Ethiosemitic Derivational and Root Morphology

Lecture 05
LIN 4409/5609

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The Ethiosemitic Language Family

The Ethiosemitic languages are distributed Ethiopia, Eritrea, and Sudan

North Ethiosemitic

Ge'ez (†) - Horn of Africa

Tigre - Eritrea, 1.05M

Tigrinya - Eritrea and Ethiopia, 9.85M

South Ethiosemitic

Amharic - Ethiopia, 32M

Argobba - Central Ethiopia, 44K

Gafat (†) - Western Ethiopia

Gurage languages - Central Ethiopia, 2M

Harari - Eastern Ethiopia, 26K

Figure: Distribution of Ethiosemitic languages

Ethiosemitic Derivational Morphology

Amharic and Tigrinya have a number of derivational morphological features in common:

Nominal

- Nominalization
- Compounding

Verbal

- Reduplication
- Causativization
- Anticausativization

Ethiosemitic Nominalizations

Amharic and Tigrinya have two primary methods by which they derive nominalizations

Vocalic Template : Nominalization are derived via various vocalic templates, some with predictable meanings

(1) *Amharic templatic nominalizations*

a. $\sqrt{\text{gdl}} \rightarrow$ gədaj 'killer'
b. $\sqrt{\text{d͡ʒmr}} \rightarrow$ d͡ʒəmmari 'beginner'
c. $\sqrt{\text{ggr}} \rightarrow$ gagari 'baker'
d. $\sqrt{\text{nd}} \rightarrow$ nəd͡ʒi 'driver'
e. $\sqrt{\text{sʾf}} \rightarrow$ sʾafi 'writer'

(2) *Tigrinya templatic nominalizations*

a. $\sqrt{\text{drf}} \rightarrow$ dərfi 'song'
b. $\sqrt{\text{trf}} \rightarrow$ tɨrfi 'remainder'
c. $\sqrt{\text{mws}} \rightarrow$ məwwasi 'beginner'
d. $\sqrt{\text{dnb}} \rightarrow$ dənab 'penalty'
e. $\sqrt{\text{dfʔ}} \rightarrow$ dɨffɨʔ 'push'

Ethiosemitic Nominalizations

Affixation : Nominalizations are derived by affixes with typically predictable meaning

(3) *Amharic affixal nominalizations*

a. səbbərə 'break' → mə-sbər 'breaking'
b. kʾəzzəfə 'row' → mə-kʾzafʲa 'paddle'
c. sənəf 'lazy' → sɨnf-ɨnna 'laziness'
d. gazetʾa 'newspaper' → gazetʾ-ənna 'journalist'

(4) *Tigrinya affixal nominalizations*

a. dəfənə 'to cover up' → mə-dfən 'trap, pitfall'
b. gərəfə 'to whip' → mə-grəfti 'whip'
c. sukʾbələ 'to be silent' → sukʾ-ta 'silence'
d. ʕalet 'race, kind' → ʕalet-ɨnnət 'racism'

N-N Compounding : Tigrinya and Amharic have N-N compounding, some of which may have Ge'ez influences

(5) *Amharic N-N compounds*

a. balə 'master' + bet 'house' → balə bet 'landlord'
b. hakim 'doctor' + bet 'house' → hakim bet 'hospital'
c. mədər 'earth' + babur 'train' → mədər babur 'railway'

(6) *Tigrinya N-N compounds*

a. bet 'house' + tɨmhɨrti 'education' → bet tɨmhɨrti 'school'
b. gəzaʔ 'house/own' + rɨʔs-u 'his head' → gəzaʔ rɨʔsu 'himself'

Ethiosemitic Derivational Morphology

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Ethiosemitic Reduplication

Reduplication : Tigrinya and Amharic have a reduplication process that indicates iterative or frequentative events

(7) *Amharic frequentative reduplication*

a. fəlləgə 'look for' → fələlləgə 'look here and there'
b. səbbərə 'it(m.) broke' → səbabbərə 'he broke to pieces'
c. nəggərə 'he talked' → nəgaggərə 'he conversed'

(8) *Tigrinya frequentative reduplication*

a. mələsət 'she returned' → məlaləsət 'she kept returning'
b. səbərə 'it(m.) broke' → səbabərə 'he broke to pieces'

Ethiosemitic Causativization

Tigrinya Periphrastic Causative : Tigrinya has a biclausal periphrastic causative construction using the verb gəbərə 'he made'

(9) saba n-ət-i t'ɨrmuz səbir-a-to
Saba DOM-that-MS bottle GER.break-S3FS-O3MS
'Saba broke the bottle.'

