in the jussive impersonal of 'win in a lawsuit,' the plain jussive lacks palatalization due to its Type B conjugation (ja-rakik), so palatalization is possible. Reduplicated forms show double labialization or palatalization.

18 Ephemeral vowels [i] are shown as part of the prefix; these are absent if another affix precedes: ex. takik 'she opens' versus akik 'she doesn't open'.
19 This type of morphological alternation is referred to as "tetralization" (Akinlabs 1996) in the generative literature, as it involves systematic changes in the quality of the consonant, combined with a suffixal position at the right edge of the verb stem. See also McCarthy (1983) and Rose (1994a).
(30) Perfective  Imperfective  Jussive  Gloss
<table>
<thead>
<tr>
<th>Impersonal</th>
<th>Impersonal</th>
<th>Impersonal</th>
</tr>
</thead>
<tbody>
<tr>
<td>nakasa</td>
<td>nakwafi</td>
<td>jirak**ji</td>
</tr>
<tr>
<td>gada</td>
<td>gada*t'i</td>
<td>jikady*ti</td>
</tr>
<tr>
<td>nakoro</td>
<td>nakori</td>
<td>jirakiri</td>
</tr>
<tr>
<td>waza</td>
<td>waza*</td>
<td>jiwaze</td>
</tr>
<tr>
<td>t'amama</td>
<td>t'am<em>am</em>i</td>
<td>jat'am<em>am</em>i</td>
</tr>
<tr>
<td>dira记住</td>
<td>dira*33</td>
<td>jedir*33</td>
</tr>
<tr>
<td>mit'am*33</td>
<td>mit'am*33</td>
<td>jimm<em>am</em>33</td>
</tr>
</tbody>
</table>

a. The -i tone with the final vowel of a final stem to produce [e].

The pattern of 2nd feminine singular palatalization is more complicated and can be expressed via the following ordered rules:

(31) 2nd feminine singular subject palatalization rules
1. Palatalize final coronal or velar obstruent. If none, apply Rule 2.
2. Palatalize rightmost velar obstruent. If none, or if there is an intervening coronal, apply Rule 3.

a. Final [n] is not palatalized on the surface, but there is no other palatalization or vowel fronting: tan 2s masc. versus tan 2s fem. 'smoke'.

The forms in (32) show the contrast between 2fs imperative and the impersonal imperative. Again, if a root has reduplicating consonants, both consonants are palatalized or labialized. These are the only cases of double palatalization.

(32) 2ms 2fs  Impersonal  Gloss
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>nik'i</td>
<td>niki</td>
<td>'bite'</td>
</tr>
<tr>
<td>firax</td>
<td>firax*i</td>
<td>'tolerate'</td>
</tr>
<tr>
<td>bidar</td>
<td>bide &lt; bida'</td>
<td>'be first'</td>
</tr>
<tr>
<td>sifir</td>
<td>sifi</td>
<td>'break'</td>
</tr>
<tr>
<td>niki*t'im</td>
<td>niki*m'ii</td>
<td>'collect'</td>
</tr>
<tr>
<td>k'tif</td>
<td>k'tif'i</td>
<td>'cut the nails'</td>
</tr>
<tr>
<td>sidid</td>
<td>sidij</td>
<td>'drive cattle'</td>
</tr>
<tr>
<td>niki*ki</td>
<td>niki*ki'i</td>
<td>'take apart'</td>
</tr>
<tr>
<td>ma33miz</td>
<td>maz33m*33</td>
<td>'worry constantly'</td>
</tr>
<tr>
<td>kitif</td>
<td>kitif'i</td>
<td>'hash'</td>
</tr>
<tr>
<td>siraf</td>
<td>siraf'i</td>
<td>'fear'</td>
</tr>
<tr>
<td>t'af</td>
<td>t'af'i</td>
<td>'write'</td>
</tr>
<tr>
<td>wiza</td>
<td>wiza*</td>
<td>'be sweaty'</td>
</tr>
</tbody>
</table>

