The Typology of Multiple Reduplication:
An Argument for a Phonological Account of Reduplication

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Main Claim

- the presence of more than one reduplicative morpheme in a word:
  - Faithful multiple reduplication
  - Avoidance of multiple reduplication
  - Truncation for one reduplicant

- a **purely phonological prosodic affixation account of reduplication** predicts this typology of multiple reduplication

- morphological accounts to reduplication cannot predict this typology

Outline

The Typology of Multiple Reduplication

Multiple Reduplication: Introductory Example

(1) *Multiple Reduplication*
The presence of two or more different reduplicative morphemes in a word.

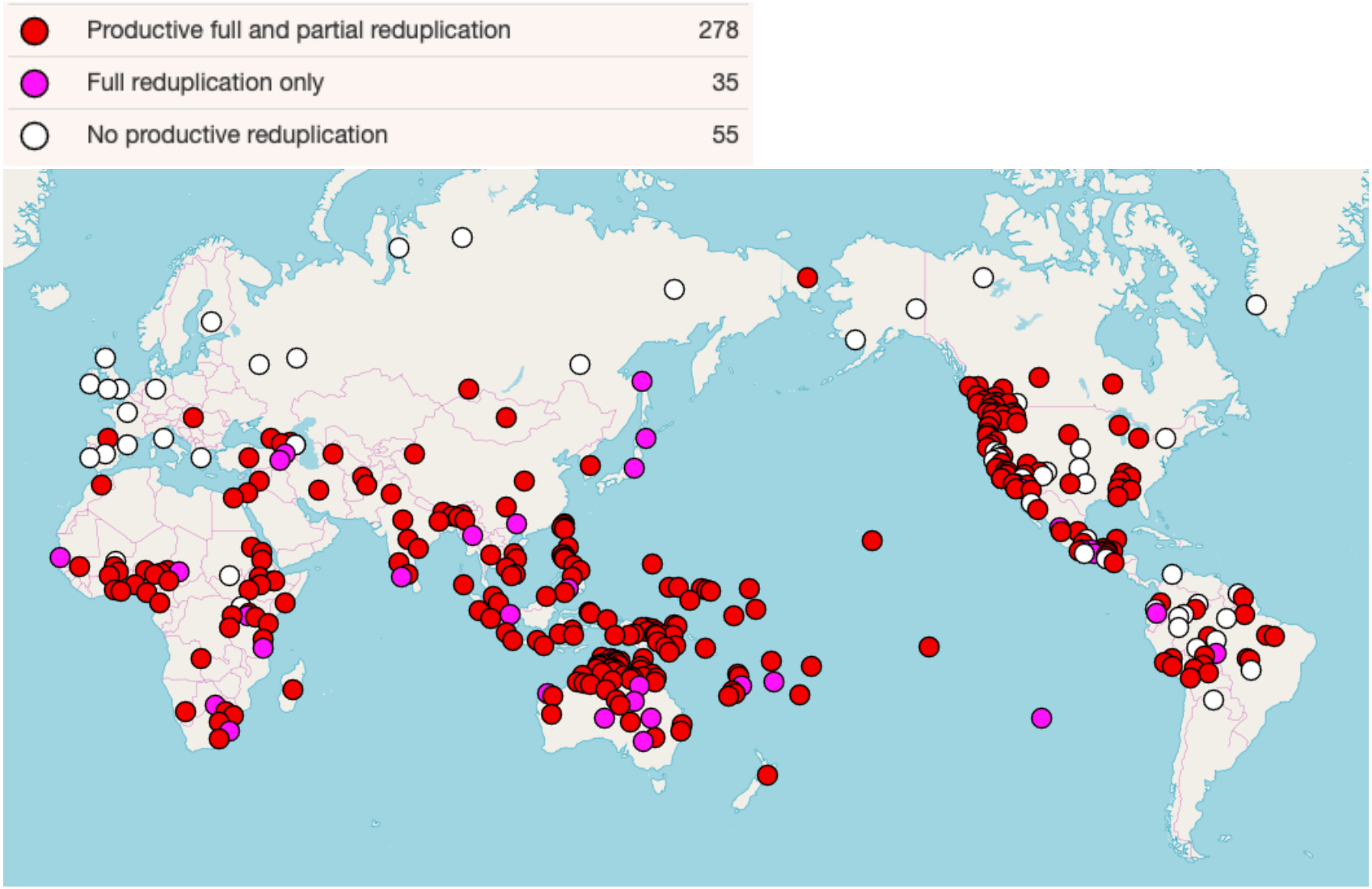
(2) *Reduplication in Tagalog (Mattes, 2007, 126)*

