Department of Linguistics
University of Leipzig

Reduplication in Tigre (Rose 2003)

Johannes Englisch

englisch@studserv.uni-leipzig.de

Seminar "The Segmental Phonology of Ethiopian Semitic Languages"

1 Introduction

Phenomenon
Reduplication in Tigre frequentative verbs:

- Reduplication of exactly one consonant

- Affects the template of the verb

- Can be applied recursively up to three times

Outlook
Analysis: Frequentative is an infix accompanied by output requirements

2 The Data

2.1 Intensive Verbs

Observation
Intensive verbs have the same shape as type C verbs: (Cə)CaːCəC

(1)   A: məsl-aː   'resemble'   →   maːsəl-aː 'resemble many people'
       B: məssəl-aː 'give examples'   →   maːsəl-aː 'give many examples'
       C: maːsəl-aː 'be diplomatic'   →   ∗

Note
Type C verbs are excluded from this process.

2.2 The Frequentative

Observation I
In addition to a shape very similar to the intensive the frequentative involves *reduplication* of the penultimate consonant.

(2)   kətb-aː   'write'   →   kəta̱ːtəb-aː 'write a little'
       wəlləb-aː 'glance around'   →   wəla̱ːləb-aː 'glance around once in a while'

Note
This form encodes *diminutive*, but is called 'frequentative', because the same form expresses frequentative in other Ethiopian Semitic languages.

Observation II
The frequentative can be applied to a very wide range of different verbs.

(3)   Type C:
      baːrək   'bless'   → bəra̲ːrək-aː   'bless a little'
       Biliteral root:
      ləff-aː   'pass by'   → ləfa̲ːfəf-aː   'pass back and forth'
       Root with glide:
      los-aː   'mix'   → ləwa̲ːwəs-aː   'mix a little'
       Quadliteral root:
      dəngəs'-aː 'become scared'   → dənəga̲ːgəs'-aː 'become slightly scared'
       Reduplicated root:
      nəknək-aː 'shake in hysterics' → nəkəna̲ːnək-aː 'shake a little'

Observation III
In Tigre this reduplication process can be applied *up to three times* within the same root.

(4)   dəgm-aː   'tell, relate'
      dəga̲ːgəm-aː   'tell stories occasionally'
      dəga̲ːga̲ːgəm-aː   'tell stories very occasionally'
      dəga̲ːga̲ːga̲ːgəm-aː 'tell stories infrequently'

Note

- Other Ethiopian Semitic languages have multiple reduplications with different morphemes; Muher and Chaha not at all.

→ Rose (2003) attributes this to different rankings of the INTEGRITY constraint.

(5)   INTEGRITY—"No Breaking"   (McCarthy and Prince 1995: 124)
      No element in S_1 has multiple correspondents in S_2.

3 The Analysis

3.1 Precursor 1: Infix Hypothesis

Hypothesis
The frequentative is an infix [-Caː-].

Problem
This hypothesis cannot derive that all frequentatives follow the same template:

(6)   dəgm-aː → dəga̲ːgəm-aː   (*dəga̲ːgma-aː)   'tell'
      wəlləb-aː → wəla̲ːləb-aː   (*wəla̲ːlləb-aː)   'look both ways'
      baːrək-aː → bəra̲ːrək-aː   (*baːra̲ːrək-aː)   'bless'

3.2 Precursor 2: Template Hypothesis

Hypothesis
The frequentative has its own 'Type D' template.

Problem I
The frequentative template looks very similar to the template of quadliteral roots. This pattern would be just accidental.

(7)		Perfective	Imperfective/Jussive
	Quadliteral	məskər-aː	li-məskir
	Frequentative	dəgaːgəm-aː	li-dəgaːgim

Problem II
One would need separate templates for triliteral and quadliteral roots:

(8) Triliteral: $C\partial C_i a\!:\!C_i \partial C$-
Quadliteral: $C\partial C\partial C_i a\!:\!C_i \partial C$-

Problem III
It would be very difficult to account for the repetition of reduplication.

3.3 Enriched Infixation

Hypothesis
The frequentative is an infix in the regular verb. The output form must meet the following requirements:

(9) a. Template match
b. Root realisation
c. Frequentative realisation

Note
This rule refers to the *regular verb* as opposed to the root, so that other processes such as other reduplications can apply beforehand.

