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Allomorphy between tone and segments: an autosegmental account

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Main Claim

A **monorepresentational analysis** for the allomorphy in Yucunany Mixtepec Mixtec (=YM) is possible. The alternation between realization of only an additional L-tone or additional segments in the 1.Sg follows since the latter is **prosodically defective** and only realized as a last resort.

Allomorphy in Yucunany Mixtepec

(Pike and Ibach, 1978; Paster and Beam de Azcona, 2004*a,b*; Paster, 2007)

Background

- a dialect of Mixtepec Mixtec (∼12,000 sp.); Otomanguean
- three tones: H (=V́), M (=V), L (=V̀), and contour tones
- V-length not contrastive ('VV(VV)' notated for (long) contour tones)
- default assumption: TBU=σ

1.Sg formation in YM

- a low tone is added & creates a new contour on the final σ
- a low tone is added & overwrites the final base tone
- the segmental string /−yù/ surfaces

(Paster and Beam de Azcona, 2004*a*, 3-4)

➜ contexts for allomorphs phonologically predictable:

A. a final low tone is **added** to H-final stems

(1) nàmá 'soap' nàmáà 'my soap' L **H** → L **HL**
xíníí 'hat' xíníîî 'my hat' H **LH** → H **LHL**

B. a low tone **overwrites M** on final σ

(2) la'la 'mucus' la'là 'my mucus' M **M** → M **L**
xá'nu 'cigarette' xá'nù 'my cigarette' H **M** → H **L**

➜ if this would not create an LH L sequence

(3) yùúti 'sand' yùútìì 'my sand' LH **M** → LH **ML**
yòóso 'metate' yòósoò 'my metate' LH **M** → LH **ML**

➜ or an L L sequence

(4) tìtzi 'stomach' tìtziì 'my stomach' L **M** → L **ML**
kwà'a 'man's sister' kwà'aà 'my man's sister' L **M** → L **ML**

C. /−yù/ surfaces if the stem ends in an L-toned σ

(5) sòkò 'shoulder' sòkòyù 'my shoulder' L **L** → L **L yù**
tutù 'paper' tutùyù 'my paper' M **L** → M **L yù**

Option ①: a 'polyrepresentational' analysis

- L and /yù/ are stored; the latter is realized to avoid homophony (cf. Paster and Beam de Azcona, 2004*a*, 3-4)

Option ②: a 'monorepresentational' analysis

- one underlying representation + phonology

Q1: Why is the low tone sometimes added to the base tones and overwrites the final tone in other contexts?

Q2: How can the realization of tone and segments alternate?

A monorepresentational analysis

1.Sg ↔ **L yu /#__** ➜ **a floating L and segmental /yu/; the latter only realized as last resort to realize the L**

❶ Non-realization of /yu/

- the /yu/ underlyingly lacks a σ node and since Dep-σ (6-a) dominates Max-S (6-b), the morpheme is preferably not realized (=morphemes realized in all contexts have an underlying σ)
- the L must be realized due to undominated Max-L (6-c)

(6) a. Dep σ — Assign a violation mark for every output σ without an input correspondent.
b. Max S — Assign a violation mark for every input segment without an output correspondent.
c. Max L — Assign a violation mark for every input L-tone without an output correspondent.

(7) *Preference for not realizing /yu/ but realization of L* ➤*(1)*

L H L σ σ na ma yu	Max L	Dep σ	Max S
a. L H σ σ na ma	*!		**
b. L H L σ σ σ na ma yu		*!	
☞ c. L H L σ σ na ma			**

❷ Contour creation vs. overwriting

- new contour tones are penalized by *DiffAL_{σ} (=*DAL; (9))
- overwriting for M-final bases since *DAL dominates Max-M; not for H-final bases since Max-H dominates *DAL

(9) *DAL — Assign a violation mark for tones associated to the same σ through different association line types (±epenthetic).