a. nag-**du**∼duman siya **bulan**∼bulan
BEG.AV-IPFV∼DEM.DIST 3.SG.AF PL∼month
'S/he goes there every month'

b. ini an **ha**∼**hanap**∼hanap-on
DEM.PROX PB IPFV∼PL∼look.for-UG
'here (they are) continuously searching'

Multiple Reduplication: Expected All Over the World?

(3) *Languages with reduplication: WALS (Dryer and Haspelmath, 2013)*



Languages with Multiple Reduplication (=MR)

Arapaho	Algic	Algonquian	(Cowell and Moss, 2008)
Fox	Algic	Algonquian	(Dahlstrom, 1997)
Plains Cree	Algic	Algonquian	(Ahenakew and Wolfart, 1983)
Bikol	Austronesian	Malayo-Polynesian	(Donner, 2012)
Mokilese	Austronesian	Malayo-Polynesian	(Harrison, 1974)
Papapana	Austronesian	Malayo-Polynesian	(Smith, 2016)
Sikaiana	Austronesian	Malayo-Polynesian	(Donner, 2012)
Southern Paiwan	Austronesian	Malayo-Polynesian	(Blust, 2013)
Tagalog	Austronesian	Malayo-Polynesian	(Blake, 1917)
Klamath	Klamath-Modoc		(Barker, 1964; Zoll, 2002)
Colville	Salishan	Interior Salish	(Mattina, 1973)
Lillooet	Salishan	Interior Salish	(van Eijk, 1997)
Shuswap	Salishan	Interior Salish	(Kuipers, 1974)
Spokane	Salishan	Interior Salish	(Bates and Carlson, 1998)
Thompson	Salishan	Interior Salish	(Thompson and Thompson, 1992)
hɛ́lqəmɛ́yləm	Salishan	Central Salish	(Galloway, 1993)
həṅq̇əmíṅəṁ	Salishan	Central Salish	(Suttles, 2004)
Lushootseed	Salishan	Central Salish	(Urbanczyk, 2001)
Saanich	Salishan	Central Salish	(Montler, 1986)
ʔayʔaǰuθəm	Salishan	Central Salish	(Watanabe, 1994; Blake, 2000)
Ahousaht	Wakashan	S. Wakashan	(Kim, 2003*b*)
Ditidaht	Wakashan	S. Wakashan	(Stonham, 1994)
Kyuoquot	Wakashan	S. Wakashan	(Rose, 1981)
Makah	Wakashan	S. Wakashan	(Davidson, 2002)
Tsishaath	Wakashan	S. Wakashan	(Stonham, 2004)

A. Faithful MR

	stem+morpheme:
tu∼turoga	R1
turo∼turoga	R2
tu∼turo∼turoga	R2 + R1

Faithful MR

(4) Both R1 and R2 surface in exactly the form in which they surface in isolation.

A. Faithful MR in Thompson

(5) *Multiple reduplication in Thompson (Broselow, 1983, 162)*

R1.	sí∼sil’	
	Dim-calico	
	‘a little piece of calico’	
R2.	sil∼síl	
	Distr-calico	
	‘patches of calico’	
R1+R2.	sil∼sí∼sil’	
	Dim-Distr-calico	
	‘small patches of calico’	

B. Avoidance of MR

	stem+morpheme:
tu∼turoga	R1
turo∼turoga	R2
turo∼turoga	R2 + R1

Avoidance of MR

(6) Only a single reduplicant surfaces although R1 and R2 are present.

Additional complication: independent evidence that R1 is indeed present!