5.8 Object suffixes

The object suffixes attach to verb stems following the subject suffixes if present. They are marked for case by an initial consonant (Polotsky 1938; Leslau 1950; Hetzron 1971; Banksira 2000a): zero for accusative or dative, -β'-p or -k for benefactive and -/n for malfactive. Only one complement suffix may be associated to the verb, and the general rule is that the malfactive or benefactive takes precedence over the accusative/dative. Object suffixes only occur with definite complements. There are two allomorphs of the object suffixes, referred to as "light" and "heavy" (Hetzron 1977). The heavy forms occur following verbs marked with plural subject affixes, the 2sf subject and the impersonal. The light forms occur following verbs marked with all singular subject affixes. The same affixes are used throughout the different tenses. The heavy forms have an initial mutated consonant of the light forms, as seen with the x/k or β/p. All forms with [p] have an alternate pronunciation with [k]. The following chart is adapted from Banksira (2000a: 262):

<table>
<thead>
<tr>
<th>object</th>
<th>Accusative</th>
<th>Malactive</th>
<th>Benefactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Me</td>
<td>-e</td>
<td>-β</td>
<td>-β</td>
</tr>
<tr>
<td>Us</td>
<td>-nda</td>
<td>-nda</td>
<td>-nda</td>
</tr>
<tr>
<td>You m. sg.</td>
<td>-(na)x</td>
<td>-β-ka</td>
<td>-β-ka</td>
</tr>
<tr>
<td>You f. sg.</td>
<td>-(na)x'</td>
<td>-β-xl</td>
<td>-β-xl</td>
</tr>
<tr>
<td>You m. pl.</td>
<td>-(na)xu</td>
<td>-β-xu</td>
<td>-β-xu</td>
</tr>
<tr>
<td>You f. pl.</td>
<td>-(na)xu-ma</td>
<td>-β-xma</td>
<td>-β-xma</td>
</tr>
<tr>
<td>Him/it</td>
<td>-n*33-w</td>
<td>-β-a*33-w</td>
<td>-β-a*33-w</td>
</tr>
<tr>
<td>Her</td>
<td>-n-a</td>
<td>-β-a</td>
<td>-β-a</td>
</tr>
<tr>
<td>Them m.</td>
<td>-n-o</td>
<td>-β-o</td>
<td>-β-o</td>
</tr>
<tr>
<td>Them f.</td>
<td>-n-ama</td>
<td>-β-ama</td>
<td>-β-ama</td>
</tr>
</tbody>
</table>

The five versions of the object suffix 'her' (na, ra, jā, ja, pa) are shown below—three different case markings and two allomorphs of the accusative/dative and the malfactive:

(34) ji-raxiβ-a | 'he finds her' | ji-raxiβ-o-j-a | 'they find her' |
ji-raxiβ-r-a | 'he finds (sth.) for her' | ji-raxiβ-o-r-a | 'they find (sth.) for her' |
ji-raxiβ-β-a | 'he finds (sth.) to her detriment' | ji-raxiβ-o-p-a | 'they find (sth.) to her detriment' |

The superscript [w] in the 3sm object suffix refers to labialization of the right-most labial or velar consonant in the stem, the same pattern as with the impersonal form. With the malfactive forms, this results in labialization of the case marker (/β-a-/ → [-wa]), but in other forms labialization of the preceding subject marker or root consonant occurs instead.

(35) a. no object | ti-kaft | 'she opens' |
b. accusative | ti-kaft*ti-in | 'she opens it' |
c. malfactive | ti-kaft-iwa | 'she opens it to his detriment; she opens with it' |
d. benefactive | ti-kaft*ti-ra | 'she opens it for him' |

20. See McCarthy (1983) on the implications of this pattern for theoretical morphophonology.
The following are past tense forms with the accusative object, illustrating the pattern of rightmost labialization:

<table>
<thead>
<tr>
<th>(36) no object</th>
<th>w/accusative object</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>katofo</td>
<td>katofo-a-n</td>
<td>'chop'</td>
</tr>
<tr>
<td>nakasa</td>
<td>nakasa-a-n</td>
<td>‘bite’</td>
</tr>
<tr>
<td>sapara</td>
<td>sapara-a-n</td>
<td>‘break’</td>
</tr>
<tr>
<td>k’asara</td>
<td>k’asara-a-n</td>
<td>‘erect’</td>
</tr>
<tr>
<td>nak’a’ka</td>
<td>nak’a’ka-a-n</td>
<td>‘take apart’</td>
</tr>
</tbody>
</table>

5.9. Subordination

Subordinate clauses are introduced by one of the three particles ti- a-, ba- or ji- attached to the subordinate verb. They are glossed as "particle" (ptl.), since their meaning alters depending on the construction. The t-, b-, ji- forms associate to imperfective stems, whereas the a-, ba-, ji- forms attach to perfective stems.

