A Correspondence-theoretic Account of Fixed-Segmentism Reduplication

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Fixed segmentism reduplication

In (morphological) FSR, reduplication is accompanied by addition of an affix which partially overwrites the reduplicant.

(1) English /schm/-reduplication

a. table table-schmable
b. plan plan-schman
c. string string-schming
d. apple apple-schmapple

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- Optimality theory: **Correspondence theory** (Alderete et al.: 1999)
- arguments against such an OT-approach (Nevins: 2004):
  - it predicts unattested cases of morphological backcopying
  - it predicts unattested segment-counting FSR systems
  - it cannot account for cases where the FSR affix overwrites parts of reduplicants although non-overwriting would result in a phonologically licit structure

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Claim

FSR is captured best by a correspondence-theoretic analysis:

1. FSR patterns involving backcopying of the FSR affix to the base is clearly a possibility in the languages of the world
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(2) Correspondence Theory (McCarthy and Prince: 1995)

Input: Af_{RED} + Stem

↓↑ IO-FAITHFULNESS

Output: Reduplicant ⇄ Base

BR-IDENTITY

(3) English: $\textsc{Max}_{IO} \gg \textsc{Max}_{BR}$

$t_1a_2b_3l_4e_5$-sch_6m_7-RED		$\textsc{Max}_{IO}$	$\textsc{Max}_{BR}$
☞	a. $t_1a_2b_3l_4e_5$- $sch_6m_7a_2b_3l_4e_5$		*
	b. $sch_6m_7a_2b_3l_4e_5$- $sch_6m_7a_2b_3l_4e_5$	*!	
	c. $sch_6m_7a_2b_3l_4e_5$-$t_1a_2b_3l_4e_5$	*!	**
	d. $t_1a_2b_3l_4e_5$-$t_1a_2b_3l_4e_5$	*!*	

➊ The system predicts cases of **morphological backcopying** –
The FSR affix "backcopies" from the reduplicant to the base:

(4) English': $\text{MAX}_{BR} \gg \text{MAX}_{IO}$

	$t_1a_2b_3l_4e_5$-sch_6m_7-RED	MAX_{BR}	MAX_{IO}
	a. $t_1a_2b_3l_4e_5$-$sch_6m_7a_2b_3l_4e_5$	*!	
☞	b. $sch_6m_7a_2b_3l_4e_5$-$sch_6m_7a_2b_3l_4e_5$		*
	c. $sch_6m_7a_2b_3l_4e_5$-$t_1a_2b_3l_4e_5$	*!*	*
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⇨ **a typological misprediction of the system?**

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	c. $sch_6m_7a_2b_3l_4e_5$-$t_1a_2b_3l_4e_5$	*!*	*
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In FSR in Siroi, the fixed segmentism /g/ replaces the onset of the second syllable in disyllabic words (5-a,b) and is infixed in monosyllabic words (5-c).
This fixed segment does not only appear in the reduplicant, but *also in the base:*

(5) Reduplication in Siroi (Wells: 1979)

a.	maye	mage-mage	'good'
b.	sungo	sugo-sugo	'big'
c.	kuen	kugen-kugen	'tall'

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In Seerer, noun class prefixes trigger mutation of the initial consonant.

1. voicing mutation (changing a voiced into a voiceless stop (6-a,b))
2. continuancy mutation (changing a continuant into a stop, (6-c,d))

(6) Consonant mutation in Seerer-Siin (McLaughlin: 2000)

	Sg	Pl		
a.	o-**c**ir	**ɟ**ir	'sick person'	*Voicing mutation*
b.	o-**k**awul	**g**awul	'griot'	
c.	o-**p**ad	**f**ad	'slave'	*Continuancy mutation*
d.	o-**t**ew	**r**ew	'woman'	

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Agent nouns in Seerer-Siin are derived through reduplication – the reduplicant has the shape CV:

(7) Reduplication in Seerer-Siin: No featural transfer

a.	bind	'write'	o-pii-bind	'writer'
b.	dap	'launder'	o-taa-dap	'launderer'
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(8) Reduplication in Seerer-Siin: Optional featural transfer

d.	xoox	'cultivate'	o-qoo-xoox	o-qoo-**q**oox	'farmer'
e.	fec	'dance'	o-pee-fec	o-pee-**p**ec	'dancer'
f.	war	'kill'	o-baa-war	o-baa-**b**ar	'killer'
g.	riw	'weave'	o-tii-riw	o-tii-**t**iw	'weaver'

Mutation in Seerer is analysed as featural affixation of the features [–cont] and [–voice]. In the continuancy mutation, this (featural) affix overwrites the feature specification of the reduplicant *and* this change optionally is copied back to the base.

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- varying the size of the root onset could yield different FSR patterns since MAX_{IO} prefers realization of more input segments and therefore it effectively compares whether root onset or the affix (fixed segment) is longer

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(9) Wrong prediction for English

$a_1pp_2l_3e_4$-sch_5m_6-RED		MAX$_{IO}$	MAX$_{BR}$
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☞	b. $sch_5m_6a_1pp_2l_3e_4$-$sch_5m_6a_1pp_2l_3e_4$		
	c. $sch_5m_6a_1pp_2l_3e_4$-$a_1pp_2l_3e_4$		*!*
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(10) Inconsistent prediction for English'

		MAX$_{BR}$	MAX$_{IO}$
$s_1t_2r_3i_4ng_5$-sch_6m_7-RED			
	a. $stri_1ng_2$-$sch_6m_7i_4ng_5$	*!**	
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Those patterns are excluded by standard means of parametrizing faithfulness constraints to the domains affix and stem:

(11) Correspondence Theory – stem and affix faithfulness

(12) Constraint Parametrization

$$\text{Max}_{\text{S}} - \text{Dep}_{\text{S}}$$
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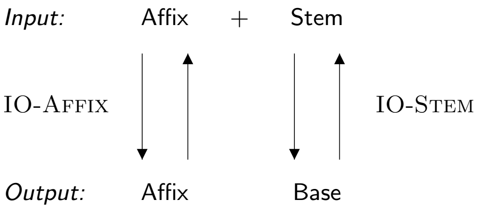

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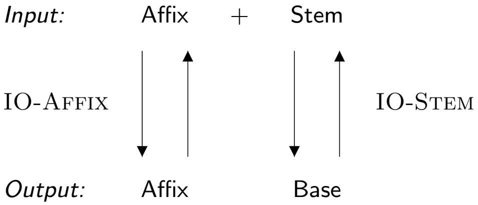

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(13) English FSR under Constraint Paramatrisation

	MAX_{AF}	MAX_{S}	DEP_{S}	MAX_{BR}	DEP_{BR}
1: $a_1pp_2l_3e_4$-sch_5m_6-RED					
☞ a. $a_1pp_2l_3e_4$-$sch_5m_6a_1pp_2l_3e_4$					**
b. $sch_5m_6a_1pp_2l_3e_4$-$sch_5m_6a_1pp_2l_3e_4$			*!*		
c. $a_1pp_2l_3e_4$-$a_1pp_2l_3e_4$	*!*				
2: $t_1a_2b_3l_4e_5$-sch_6m_7-RED					
☞ a. $t_1a_2b_3l_4e_5$-$sch_6m_7a_2b_3l_4e_5$				*	**
b. $sch_6m_7a_2b_3l_4e_5$-$sch_6m_7a_2b_3l_4e_5$		*!	**		
c. $t_1a_2b_3l_4e_5$-$t_1a_2b_3l_4e_5$	*!*				
3: $p_1l_2a_3n_4$-sch_5m_6-RED					
☞ a. $p_1l_2a_3n_4$-$sch_5m_6a_3n_4$				**	**
b. $sch_5m_6a_3n_4$-$sch_5m_6a_3n_4$		*!*	**		
c. $p_1l_2a_3n_4$-$p_1l_2a_3n_4$	*!*				
4: $s_1t_2r_3i_4ng_5$-sch_6m_7-RED					
☞ a. $s_1t_2r_3i_4ng_5$-$sch_6m_7i_4ng_5$				***	**
b. $sch_1m_2i_3ng_4$-$sch_1m_2i_3ng_4$		*!**	**		
c. $s_1t_2r_3i_4ng_5$-$s_1t_2r_3i_4ng_5$	*!*				

The analysis systematicallys violates the RAFM.