B. Avoidance in Kyuoquot (Rose, 1981; Stonham, 2004)

- two reduplication-triggering suffixes in a word = a single reduplicant surfaces

(7) *Kyuquot*

R.	tɬuk-'as	tɬuː∼tɬuk'^{w}as	'He has wide wrists'
	mitx^{w}-ʃi(tɬ)-apa	miː∼miːtxʃitɬap	'He turned too much'
	ʔu-ħw'aɬ-apa	ʔuː∼ʔuːħw'aɬap	'He used it too much'
R+R.	m'aɬ-'as-apa	m'aː∼m'aːɬʔasap	'He has really cold wrists'
		*m'aː∼m'aː∼m'aːɬʔasap	
	tɬ'uk-aːn'uɬ-apa	tɬ'uː∼tɬ'uːk^{w}an'ɬap	'His legs are really big'
	pumaɬ-suɬ-apa	puːc-puːmaɬ-suɬ-ap	'He has really itchy eyes'
	mitx^{w}-'as-st'aɬ	miː∼mitw'isst'aɬ	'They were twisting each others wrists'

B. Avoidance in S. Wakashan: The superset effect for the survivor

'the effects on the final form are those that are required by *all* the triggers, with the proviso that only a single copy occurs' (Stonham, 2004, 137)

- multiple reduplicant avoidance = surfacing reduplicant **has the maximal shape that combines the shape requirements of both reduplicative morphemes**

(8) *Tsishaat Nuuchahnult (Stonham, 2004, 137)*

a.	tɬ'uk-aːn'uɬ-apa	**R+L & RL+L**	tɬ'uː-tɬ'uːkʷan'ɬap	**RL+L**
b.	m'aɬ-'as-apa	**RL & RL+L**	m'aː-m'aːɬʔasap	**RL+L**
c.	pumaɬ-suɬ-apa	**Rc+L & RL+L**	puːc-puːmaɬ-suɬ-ap	**RLc+L**
d.	hin-'as-tʃ'ap-ajuk	**RL & R**	hiː∼hinʔastʃpajk	**RL**

(Caveat: Apparent counterexamples in Kyuquot; all involve the same RcL suffix.)

C. Truncating MR

	stem+morpheme:
tu∼turoga	R1
turo∼turoga	R2
tu∼tu∼turoga	R2 + R1

Truncating MR

(9) One of the reduplicants is smaller than its form in isolation.

C. Truncating MR in Lushootseed

- distributive /CVC/-reduplication and diminutive /CV/-reduplication with fixed segment /i/ in case the stem-V is epenthetic/reduced /ə/
- in Dist≫Dim contexts*, the distributive is unexpectedly only /CV/

(10) *Lushootseed (Urbanczyk, 1999, 2001)*

R1.	bədáʔ	'child'	bəd∼bədáʔ	'children'	9:209
	júbil	'die, starve'	júb∼jubil	'they are starving'	9:221
R2.	χáhəb	'cry'	χá∼χahəb	'an infant crying'	9:205
	s-túbʃ	'man'	s-tú∼tubʃ	'boy'	9:204
	bədáʔ	'child'	bí∼bədaʔ	'young child'	1:192
R1+R2.	pástəd	'white person'	pá∼pa∼pstəd *pás∼pa∼pstəd	'many white children'	9:226
	píʃpis	'cat'	pí∼pi∼pʃpis	'kittens'	9:226
	bədáʔ	'child'	bí∼bi∼bədaʔ	'small children'	9:225
	ləg^{w}əb	'youth'	lí∼li∼l'g^{w}əb	'little fellows'	9:226

C. Truncating MR in Sikaiana

- /CV-/ reduplication for plural can optionally be reduced to /C-/
- if combined with bisyllabic reduplication, it is obligatorily /C-/

(11) *Sikaiana (Donner, 2012, 23)*

R1.	sopo	sopo∼sopo		Rep∼'jump'
	sepu	sepu∼sepu		Rep∼'dive'
	motu	motu∼motu		Rep∼'snap'
R2.	sopo	so∼sopo	s∼sopo	Pl∼'jump'
	sepu	se∼sepu	s∼sepu	Pl∼'dive'
	moe	mo∼moe	m∼moe	Pl∼'sleep'
R1+R2.	sopo	*sopo∼so∼sopo	sopo∼s∼sopo	Pl∼Rep∼'jump'
	sepu	*sepu∼se∼sepu	sepu∼s∼sepu	Pl∼Rep∼'dive'