Relative clauses have ji- prefixed to the perfective verb stem. Non-perfective relative clauses follow the same construction, but lack the ji-.

(37) a. ja-čan-č | garad | b. ti-čan | garad
ptl.-come pf.-3fs | girl | 3fs-come impf. | girl
‘the girl who came’ | ‘the girl who comes’

The prefix ja- also associates to the subordinate verb in dependent clauses with the complementizer xama ‘that’ (38). The example in (38a) shows the form of the verb ‘be’ as an in subordinate clauses (see 5.5).

(38) a. bet | j-an-č
xama x’ar-i-m
house ptl.-be pf.-3fs that know pf impl-3ms O past
‘it is known that she is at home’

b. garad | ja-čan-č
xama x’ar-i-m
girl ptl.-give birth pf.-3fs that know pf impl-3ms O past
‘it is known that she gave birth to a girl’

The prefix t- indicates ‘when, mass’ and associates to imperfective stems (39a). The form ta- attaches to perfective stems to indicate unreal condition (‘if’ or ‘when?’) (39b).

(39) a. t-i-rot
ajax-in-im
ptl.-3ms run impf see pf-1s-3ms O past
‘I saw him while (he was) running’

b. ta-čan-a
ji-sar-e | ba
ptl.-come pf-3ms 3ms please pf-1s O be(aux) pf.
‘if he were to come, I would be happy’

21. This distribution prompted Petros (1999: 137) to analyze ja- as a past tense marker. Note that the past tense marker -m does not appear in subordinate clauses.

The prefix b- is attached to imperfective (40a) or ba- is attached to perfective to convey ‘if’ or unreal condition (40b). In (40a), the enclitic particle of insistence -m nuances the meaning of ‘even if’.

(40) a. bi-t-čakw-is-e-m
a-m-bara | ba-x’-im
ptl.-3fs beg impf-1s O enclitic neg-1s eat impf say pf-1s past
‘even if she begs me, I refused to eat’

b. ba-čan-a | odi-n-jā
a-βa-ra-jā
ptl.-come pf-3ms 3s tell impf-3ms O indef fut
‘if he comes, I'll tell him’

Besides xama ‘that’, other complementizers include dar ‘until’ with the imperfective (may be accompanied by t-) and -e ‘in order to’ with the imperfective.

(41) a. ji-čan | dar | a-k w’ja-n-te
3ms-come impf until 1s wait impf-3ms O def fut.
‘I will wait until he arrives’

b. ji-βar-e | bero | wand-a-m
3ms eat impf-to town go down pf-3ms past
‘he went to town in order to eat’

The clause ‘before’ is indicated with t- plus imperfective followed by jifte, and ‘after’ with ba- and ank’ a following the perfective verb. These types of combinations are also used as postpositions, discussed in section 6.2.

(42) a. Amadu ti-j-ăr
jifte ar’bat a-fa’ar-ači-m
Amadu ptl.-3ms go impf before dinner caus prepare pf-3fs past
‘before Amadu left, she prepared dinner’

b. ba-βana
an-k’a bero | wand-a-m
ptl.-eat pf-3ms after town go down pf-3ms past
‘he went to town after he ate’

6. Nominal/adjectival morphology

Chaha has very little nominal/adjectival morphology. Nouns are uninflected for number or gender. There are a few suppletive singular/plural pairs: ara’di-gla ‘boy/s’ or miit/iltta ‘woman/women’. Otherwise, plural is not marked.

6.1 Possessives, definites, demonstratives

Generally, there is no expression of definiteness on the noun. If required, the definite marker is either the 3rd person possessive suffixed to the noun.