(14) Root-Affix Faithfulness Metaconstraint, RAFM (McCarthy and Prince: 1995)

RootFaith $\gg$ AffixFaith

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$$\text{RootFaith} \gg \text{AffixFaith}$$

The MAX and DEP constraints relativized to specific morphological domains seem to be ranked "in blocks", i.e. all constraints relativized to affix and stem material are ranked above the constraints relativized to BR faithfulness.

The RAFM might be replaced by the metacondition (15)

(15) MAX-DEP Adjacency:

Let α and β be different morphological domains (e.g root, affix, base-reduplicant), and $\{C_1, \ldots, C_n\}$ the set of MAX and DEP constraints, then either $\{C_1\alpha \ldots C_n\alpha\} \gg \{C_1\beta \ldots C_n\beta\}$ or $\{C_1\beta \ldots C_n\beta\} \gg \{C_1\alpha \ldots C_n\alpha\}$.

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MAX-DEP Adjacency excludes rankings as:

$$\text{MAX}_{BR} \gg \text{MAX}_{S} \gg \text{DEP}_{BR} \gg \ldots$$

where stem and BR faithfulness constraints alternate in their rankings.

(16) Predictions

$\{\text{FAITH}_{S}, \text{FAITH}_{AF}\} \gg \ldots$	the English pattern
$\{\text{FAITH}_{AF}, \text{FAITH}_{BR}\} \gg \ldots$	Backcopying
$\{\text{FAITH}_{S}, \text{FAITH}_{BR}\} \gg \ldots$	complete suppression of the FSR affix

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❸ The FSR affix overwrites in Hindi although non-overwriting would result in a phonotactically licit structure:

(17) FSR in Hindi (Nevins: 2005)

a.	roti	roti-voti	'bread and the like'
b.	mez	mez-vez	'tables and the like'
c.	tras	tras-vras	'grief and the like'
d.	aam	aam-vaam	'mangoes and the like'

➤ $*[_\sigma CC$ cannot be ranked high banning a cluster like /vr/ and forcing overwriting in /roti-vroti/ since this very same onset can be found in a reduplicated form: /tras-vras/.

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(18) FSR in Hindi with $*[_\sigma CC$ Dominating $\textsc{Faith}_{BR}$

	$\textsc{Faith}_{AF}$	$\textsc{Faith}_{S}$	$*[_\sigma CC$	$\textsc{Faith}_{BR}$
$r_1o_2t_3i_4$-v_5-RED				
☞ a. $r_1o_2t_3i_4$-$v_5o_2t_3i_4$				md
b. $v_5o_2t_3i_4$-$v_5o_2t_3i_4$		md!		
c. $r_1o_2t_3i_4$-$r_1o_2t_3i_4$	m!			
d. $r_1o_2t_3i_4$-$v_5r_1o_2t_3i_4$			*!	d
e. $v_5r_1o_2t_3i_4$-$v_5r_1o_2t_3i_4$		d!	**	
$t_1r_2a_3s_4$-v_5-RED				
☛ a. $t_1r_2a_3s_4$-$v_5r_2a_3s_4$			*!*	md
b. $v_5a_3s_4$-$v_5a_3s_4$		mmd!		
☞ c. $t_1r_2a_3s_4$-$v_5a_3s_4$			*	mmd
d. $t_1r_2a_3s_4$-$t_1r_2a_3s_4$	m!		**	