Summary: The Unfaithful Patterns Avoidance and Truncation

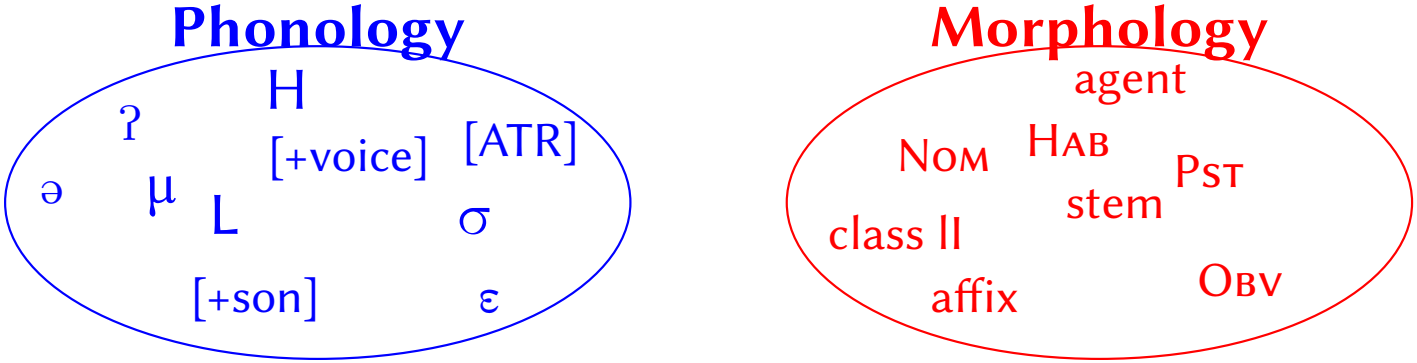
(12)

Kyuoquot	Wakashan	S. Wakashan	(Rose, 1981)
Makah	Wakashan	S. Wakashan	(Davidson, 2002)
Ditidaht	Wakashan	S. Wakashan	(Stonham, 1994)
Tsishaath	Wakashan	S. Wakashan	(Stonham, 2004)
Ahousaht	Wakashan	S. Wakashan	(Kim, 2003*b*)
Sikaiana	Austronesian	Malayo-Polynesian	(Donner, 2012)
Lushootseed	Salishan	Central Salish	(Urbanczyk, 2001)

MR and Different Reduplication Theories

Modularity and Reduplication Theories

(13) *Modularity between Phonology and Morphology*



(14) *Reduplication Theories*

'Phonological' =Phonology only sees phonological information	'Morphological' =Phonology refers to specific morphemes
- Prosodic Affixation (PA)	- BR-Correspondence (BRCT) - Morphological Doubling (MD)

Red-Affixation and Base-Reduplicant Faithfulness

(=BRCT; McCarthy and Prince, 1995, and subsequent work)

- **RED** triggers reduplication; establishes a BR-faithfulness relation
- crucial: every reduplicative morpheme establishes its own **BR-relation**

(15)

		MAX-BR$_{DIM}$	*CODA	MAX-BR$_{DIS}$
RED$_{Dis}$-sil'				
a.	sil		*	**!*
☞ b.	si∼sil'		*	*
c.	sil∼sil'		**!	
RED$_{Dim}$-sil'				
a.	sil	*!**	*	
b.	si∼sil'	*!	*	
☞ c.	sil∼sil'		**	
RED$_{Dim}$-RED$_{Dis}$-sil'				
a.	sil	*!**	*	***
b.	si∼si∼sil'	*!	*	*
c.	sil∼sil∼sil'		***!	
☞ d.	sil∼si∼sil'		**	*

BRCT and Unfaithful MR

- follows from a constraint *DupDup (Stonham, 2004) that is penalized if more than one reduplicants are present in the output

(16) *Avoidance of MR in Ahousaht*

RED_{Der}-RED_{resbl}-naʔa	RED_{DER}=μ	*DupDup	RED_{RESBL}=μ
a. naʔa	*!		*
☞ b. na∼naʔa			*
c. na∼na∼naʔa		*!	