(10) jonas saba n-ət-i t'ɨrmuz kəmʔɨ-tə-səbɨr-o gəjr-u-wa
Yonas Saba DOM-that-MS bottle COMP-S3FS-IMP.fall-O3FS GER.make-S3MS-O3FS
'Yonas made Saba break the bottle.'

Tigrinya Morphological Causative : Tigrinya has a morphological causative made with the prefix ʔa-

(11) ʔɨt-i məmhɨr n-ət-om təməhar-o məts'ħaf ʔa-ts'ɨhif-u-wom
that-MS teacher DOM-that-MP student-PL book CAUS-GER.write-S3MS-O3MP
'The teacher made the students write a book.'

Ethiosemitic Causativization

Amharic Periphrastic Causative : Amharic has a biclausal periphrastic causative construction using the verb dərrəgə ‘he made’

(12) aster ləmma wədə bet ɨnd-i-hed adərrəgə-tʃtʃ
Aster Lemma to home COMP-3MS-IMP.go PRF.make-S3FS
‘Aster made Lemma go home.’

Ethiosemitic Causativization

Amharic Direct Causative : Amharic has a morphological causative prefix a- for a “direct causative” construction

(13) aster wətʾtʾa-tʃtʃ
Aster PRF.exit-S3FS
‘Aster left.’

(14) ləmma aster-ɨn a-wətʾtʾa-t
Lemma Aster-ACC CAUS-PV.exit-S3MS-O3MS
‘Lemma took Aster out.’

Amharic Indirect Causative : Amharic has a morphological causative prefix as- for an “indirect causative” construction

(15) ləmma aster-ɨn as-wətʾtʾa-t
Lemma Aster-ACC CAUS-PV.exit-S3MS-O3MS
a.) ‘Lemma made Aster exit.’
b.) ‘Lemma let Aster exit.’

Ethiosemitic Anticausativization

Tigrinya Anticausative : Tigrinya has a valency reducing prefix t(ə)- that derives:

(16) *Passive*

bɨzuħat ʔɨnsɨsa-tat bɨ-hadano
many animal-PL by-hunter.PL
tə-kʾətil-om
ANTIC-GER.kill-S3MP
‘Many animals were killed by hunters.’

(17) *Inchoative*

ʔɨt-a tʾɨrmuz tə-səbir-a
that-FS bottle ANTIC-GER.break-S3FS
‘The bottle broke.’

(18) *Reflexive*

ʔɨt-a kʾolʕa (baʕl-a)
that-FS child self-POSS.3FS
tə-ħatsʾib-a
ANTIC-GER.wash-S3FS
‘The child washed (herself).’

(19) *Recipricol*

ʔɨt-om ʔaħwat nɨ-ħadħɨd-om
that-MP brother-PL DOM-RECP-3MP
tə-ħalalɨj-om
ANTIC-GER.kill-S3MP
‘The siblings cared for each other.’

Ethiosemitic Anticausativization

Amharic Anticausative : Amharic has a valency reducing prefix t(ə)- that derives:

(20) *Passive*

gəməd-u (bə-aster) tə-kʾorrətʾə-tʃtʃ
rope-DEF by-Aster ANTIC-PER.cut-3F
'The rope was cut (by Aster).'

(21) *Inchoative*

dər-u tə-səbir-a
that-FS ANTIC-PER.open-S3M
'The door opened.'

(22) *Reflexive*

aster t-atʾtʾəbə-tʃtʃ
Aster ANTIC-PRF.wash-S3F
'Aster washed (herself).'

(23) *Reciprocal*

səww-otʃtʃ-u ɨrbərs-atʃtʃəw-ɨn
person-P-DEF RECP-POSS.3P-ACC
tə-dəbaddəb-u
ANTIC-PRF.kill-S3M
'The people hit each other.'

