

# Autosegmental Phonology: Reduplication

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Concatenative Approaches to  
Nonconcatenative Morphology  
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# Agta Plurals

takki	'leg'	<b>tak</b> -takki	'legs'
bari	'body'	<b>bar</b> -bari-k kid-in	'my whole body'
na-wakay	'lost'	na- <b>wak</b> -wakay	'many things lost'
mag-saddu	'leak'	mag- <b>sad</b> -saddu	'leak in many places'

# Representation of Reduplication

Reduplication is represented as a skeletal affix

E.g. for Agta:

CVC

# The Reduplication Operation

1. Affix CV-skeleton to the Base
2. Copy the Base Melody onto the same side of the Base as the CV-skeleton

(Everything else follows from the usual repair operations)

# Step 1: Affix CV-skeleton

t	a	k	k	i	
C	V	C	C	C	→

C	V	C	+	t	a	k	k	i
				C	V	C	C	C

## Step 2: Copy Base Melody

						t	a	k	k	i		
C	V	C		+		C	V	C	C	C		→

t	a	k	k	i		t	a	k	k	i	
C	V	C		+		C	V	C	C	C	

# Interesting Difference to McCarthy (1979)

The melodic elements are not split

into different C- and V-tiers

# Hard Constraints

1. Association lines never cross
2. Vowels link to Vs, Consonants to Cs
3. A skeletal node cannot be linked to two different segments on different tiers



# Soft Constraints

1. Every skeletal node is linked to a melodic node
2. Every melodic node is linked to a skeletal node

# The Central Preference

Association should be as unique as possible

**i.e.**

- ▶ Every skeletal node should be associated to **at most** one melodic node
- ▶ Every melodic node should be associated to **at most** one skeletal node

# The Repair Algorithm

- 1. If there are unassociated S-nodes and M-nodes:**
  - ▶ Associate S-nodes und M-nodes 1:1 from left to right  
**(or from right to left) in a phoneme-driven way**  
(if possible without violating hard constraints)
- 2. Else: If there are unassociated S-nodes:**
  - ▶ delete them
- 3. Else: If there are unassociated M-nodes:**
  - ▶ delete them

## Step 3: Associate Skeleton and Melody Copy

t	a	k	k	i		t	a	k	k	i		→
C	V	C		+		C	V	C	C	C		

t	a	k	k	i		t	a	k	k	i
C	V	C		+		C	V	C	C	C

## Step 4: Delete Remaining Material

t	a	k	k	i	t	a	k	k	i	→
C	V	C		+	C	V	C	C	C	

t	a	k		t	a	k	k	i
C	V	C	+	C	V	C	C	C

## Phoneme-driven Association in Detail

Go from left to right through all the M-nodes and

associate the M-node under consideration  
with the leftmost possible S-node

which is not already linked to an M-node

(i.e. an M-node M such that linking to M

- ▶ does not lead to line crossing
- ▶ does not link a vowel to V or a consonant to C
- ▶ does not create a skeletal node linked to 2 tiers)

## More Agta data

takki	'leg'	<b>tak-</b> takki	'legs'
uffu	'thigh'	<b>uf-</b> uffu	'thighs'
ulu	'head'	<b>ul-</b> ulu	'heads'

## Phoneme-driven Association in Agta

**not:**



# Right-to-Left Association

# Right-to-Left Association: Dakota

## Verb

haska	‘be tall’
čoka	‘be empty’
uspe	‘learn’
škokpa	‘be hollowed out’
ia	‘speak’

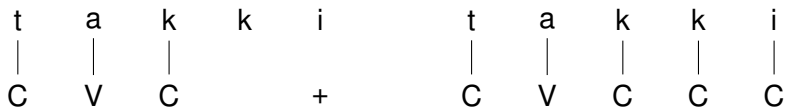
## Plural

haska- <b>ska</b>
čoka- <b>ka</b>
uspe- <b>spe</b>
škokpa- <b>kpa</b>
ia- <b>a</b>

# Some Consequences

- ▶ Association is always 1:1
- ▶ Fixed-segmentism is never overwritten

# Consequence 1: Linking is always 1:1



**not:**



# Consequence 1: Linking is always 1:1

## Reason:

- ▶ None of the repair operations creates multiple linking (in contrast to the operations for tones, roots and patterns)
- ▶ Hence for reduplication 1:1 linking might also be considered a hard constraint

# Yoruba Reduplication with Fixed Segmentism

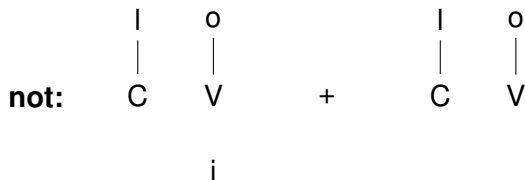
## Verb

lo	'to go'
dùn	'to be tasty,sweet'
gbóná	'to be warm,hot'
dára	'to be good'

## Nominalization

li-lo
dí-dùn
gbí-gbóna
dí-dara

## Consequence 2: Preattached Features have Precedence



# Non-canonical Reduplication in Marantz (1982)

- ▶ Syllable Reduplication
- ▶ Morpheme Reduplication
- ▶ Complete Reduplication



## Moravcsik (1978)

Stem	Pattern 1	*Pattern 2
gin.dal	<b>gi</b> -gin.dal	<b>gin</b> -gin.dal
gi.dal	<b>gi</b> -gi.dal	<b>gi</b> -gi.dal