→ *DupDup refers to **exponence type** and sees more than phonological structure

→ **excludes the Superset Effect** of the Survivor since one RED remains unrealized)

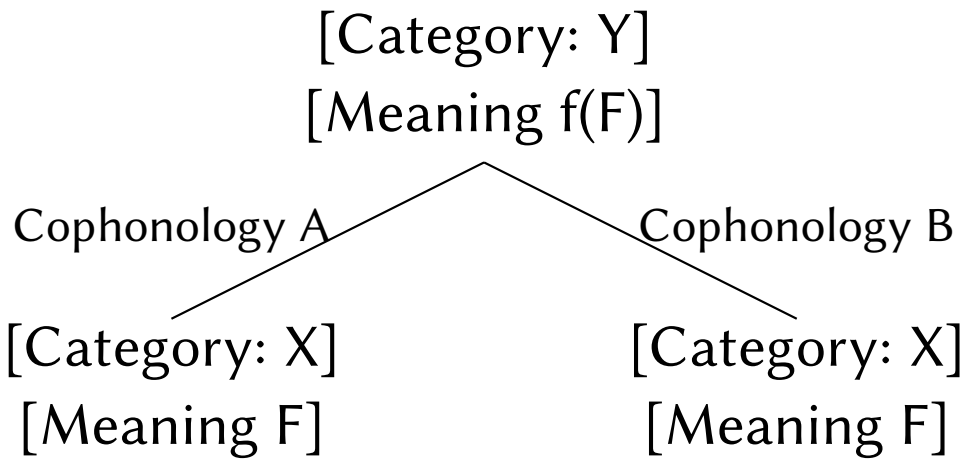
→ **Subtractive MR unexpected**

Morphological Doubling and Cophonologies

(=MDT; Inkelas and Zoll, 2005; Inkelas, 2008)

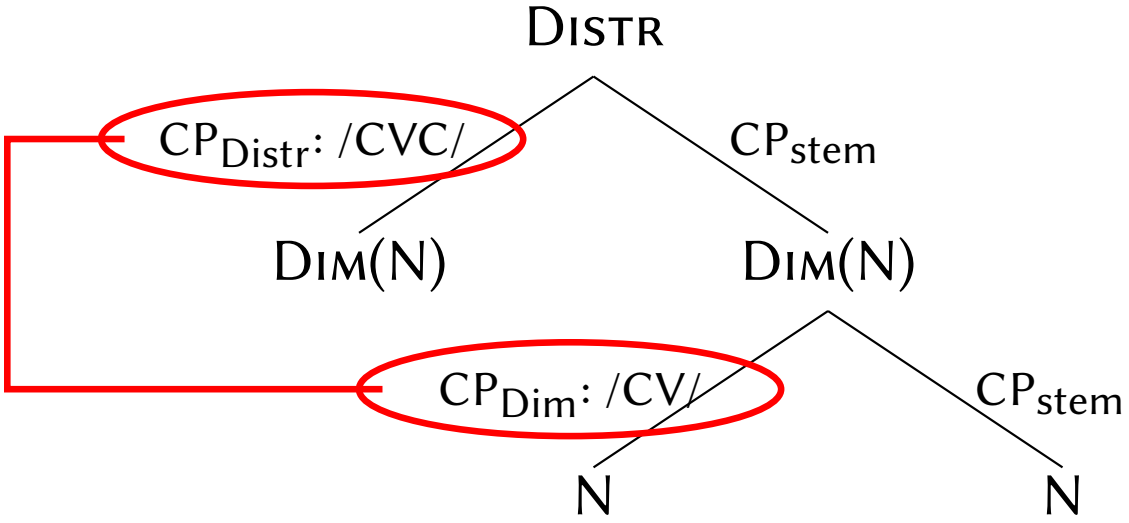
- certain **morpho-syntactic features are realized more than once**
- partial reduplication follows from associating morphological nodes with different cophonologies (Orgun, 1996; Anttila, 2002; Inkelas et al., 2004; Inkelas and Zoll, 2005, 2007)

(17) *Morphological Doubling*



MD and Unfaithful MR

(18) *(Simplified) example: MR in Lushootseed*



→ Avoidance and Truncation imply that realization of a morpho-syntactic node depends on the exponence type of an embedded morpheme (=**anticyclic**) or a morpheme that is not yet in the structure (=**Look-Ahead**) which is impossible in the standard MD theory

Prosodic Affixation

(=PA; Marantz, 1982; Pulleyblank, 2009; Saba Kirchner, 2010, 2013*a*,*b*)

- reduplicative morphemes contain **segmentally empty prosodic nodes** that are filled with 'copied' elements

(19)

