A TRANSPARENT REANALYSIS OF SELF-DESTRUCTIVE FEEDING
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AMP 2024

Background

Self-destructive feeding: an earlier rule feeds a later rule that in turn crucially changes the string such that the earlier rule's application is no longer justified (Baković 2007, 2011: 59).

(1) a. Turkish

UR	/ajag+sɯ/
s/j → ∅ / C _	ajagɯ
k/g → ∅ / V_V	ajaɯ
SF	[ajaɯ]

b. Turkish

UR	/bebek+n/
∅ → i / C_C	bebekin
k/g → ∅ / V_V	bebein
SF	[bebein]

(2) Javanese

UR	/omah+ne/
n → ∅ / C _	omahe
h → ∅ / V_V	omae
SF	[omae]

(3) Japanese

UR	/kaw+ru/
r → ∅ / C _	kawu
w → ∅ / _ [–low]	kau
SF	[kau]

Observations

1. **Morpheme Edge & Non-derived Environment Blocking**

5 out of 7 processes are NDEB – they occur only at morphologically or phonologically derived environments

(4)

a. Turkish	UR	SF	Gloss
Elision	/tʃan+sɯ/	[tʃanɯ]	'his bell'
	/isjan/	[isjan]	'rebel'
	/iksir/	[iksir]	'potion'
Velar Deletion	/bebek+i/	[bebei]	'baby (ACC.)'
	/avukat/	[avukat]	'lawyer'

b. Javanese	UR	SF	Gloss
n-deletion	/kulit+ne/	[kuline]	'skin (DEF.)'
	/muŋʊhne/	[muŋʊhne]	'supposing'
h-deletion	/səkolah+an/	[səkolaan]	'school building'
	/dihin/	[dihin]	'first'

c. Japanese	UR	SF	Gloss
r-deletion	/tob+ru/	[tobu]	'fly (INF.)'
	/nenrei/	[nenrei]	'age'

Two processes that are not NDEB are:
1) Epenthesis in Turkish (could be NDEB too)
2) w-deletion in Japanese

but they are still rules that <u>add or remove a segment locally</u>.

Consequently …

∵ Each interaction has **at least one rule** that must happen at morpheme boundaries;

∴ The resultant interactions (i.e., **SDF we observe**) only happen at morpheme boundaries.

2. **Consonant Cluster Reduction**
- Crosslinguistically, it is more common delete C_1 in an intervocalic C_1C_2 cluster (Wilson 2001).
- But in all the SDF interactions, it is **always C_2** instead of C_1 that gets deleted.

Possible explanation:
C1 is always protected by the root due to **root faithfulness** (Beckman 1998, a.o.).

Bonus – NDEB starts to make sense!
- The **first** rule in each interaction (i.e., the one that resolves consonant clusters) is always NDEB.
- If the deletion of C_2 is due to the relative dominance of C_1 over C_2 in the adjacent suffix, no wonder it only occurs at morpheme boundaries.

Questions

1. Do these phenomena related to morpheme boundaries appear with SDF by accident?
2. Is there anything that causes them to appear together?

Proposal

1. **Underspecification + contextual faithfulness**
   = co-occurrence of SDF and NDEB + CC resolution
2. **SDF = allomorph optimisation**.

Underspecification
- Segments can be underspecified underlyingly for certain features (Kiparsky 1993).
- <u>Which segments</u>: alternating ones (Inkelas 1995).
- <u>What feature</u>: whether a segment is linked to a C/V slot on the skeletal tier, to control its presence vs. absence (following Kiparsky 1993 and Rasin 2023).

Contextual Faithfulness
- Extra faithfulness is required in some contexts (Steriade 2009, a.o.)
- Captures these languages' strong preference for the CV syllable structure, shown by the fact that …
  → V-initial suffixes attach to C-ending root, and C-initial suffixes attach to V-ending ones.
  → CV is the preferred syllable structure in all three languages.

Constraints needed based on these

SPECIFY — AOV for each underspecified segment on the surface.

MAX$_{full}$ — AOV for each fully-specified segment removed.

DEPLINK — AOV for each link inserted between a segment and a C/V slot.

MAX-C/V_V and MAX-V/C_C — AOV for each deletion of consonants already occurring between vowels, and vowels between consonants, in the input (So, segments contributing to an alternating CV pattern can get preserved.)

Then … the miraculous moment!

(5) /omaH+Ne/	SPECIFY	MAX$_{full}$	*VhV	MAX-C/V_V	DEPLINK	MAX
a. ☞ omae						**
b. omane					*!	*
c. omahne					*!*	
d. omahe			*!		*	*
e. omaHNe	*!*					

(6) /kulit+Ne/	SPECIFY	MAX$_{full}$	*VhV	MAX-C/V_V	DEPLINK	MAX
a. ☞ kulite						*
b. kulitne					*!	
c. kuline		*!			*	*
d. kulie		*!				**
e. kulitNe	*!					

(7) /kopi+Ne/	SPECIFY	MAX$_{full}$	*VhV	MAX-C/V_V	DEPLINK	MAX
a. ☞ kopine					*	
b. kopie					*!	*
c. kopiNe	*!					

My proposal builds on three key points …
1. NDEB is a result of the contrast between fully- and underspecified segments.
2. The resolution to consonant cluster is a result of the root-suffix asymmetry.
3. Underspecified segments only surface when they contribute to a more harmonic phonological pattern e.g., syllable structure.

Implications

1. **(Standard) OT is no longer a big problem!**
   Accounts trying to tackle SDF included …
   Sympathy (McCarthy 1999, Lee 1999), OT-CC (McCarthy 2006, Lee 2007), Turbidity (Baković 2007), and with contextual faithfulness constraints (Hauser & Hughto 2020)
   But now, with appropriate assumptions and justified constraints, SDF can be handled by Standard OT!!!

2. **More impressive in rule-based serialism!**
   - Old rules: removing or adding segments.
   - New rules: specifying where an underspecified segments should surface (8).
   - Once endorsed, SDF can be dispensed with!!!

3. **Explains not only SDF but also the two phenomena co-occurring with it!**
   - SDF = an epiphenomenon of phonologically-conditioned allomorph optimisation when two morphemes with underspecified segments on the edge are adjacent.
   - Two peculiarities are explained:
     1) Always on morpheme edges because underspecified segments in these languages are on morpheme edges.
     2) The atypical choice of the deleted C → the asymmetry between the root-final fully-specified and the adjacent suffix-initial underspecified segment.

4. **Learnability – predicts SDF to be unlearnable.**
   - Which segment is underspecified is decided by the language.
   - Not learnable by non-native speakers who lack this knowledge.

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(8) a. Javanese rules in the old way

n → ∅ / C _

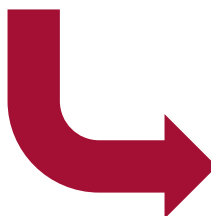h → ∅ / V_V

b. Javanese rules in the new way

N → n / V_V

H → h / _ #

default rules
always come later
(Kiparsky 1993),
so …

UR	/omaH+Ne/	UR	/omaH+Ne/
N → n / V_V		H → h / _ #	
H → h / _ #		N → n / V_V	
N → ∅	omaHe	H → ∅	omaNe
H → ∅	omae	N → ∅	omae
SF	[omae]	SF	[omae]

Breaking!!!

- The relative order between the rules specifying N and H does not matter anymore.
- They don't interact!
- **We no longer need SDF!**