



# A TRANSPARENT REANALYSIS OF SELF-DESTRUCTIVE FEEDING

Yuxuan (Melody) Wang  
Harvard University | yuxuan\_wang@fas.harvard.edu



## 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		b. Turkish	
UR	/ajag+sw/	UR	/bebek+n/
s/j → ∅ / C _	ajagw	∅ → i / C_C	bebekin
k/g → ∅ / V_V	ajaw	k/g → ∅ / V_V	bebein
SF	[ajaw]	SF	[bebein]
(2) Javanese		(3) Japanese	
UR	/omah+ne/	UR	/kaw+ru/
n → ∅ / C _	omahe	r → ∅ / C _	kawu
h → ∅ / V_V	omae	w → ∅ / _ [-low]	kau
SF	[omae]	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
	/tʃan+sw/	[tʃanw]	'his bell'
Elision	/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.)'
	/mʊŋgʊhne/	[mʊŋgʊhne]	'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 add or remove a segment locally.

#### 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<sub>1</sub> in an intervocalic C<sub>1</sub>C<sub>2</sub> cluster (Wilson 2001).
- But in all the SDF interactions, it is **always C<sub>2</sub>** instead of C<sub>1</sub> 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<sub>2</sub> is due to the relative dominance of C<sub>1</sub> over C<sub>2</sub> 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).
- Which segments: alternating ones (Inkelas 1995).
- What feature: 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 <sub>full</sub>	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.)
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## Then ... the miraculous moment!

(5)	/omaH+Ne/	SPECIFY	MAX <sub>full</sub>	*VhV	MAX-C/V_V	DEPLINK	MAX
a.	omae						**
b.	omane					*!	*
c.	omahne					*!*	
d.	omahe			*!		*	*
e.	omaHNe	*!*					
(6)	/kulit+Ne/	SPECIFY	MAX <sub>full</sub>	*VhV	MAX-C/V_V	DEPLINK	MAX
a.	kulite						*
b.	kulitne					*!	
c.	kuline		*!			*	*
d.	kulie		*!				**
e.	kulitNe	*!					
(7)	/kopi+Ne/	SPECIFY	MAX <sub>full</sub>	*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 & Hugto 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.