Semitic Root Morphology

Semitic languages are well known for their nonconcatenative root morphology

Classical Arabic: Words sharing a root

a.	**kat**a**b**-at	'she wrote'
b.	**kut**i**b**-a	'it was written'
c.	y-a**ktub**-u	'he writes'
d.	t-a**ktub**-u	'she writes'
e.	**ki**taa**b**	'book'
f.	**kutub**	'books'
g.	**kut**taa**b**	'Koran school'
h.	**kaat**i**b**	'writer, scribe'
i.	**kat**ii**b**-a	'document'
j.	**kut**ayyi**b**	'booklet'
k.	ma-**ktab**	'office'
l.	ʔisti-**kt**aa**b**	'dictation'

The following discussion is based on Buckley 2003

Semitic Root Morphology

Templatic Morphology : An early influential generative account proposes (McCarthy 1979, 1981):

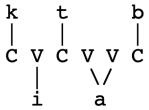
a consonantal root morpheme and

a vocalic inflectional/derivational morpheme

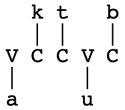
Particular rules map each morpheme to a prosodic template:

Classical Arabic: Templatic association

a. **kitaab**



b. **-aktub-**



Later iterations employ the syllable and foot as prosodic categories

Semitic Root Morphology

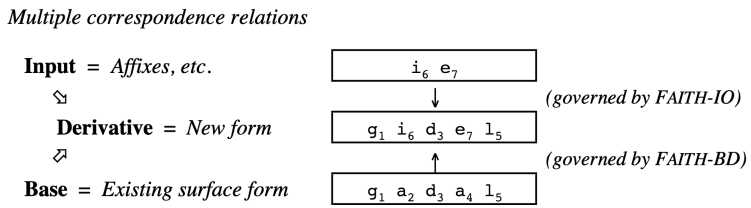
Word-Based Derivative Morphology : A more recent alternative proposes (McCarthy 1993):

an existing surface *base* form

a vocalic inflectional/derivational affix

a resultant *derivative* (i.e., inflected) form

Derivative forms arise as the optimal (Prince & Smolensky 1993, McCarthy & Prince 1995) realization of the base+affix, which involves displacing the original vowels:



Constraints on syllable structure and stem size generate templatic shapes and prevent the realization of all vowels

Semitic Root Morphology

Properties of the basic surface form help determine the properties of the derived form

Classical Arabic broken plurals : Triconsonantal (but not other) stems with a long vowel in the singular have broken plurals with epenthetic consonants whose position depends on the position of the long vowel

Classical Arabic: Vowel length in the singular and epenthetic consonants in the plural

a.	saḥaab-at	'cloud'	saḥaa?ib	'clouds'
b.	xaatam	'signet ring'	xawaatim	'signet rings'
c.	jaamuus	'buffalo'	jawaamiis	'buffaloes'

Hebrew derived verbs : Consonant clusters in basic verb forms are preserved in derived verbs even if it requires long-distance gemination

Modern Hebrew: Consonant clusters in derived verbs

a.	gadal	'to grow'	gidel	'to raise'
b.	dam	'blood'	dimem	'to bleed'
c.	faks	'fax'	fikses	'to send a fax'
d.	flirt	'flirt'	flirtet	'to flirt'
e.	praklit	'lawyer'	priklet	'to practice law'

The non-basic forms must have access to properties that cannot be derived from the consonantal root

Tigrinya Root Morphology

Buckley (2003) offers a Word-Based Derivative analysis of Tigrinya in which the vowels in the derived verb forms are determined by the combination of a base form (perfective) with a vocalix affix

Tigrinya verb paradigms

		Type A *'whip'*	Type B *'offend'*	Type C *'bless'*
Simple	*Perfective*	gərəf-ə	bəddəl-ə	barək-ə
	Gerundive	gərif-u	bəddil-u	barik-u
	Imperfective	yɨ-gərrɨf	yɨ-bɨddɨl	yɨ-barɨk
	(plural -u)	yɨ-gərf-u		
	Jussive	yɨ-grəf	yɨ-bəddɨl	yɨ-barɨk

Vowels in Tigrinya verb paradigms

		Type A		Type B		Type C	
Simple	*Perfective*	ə	ə	ə	ə	a	ə
	Gerundive	ə	i	ə	i	a	i
	Imperfective	ə	(ɨ)	ɨ	ɨ	a	ɨ
	Jussive	ə		ə	ɨ	a	ɨ