(19) FSR in Hindi with FAITH$_{BR}$ Dominating $*[_\sigma CC$

	FAITH$_{AF}$	FAITH$_{S}$	FAITH$_{BR}$	$*[_\sigma CC$
$r_1o_2t_3i_4$-v_5-RED				
☛ a. $r_1o_2t_3i_4$-$v_5o_2t_3i_4$			md!	
b. $v_5o_2t_3i_4$-$v_5o_2t_3i_4$		md!		
c. $r_1o_2t_3i_4$-$r_1o_2t_3i_4$	m!			
☞ d. $r_1o_2t_3i_4$-$v_5r_1o_2t_3i_4$			d	*
e. $v_5r_1o_2t_3i_4$-$v_5r_1o_2t_3i_4$		d!		**
$t_1r_2a_3s_4$-v_5-RED				
☞ a. $t_1r_2a_3s_4$-$v_5r_2a_3s_4$			md	**
b. $v_5a_3s_4$-$v_5a_3s_4$		mmd!		
c. $t_1r_2a_3s_4$-$v_5a_3s_4$			mmd!	*
d. $t_1r_2a_3s_4$-$t_1r_2a_3s_4$	m!			**

Hindi does not prohibit complex onsets in general but a complex onset in the reduplicant not being present in the base.

(20) Comparative Markedness (McCarthy: 2003)

- markedness constraints are replaced by two constraints $_{O}M$ and $_{N}M$
- the "fully faithful candidate" (FFC) = the candidate which is maximally faithful to the input structure

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- markedness constraints are replaced by two constraints $_{O}M$ and $_{N}M$
  - $_{O}$M assigns violation-marks to "old" marked structures: those being present in the FFC
  - $_{N}$M penalizes "new" marked structures: those not being present in the FFC
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"Comparative Markedness is rooted in the theory of correspondence [. . .]. Therefore, if correspondence is extended to base-reduplicant or output-output relations, comparative markedness is also extended to these relations." (McCarthy, 2003:26)

- extends from IO-relation to OO-relations to capture derived enviroment effects
- it naturally extends to the BR-relation as well

Extension to base-reduplicant correspondence

a. $BR_N*[_\sigma$ CC: Avoid complex onsets in the reduplicant which do not have a counterpart in the base.

b. $BR_O*[_\sigma$ CC: Avoid complex onsets in the reduplicant which have a counterpart in the base.

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(21) Hindi FSR with Comparative Markedness Constraints

	F-AF	F-S	BR_N*[CC	F-BR	BR_O*[CC
$r_1o_2t_3i_4$-v_5-RED					
☞ a. $r_1o_2t_3i_4$-$v_5o_2t_3i_4$				md	
b. $v_5o_2t_3i_4$-$v_1o_2t_3i_4$		md!			
c. $r_1o_2t_3i_4$-$r_1o_2t_3i_4$	m!				
d. $r_1o_2t_3i_4$-$v_5r_1o_2t_3i_4$			*!	d	
e. $v_5r_1o_2t_3i_4$-$v_5r_1o_2t_3i_4$		d!			*
$t_1r_2a_3s_4$-v_5-RED					
☞ a. $t_1r_2a_3s_4$-$v_5r_2a_3s_4$				md	*
b. $v_5a_3s_4$-$v_5a_3s_4$		mmd!			
c. $t_1r_2a_3s_4$-$v_5a_3s_4$				mmd!	
d. $t_1r_2a_3s_4$-$t_1r_2a_3s_4$	m!			md	*

FSR involving backcopying of the FSR affix is clearly a formal possibility employed in human language, while segment-counting FSR is so far unattested.

A correspondence-theoretic account of reduplication captures these facts without facing any of the problems Nevins (2005) pointed out for the analysis in Alderete et al. (1999) which are either empirically flawed or find a straightforward solution in independently motivated parametrization for faithfulness constraints.

Outlook

1. the approach Nevins favors:
   - predicts the very same unattested cases of segment counting FSR
   - is actually less restrictive than the OT approach in Alderete and is clearly capable to capture specific types of segment-counting FSR

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