22. The example in (41a) may also be expressed as t'ilan dar a-βar-a-te where t'ilan c t'i-čan.
or the 3rd person personal pronoun following the noun: *-a/xʷa* for masculine and *-a/xa/xita* for feminine nouns, ex. *miš xʷa* 'the man' and *miš xita* 'the woman'.

Possessive pronouns are suffixed to nouns and mark the possessor. The vowel [a] is dropped if the stem ends in a vowel.

(43) 1s -ana 1pl -anda
2s -aša 2mp -asu
2f -axi 2fp -axma
3s -ata 3mp -axna / -axno
3f -axta 3fp -axnam

Possession can be indicated using these suffixes, ex. *garad-ata* 'his daughter', or by prefixing *ja*- to the personal pronoun: ex. *ja-xʷit garad* 'his daughter', as is done with nominals: *ja-tufna garad* 'Tafesse's daughter'.

When suffixed to *gaz* 'body' or *ja* 'hand', with an optional encilic *-m*, the possessives express the reflexive, ex. *gaz-(m)ata k̲o̲st'ara* 'he killed himself'.

Demonstratives are separate words preceding nouns, or can stand alone with possessive suffixes.

(44) zi(x) miś 'this man' zix-ata 'this one'
     xix(x) miś 'that man' xix-ata 'that one,
            zix-axno 'these ones'

6.2. Locatives/postpositions

Subjects are not marked for case, but objects may be marked with a pre-fixed *ja*- for accusative. The object must have a specific reference, and object agreement must also appear on the verb: *ja-bikxʷa danasxʷxₐ-nₐm* 'you (ms) hit the mule'. Oblique cases are also marked with *ja*-: *dawit ja-Dawit bo�af-t-a-nₐ-m* 'Dawit opened the door for Chamut'.

There are also two prepositions/particles/postcases to express nominal relationships. These are the comitative *tₐ* and the oblique marker *bo*- used for locatives and ablatives. Some examples of the combinations are given below:

(45) ba- 'in' ba-bet 'at/in the house'
     to- 'with, from' to-garad 'with the girl'
          ba-satin 'from the house'
     ba-dan 'under' ba-satin dan-e 'under the box'
     ba-mi 'inside' ba-bet to-ta-bet 'inside the box'
     ba-tₐ 'on, above' ba-bet fa-r 'on the house'
     ba-ank 'after' ba-bet to-ginzi ank 'after breakfast'
     to-jift-e 'before' ba-bet jift-e 'before breakfast'
     to-jift 'behind' ba-bet ank 'behind the house'
     to-jift 'in front of' ba-bet jift-e 'in front of the house'
     to-ma 'beside' to-bet ma 'beside the house'

Some of these postpositions are nominals: *jift* 'face', *dan* 'abdomen'.

6.3. Question particles

The basic question particles are as follows:

(46) *mʷan*  'who'
     *ja-mʷan*  'whose'
     *mir*  'what'
     *ja-mir*  'what (recent)'
     *mo-mir*  'how'
     *ja-m-xir*  'how much/many'
     *močra*  'when (past)'
     *moča*  'when (imperfect)'
     *ete*  'where'
     *jaŋ-k'ar*  'why (k'ar = 'thing')

6.4. Conjunctions of insulation

There are two encilics to mark emphasis or insistance. *-m* or *-f* is inserted between the noun and suffixed pronouns: *adot-m-xʷa Conaxʷm* (mother-encilic-3sposs. com.pf.-3s-past) 'her mother came, too.' These encilics may also associate with verbs (see ex. 40a).

6.5. Derivational nominal morphology

Derivational nominal morphology does not show regular patterns. There are few identifiable nominal shapes, and only a handful of affixes with consistent usage. See Rose (1992) for additional information.