(10) a. /nk/ (underlying)
b. nəknək (total reduplication)
c. nəkə<u>naː</u>nək (frequentative)

Template Match
The output of a frequentative must conform to the following shape:

(11) Perfective: CəCCəC
Imperfective/jussive: CəCCiC

Question
Where does the template come from?

Answer

- There is no explicit 'frequentative template'

- 'The frequentative makes use of pre-existing templates used for other verb forms' (Rose 2003: 120)

- The choice of template is based on the number of consonants in the root.

Root Realisation
All root consonants must be present in the frequentative.

(12)   Regular   Frequentative
    /dwr/   dor-aː   də<u>waː</u>wər-aː

Frequentative Realisation
Realise the reduplication so that frequentative can be distinguished from intensive forms:

(13)   dəngəs' 'become scared'   →   dən<u>aː</u>gəs' 'become very scared'
                                  →   dən<u>əga</u>ːgəs' 'become slightly scared'

Question I
Why does the frequentative reduplicate only one consonant?

Answer
There are OT constraints penalising word-internal reduplication:

(14)   a.   Contiguity   (cf. McCarthy and Prince 1995: 123)
              The root forms a contiguous string.
        b.   Morphological Expression
              Reduplication must be realised.
        c.   Max$_{B-R}$ (McCarthy and Prince 1995: 16)
              Every segment in the base has a correspondent in the reduplicant.

Example

I: gərəf RED+aː	MorphExp	Contig	Max$_{B-R}$
☞ a. gəraːrəf		**	*
b. gərfaːrəf		***!	
c. gərəfaːrəf		***!*	
d. gaːrəf	*!	*	**

Question II
How do we know that reduplication is leftwards?

Answer

- Rightward reduplication would involve infixation of a non-syllable [aːC] before the final vowel.

- There are hints in the behaviour of other Ethiopian Semitic languages.

(15)   a.   Tigrinya gemination: bəddəl-ə → bədaddəl-ə
        b.   Chaha devoicing: səpər-ə-m → səβəpər-ə-m

3.4 Further Restrictions

Observation I

Two gluttural consonants may not co-occur if they are separated by just a vowel:

(16) Type A Causative
      a. k'ətlaː   ʔa-k'təlaː   'cause to kill'
      b. ħadgaː   ʔat-ħadəgaː   'make leave'

Observation II

Reduplication in Frequentatives is *not* affected by this:

(17) baʔasaː 'fight' → baʔaːʔasaː 'fight a little'
                   → baːʔasaː

4 Examples

gərəf

(18) /gərəf RED+aː/

	Template Match	Root Realisation	Frequentative Realisation
✓ a. gəraːrəf	✓	✓	✓
b. gəraːrrəf	*	✓	✓
c. gəʔaːrəf	✓	✓	*
d. gəraːf	*	*	✓

dəngəs'

(19) /dəngəs' RED+aː/

	Template Match	Root Realisation	Frequentative Realisation
✓ a. dənəgaːgəs'	✓	✓	✓
b. dənaːgəs'	✓	✓	*
c. dənaːnəgəs'	*	✓	*

5 Conclusion

5.1 Summary

Data

(20) a. Reduplication: baːrək   →   bəraːrək
      b. Similarity to intensive: dəngəs' → dənaːgəs'
      c. Changing template: kətb   →   kətaːtəb
      d. Recursive application: kətaːtəb → kətaːtaːtəb

Analysis

- There is a [Caː] *infix*

- The infix imposes extra *requirements* onto the surface form

- The reduplication is aware of the *regular* form of the verb

5.2 How Problems Were Resolved

Infix Problem: The Verb Templates
Solution: The Template Match requirement overrides the verb template

Template Problem I: Similarity of Frequentatives with Quadliterals
Solution: 'The frequentative makes use of pre-existing templates used for other verb forms' (Rose 2003:120)

Template Problem II: Multiple Templates for One Form
Solution: All verbs use the same mechanism for choosing templates.

Template Problem III: Recursive Reduplication
Solution: The whole infixation-reduplication cycle is simply repeated.

References

McCarthy, John J. and Alan Prince. 1995. 'Faithfulness and reduplicative identity.' Jill Beckman, Suzanne Urbanczyk, and Laura Walsh Dickey (eds.), *Papers in Optimality Theory*, *University of Massachusetts Occasional Papers in Linguistics*, vol. 18. Amherst, MA: GLSA, 249–384.

Rose, Sharon. 2003. 'Triple take: Tigre and the case of internal reduplication.' *San Diego Linguistic Papers* 1, 109–128.