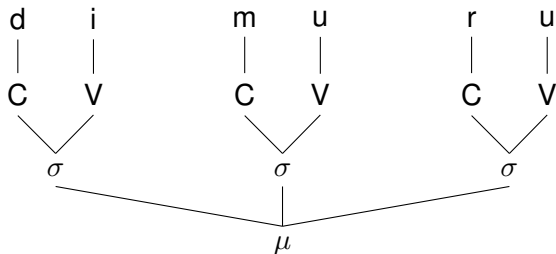
Reduplication imposes fixed prosodic structure  
but doesn't copy the prosodic structure of the base

This is predicted by the Marantz-theory

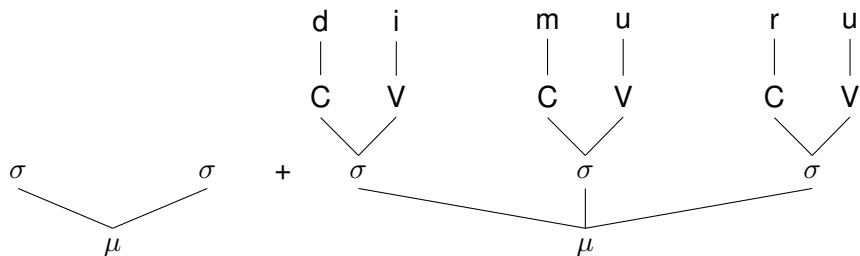
# Approximating \*Pattern 2: Yidiny

singular	plural	
di.mu.ru	<b>di.mu</b> -di.mu.ru	'house'
gin.dal.ba	<b>gin.dal</b> -gin.dal.ba	'lizard'

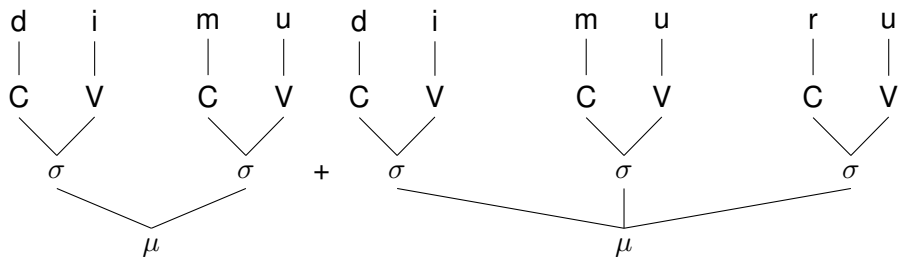
# Complete Tier Structure for *dimuru*



# Affixation of $\sigma$ -Skeleton



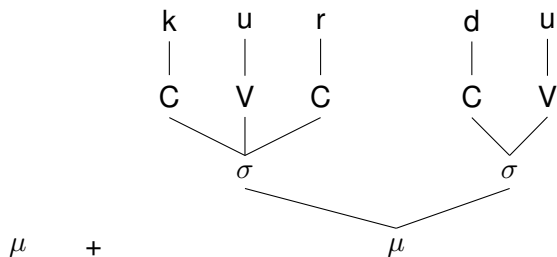
# Copy and Associate



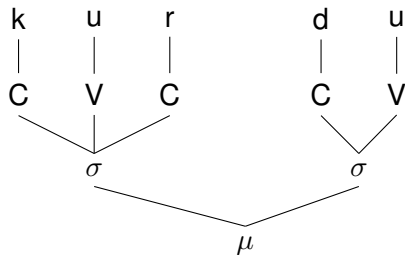
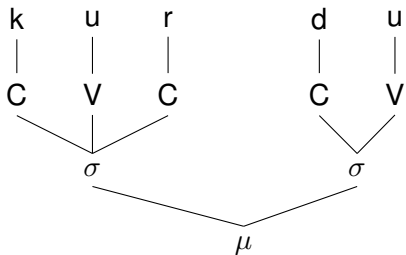
# Morpheme Reduplication in Warlpiri

<b>singular</b>	<b>plural</b>	
kurdu	kurdu-kurdu	'child'
kamina	kamina-kamina	'girl'
mardukuja	mardukuja-mardukuja	'woman'

# Affixation of $\mu$ -Skeleton



# Copy and Associate





# Reduplication in Bambara (Culy, 1985)

- |     |                         |                       |                          |
|-----|-------------------------|-----------------------|--------------------------|
| (a) | wulu o<br>dog           | wulu<br>dog           | 'whichever dog'          |
| (b) | malo o<br>uncooked rice | malo<br>unkooked rice | 'whatever uncooked rice' |
| (c) | *wulu o<br>dog          | malo<br>'rice'        |                          |
| (d) | *malo o<br>rice         | wulu<br>'dog'         |                          |

## Agentive Construction in Bambara (Culy, 1985)

- (a) wulu + nyini + la = wulunyinina 'dog searcher'  
dog search for
- (b) wulu + filè + la = wulufilèla 'dog watcher'  
dog watch
- (c) malo + nyini + la = malonyinina 'rice searcher'  
rice search for

## Agentives of Agentives

- (a) wulunyinina + nyini + la = wulunyininanyinina  
 dog searcher search for  
 'one who searches for dog searchers'
- (b) wulunyinina + flit + la = wulunyininafilèla  
 dog searcher watch  
 'one who watches dog searchers'
- (c) wulufilèla + nyini + la = wulufilèanyinina  
 dog watcher search for  
 'one who searches for dog watchers'

# Reduplication of Agentives

- |     |  |   |
|-----|--|---|
| (a) | wulunyinina o<br>dog searcher<br>'whichever dog searcher'  | wulunyinina<br>dog searcher                                 |
| (b) | wulufilèa o<br>dog watcher dog<br>'whichever dog watcher'  | wulufilèla<br>watcher                                       |
| (c) | wulunyininanyinina o<br>one who searches for dog searchers<br>'whoever searches for dog searchers' | wulunyininanyinina<br>one who searches for dog<br>searchers |