The suffix *-nat* can be added to some nominal stems to form agentive nouns or adjectives:

(47) *bat'ir*  'crime'
     *bat'ir-ana*  'criminal'
     *at'ir*  'sin'
     *at'ir-ana*  'sinned'
     *mena*  'work, job'
     *men-ana*  'worker'
     *gaz*  'war'
     *gaz-ana*  'warrior'
     *naxʷčar*  'message'
     *naxʷčar-ana*  'messenger'

The suffix *-nat* conveys abstractive concepts and associates to nouns or adjectives; the final vowel of the base is dropped:

(48) *gʷirmasa*  'poor'
     *gʷirmasa-nat*  'poverty'
     *zagʷ*  'poor'
     *zeg-nat*  'poverty'
     *bejʷ*  'friend'
     *bej-nat*  'friendship'
     *wanaxʷ*  'neighbor'
     *wanaxʷ-nat*  'neighborhood'
     *dangana*  'rich'
     *dangan-nat*  'richness'
     *barikʷ*  'old'
     *barik-nat*  'old age'
     *nimaja*  'love'
     *nimaj-nat*  'state of being in love'
     *mijra*  'bride'
     *mijin-nat*  'state of being married'
     *fikʷ*  'fat'
     *fikʷ-nat*  'fatness'

The suffix *-wat* derives feminine nouns from adjectives and nouns (with accompanying *ja*). They may also have a superlative reading. The final vowel is dropped before suffixation (see [49] on following page).

(49) *gambana*  'dark'
     *gamban-wat*  'the dark one (fem.)'
     *markama*  'beautiful'
     *markam-wat*  'the beautiful one (fem.)'
     *fajra*  'clay'
     *faj-xir-wat*  'potter (fem.)'
The prefixes \textit{wa-} and \textit{ma-} are used to form instrumental nouns. The stems are bound, and do not have a consistent shape. They frequently have palatalization or labialization of the final root consonant.

\begin{tabular}{ll}
(50) & sakak-\textit{a} \textit{ma-sakak} \textit{peg} \textit{nata} \textit{ma-nata} \textit{assistance} \\
& nata \textit{help} \textit{ma-nata} \textit{assistance} \\
& at-rasa \textit{ma-at-rasa} \textit{litter to carry dung} \\
& yanar-\textit{a} \textit{ma-yanar} \textit{curtain} \\
& yant-\textit{a} \textit{ma-yant} \textit{curtain} \\
& sef-\textit{a} \textit{wa-sef} \textit{awl} \\
& naf-\textit{a} \textit{wa-naf} \textit{bells} \\
& darag-\textit{a} \textit{wa-daraga} \textit{hammer} \\
& fan-\textit{a} \textit{wa-fan} \textit{entrance} \\
& t'amad-\textit{a} \textit{wa-t'amad} \textit{trap} \\
\end{tabular}

There are some other nouns with \textit{wa-}/\textit{ma-} that do not have an instrumental meaning: \textit{wa-ret} ‘sleep’ < \textit{nita} ‘sleep’ or \textit{mas-} \textit{gos} ‘stomach-ache’ < \textit{nakas-} \textit{a} ‘bite’.

The suffix \textit{-ja} converts adjectives into nouns with an extended meaning:

\begin{tabular}{ll}
(51) & tik\textit{Mir} \textit{girz}\textit{ja} \textit{black wisa bread} \textit{gim\textit{im}\textit{m}-\textit{ja}} \textit{old} \textit{gim\textit{im}\textit{m}\textit{ja}} \textit{child that acts like an old person} \\
& girz\textit{ja} \textit{chipped} \textit{gim\textit{im}\textit{m}\textit{ja}} \textit{chipped utensil with chipped rim} \\
\end{tabular}

The four suffixes \textit{-a}, \textit{-at}, \textit{-et} and \textit{-at} are frequent, but do not correspond to any precise meaning. Rose (1992) suggests that they are residue of former gender markers. Some nouns and corresponding verbs are shown below in (52).

\begin{tabular}{ll}
(52) & dat\textit{a} \textit{bless} \\
& fat\textit{a} \textit{create} \\
& tan\textit{k}\textit{a} \textit{be scared} \\
& fana\textit{a} \textit{have headache} \\
& napa\textit{a} \textit{live} \\
& nas\textit{a} \textit{lick} \\
\end{tabular}