The vowel [ɨ] appears epenthetically, thereby betraying the vowels of the affix

Tigrinya Root Morphology

The following assumptions are made regarding Tigrinya:

The Base Form : The perfective form of the verb is the base form, following previous work on Arabic and Akkadian

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	(plural -u)	yɨ-gərf-u		
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Emergence of the Unmarked : The vowel [ɨ] is the unmarked, default vowel and appears only epenthetically

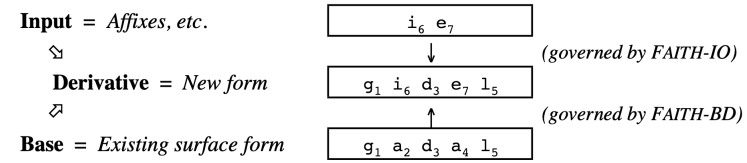
Simple	*Perfective*	gərəf-ə
	Gerundive	gərif-u
	Imperfective	yɨ-gərrɨf
	(plural -u)	yɨ-gərf-u
	Jussive	yɨ-grəf

Causative	*Perfective*	ʔa-grəf-ə
	Gerundive	ʔa-grif-u
	Imperfective	y-ə-gɨrrɨf
	(plural -u)	y-ə-grɨf-u
	Jussive	y-ə-grɨf

The analysis employs (roughly) the following technology:

Input-Output Correspondence : Derivative forms are the optimal output of one or more inputs:

Multiple correspondence relations



BASE FAITHFULNESS : A principle of BASE FAITHFULNESS (BF) favors the realization of the lexically listed vowels of the basic form in the output (i.e., no spurious replacement)

AFFIX REALIZATION : A principle of AFFIX REALIZATION (AR) outweighs BF in order to ensure any affixes appears in the output (i.e., no vacuous affixation)

Considering the Tigrinya verb paradigm again:

Tigrinya verb paradigms

		Type A *'whip'*	Type B *'offend'*	Type C *'bless'*
Simple	*Perfective*	gərəf-ə	bəddəl-ə	barək-ə
	Gerundive	gərif-u	bəddil-u	barik-u
	Imperfective (plural -u)	yi-gərrif yi-gərf-u	yi-biddil	yi-barik
	Jussive	yi-grəf	yi-bəddil	yi-barik

Perfective Verb Forms : The perfective verb form is the base form and is therefore not derived via affixation

Perfective vocalism

Input	bəddəl + ə
⇘	↓ ↓
Output	bəddəl + ə

The base is the only input and can straightforwardly be realized as the output

BF ensures that there are no spurious changes to the vowels

Considering the Tigrinya verb paradigm again:

Tigrinya verb paradigms

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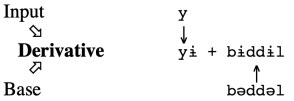
	Jussive	yɨ-grəf	yɨ-bəddɨl	yɨ-barɨk

Imperfective Verb Forms : The imperfective verb form is a derived form consisting of only unmarked vowels

Imperfective vocalism



AR overrides BF to ensure the imperfective affix is realized in the output

Because the imperfective affix is not specified with vowels, the base vowels are replaced with the default [ɨ]

Considering the Tigrinya verb paradigm again:

Tigrinya verb paradigms

		Type A *'whip'*	Type B *'offend'*	Type C *'bless'*
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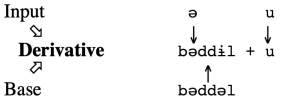
	Jussive	yɨ-grəf	yɨ-bəddɨl	yɨ-barɨk

Jussive Verb Forms : The jussive verb form is a derived form consisting of marked and unmarked vowels

Jussive vocalism



AR overrides BF to ensure the imperfective affix is realized in the output

The base vowels are replaced with specified vowels in the affix, otherwise with the default [ɨ]

Tigrinya Root Morphology

Considering the Tigrinya verb paradigm again:

Tigrinya verb paradigms

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	Jussive	yi-grəf	yi-bəddil	yi-barik

Tigrinya has a base form for verbs that serves as the perfective:

Perfective base: bəddəl-ə

Tigrinya has verbal affixes that replace the vowels of the base form:

Gerundive affix: /ə i + ϕ /
Imperfective affix: / ϕ + ∅ ∅ /
Jussive affix: / ϕ + ə ∅ /

Constraints on syllable structure and stem size must determine how affixal vowels are realized

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