(8) *Floating L overwrites a base-final M* ➤*(2)*

M M L σ σ la' la yu	Max L	Max H	Dep σ	*DAL	Max M	Max S
a. M M L σ σ la' la				*!		**
☞ b. M L σ σ la' la					*	**

(10) *Floating L creates new contour with a base-final H* ➤*(1)*

L H L σ σ na ma yu	Max L	Max H	Dep σ	*DAL	Max M	Max S
☞ a. L H L σ σ na ma				*		**
b. L L σ σ na ma		*!				**

❸ No adjacent L-initial syllables

- no overwriting if two adjacent σ's associated with an initial L would result; excluded by the positional, non-local OCP (11)

(11) *$^{L}\sigma^{L}\sigma$ — Assign a violation mark for every pair of adjacent σ's that are associated with an initial L.

Other examples for non-local OCP effects: Plag (1998), Itô and Mester (1986), or Gallagher (2013).

(12) *No overwriting for M-final bases* ➤*(3),(4)*

L H M L σ σ yu ti yu	Max L	*$^{L}\sigma^{L}\sigma$	*DAL	Max M	Max S
☞ a. L H M L σ σ yu ti			*		**
b. L H L σ σ yu ti		*!		*	**

❹ Realization of /yu/ as last resort

- association of L to bases ending in an L is excluded by *[TT]
- realization of **/yu/ as last resort** to satisfy Max-L

(13) *[TT] — Assign a violation mark for every pair of adjacent identical tones associated to one TBU.

(14) *No adjacent L's: realization of /−yù/* ➤*(5)*

M L L σ σ tu tu yu	*[TT]	Max L	Dep σ	*$^{L}\sigma^{L}\sigma$	Max S
a. M L L σ σ σ tu tu	*!				**
b. M L σ σ tu tu		*!			**
☞ c. M L L σ σ σ tu tu yu			*	*	

The main argument

(15) *Summary: the complete ranking:*

A lexical contrast is reduced to a difference in underlying prosodic structure

- (16-a) and (16-b) are possible input representations in OT (given Richness of the Base)

Independent arguments for contrastive syllabification in, for example, Elfner (2006), Vaux (2003), or Iosad (2013).

➜ the analysis based on Dep-σ implies that this difference between underlying forms has a crucial surface effect

(16) a. σ / yu — ➤ realized in all contexts
b. yu — ➤ realized as last resort

Extension: another example

- morphological V-lengthening in La Paz Aymara (17)
- whenever double-lengthening is expected, /-ja:/ surfaces: alternative repair to realize both 'lengthenings' (18)

(Briggs, 1976; Beesley, 2000; Hardman, 2001)

(17) a. sara**-**: [sara:] go-Fut '(I) will go'
b. apa**-**:tam [apa:tam] bring-Fut.3Sg 'he will bring'

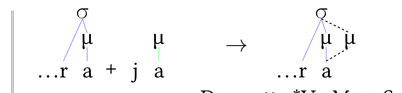
(18) a. warmi**-**:**-**: [warmi**ja**:] *warmi::
women-Vb-1>3.Fut 'I will be a women'
b. quʌqi-ni**-**:**-**:ta [quʌqini**ja**:ta] *quʌqini::ta
money-possessor-Vb-1>3.Fut-FS 'You will have money'

A monorepresentational analysis

- /-ja/ lacks a σ and is not realized if lengthening possible
- Max-μ demands μ-realization: V-lengthening

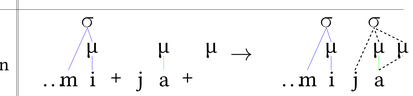
➙ realization of /-ja/ as last resort to realize all μ's

(19) Allomorph 1: V-lengthening



Dep-σ ≫ *V:, Max-S

Allomorph 2: /ja:/-realization



Max-μ, *V:: ≫ Dep-σ

Summary

- a monorepresentational account of allomorphy in YM where only an L-tone or segments are realized ➙ **prosodically defective segments only realized as a last resort**
- prosodic defectivity is independently predicted in OT and can account for apparently lexical contrasts

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