There are some nouns and adjectives that have the form CCC with epanthetic vowels:

\begin{tabular}{ll}
(53) & kaf\textit{a} \textit{respect} \\
& kan\textit{a} \textit{pile up} \\
& mas\textit{a} \textit{appear, resemble} \\
& fat\textit{a} \textit{lie} \\
& sab\textit{a} \textit{curse} \\
\end{tabular}

Many of these also show palatalization and/or labialization of the surrounding consonants; see (54) on p. 425.

\begin{tabular}{lll}
(54) & fat\textit{a} \textit{a} \textit{block up, close} & f\textit{mi}\textit{ch}\textit{im} \textit{closed, untouched} \\
& na\textit{f}a\textit{a} \textit{be greedy} & n\textit{i} \textit{f}\textit{ig} \textit{aversion} \\
& x\textit{at}\textit{a} \textit{thatch} & x\textit{mi}\textit{ji} \textit{clothes} \\
& bas\textit{a} \textit{be ripe} & b\textit{i}\textit{si} \textit{ripe} \\
& fak\textit{a} \textit{be fat} & f\textit{ik}\textit{im} \textit{fat} \\
& k\textit{a} \textit{ma}\textit{s}a \textit{taste} & k\textit{im}\textit{mi} \textit{tasty} \\
& g\textit{a} \textit{n}\textit{a} \textit{a} \textit{age} & g\textit{im}\textit{ir} \textit{old (person)} \\
\end{tabular}

The cardinal numerals are suffixed with \textit{-a} to form ordinals:

\begin{tabular}{ll}
(55) & cardinal & ordinal \\
& 1 & at & at\textit{a} \\
& 2 & x\textit{et} & x\textit{et}\textit{a} \\
& 3 & sost & sost\textit{a} \\
& 4 & a\textit{f}\textit{at} & a\textit{f}\textit{at}\textit{a} \\
& 5 & amist & amist\textit{a} \\
\end{tabular}

The other numerals are 6 \textit{skisst}, 7 \textit{sa}\textit{f}\textit{at}, 8 \textit{sin}\textit{w}it, 9 \textit{za}\textit{t}\textit{u}, 10 \textit{asir}, 11 \textit{asir}, 20 \textit{x}\textit{\textit{u}}\textit{ja}, 30 \textit{sasa}, 40 \textit{ar}\textit{ba}, 50 \textit{amsa}, 60 \textit{si}\textit{k}a, 70 \textit{si}\textit{k}\textit{a}, 80 \textit{si}\textit{ma}, 90 \textit{zi}\textit{\textit{r}}\textit{a}, 100 \textit{bak}\textit{ir}, 1,000 \textit{x}\textit{\textit{m}}\textit{im}.

The suffix \textit{-a} attached to a numeric base (with some alternations) indicates the number of days in the past from today upward to up to three days or a week (Hetzron 1977: 112). The suffix \textit{-a} indicates the same concept in the future:

\begin{tabular}{ll}
(56) & sk\textit{a} \textit{wa} \textit{today} & n\textit{a} \textit{g} \textit{a} \textit{tomorrow} \\
& tir\textit{a} \textit{ma} \textit{yesterday} & n\textit{a} \textit{g} \textit{a} \textit{tomorrow} \\
& s\textit{a}t-\textit{a} \textit{two days ago} & n\textit{a} \textit{g} \textit{a} \textit{tomorrow} \\
& n\textit{a} \textit{fa}\textit{t}\textit{a} \textit{three days ago} & n\textit{a} \textit{g} \textit{a} \textit{tomorrow} \\
& n\textit{a} \textit{ma}\textit{t}\textit{a} \textit{a} \textit{great three days from now} & n\textit{a} \textit{g} \textit{a} \textit{tomorrow} \\
& \textit{n} \textit{a} \textit{fa}\textit{t}\textit{a} \textit{a} \textit{a} \textit{week from now} & n\textit{a} \textit{g} \textit{a} \textit{tomorrow} \\
\end{tabular}

7. Conclusion

This article presents an overview of Chaha morphology, highlighting the verbal system, which displays the bulk of the complexity. The nominal/adjunct morphology has been less well-studied and appears to be relatively unproductive. Readers familiar with other Semitic languages will recognize shared properties in terms of the root-and-pattern morphology and the verbal affixation.

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