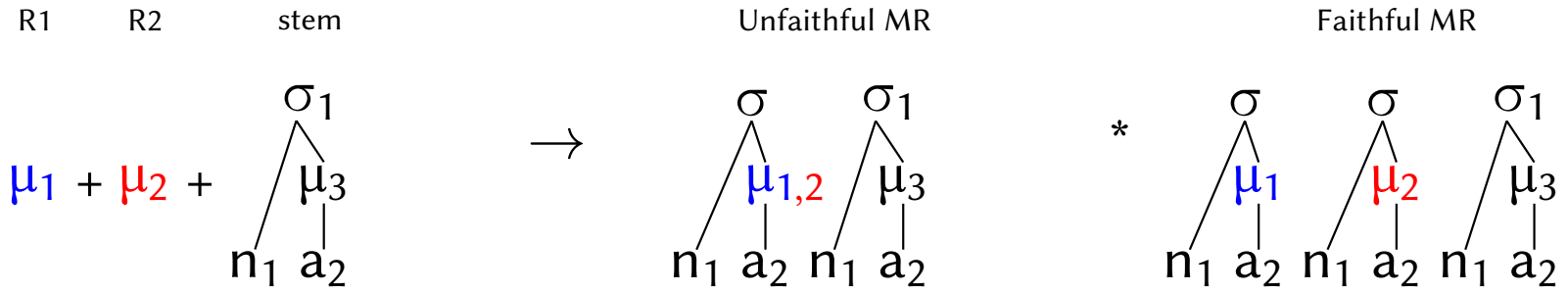
	μ≥S	DEPS	*V:	INTS
μ μ | s1 i2 l'3				
a. μ μ | s1 i2 l'3	*!			
☞ b. μ μ | | s1 i2 s1 i2 l'3				**

PA and Unfaithful MR

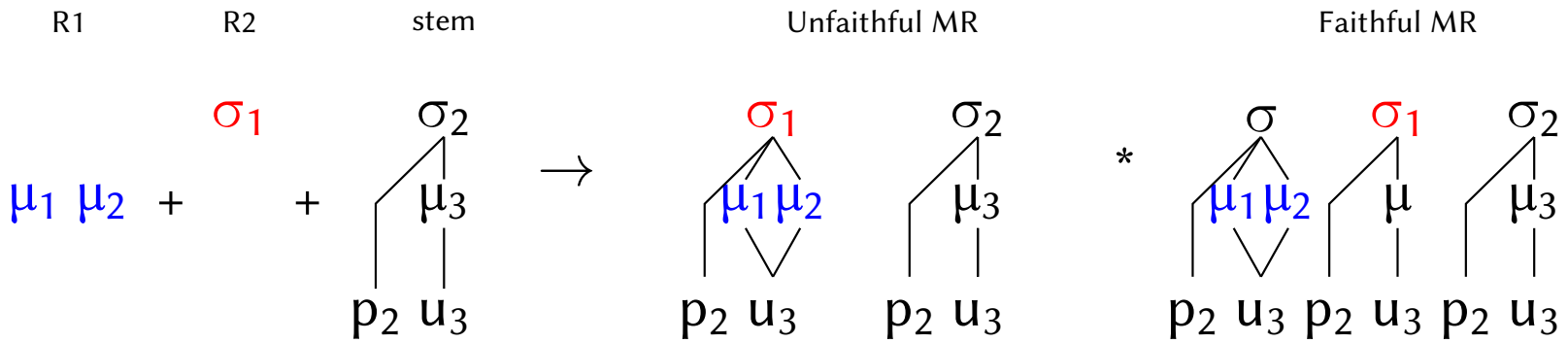
- since copying is an unfaithful phonological repair operation; it is dispreferred and can be avoided via **other phonological repair operations**: Coalescence or prosodic integration

(20) *Unfaithful MR*

a. Same tiers: Coalescence



b. Different tiers: Integration



A Phonological Account of Reduplication

Theoretical Background

Reduplication and prosodic affixation (=PA)

(Marantz, 1982; Pulleyblank, 2009; Saba Kirchner, 2010, 2013*a*,*b*; Bye and Svenonius, 2012; Bermúdez-Otero, 2012)

- reduplicative morphemes are **empty prosodic nodes** and are not substantially different from segmental affixes
- copying is one possible phonological repair operation to fill these nodes
- strong argument for such an approach: **phonologically predictable allomorphy** between reduplication and other non-concatenative strategies like vowel lengthening (Saba Kirchner, 2010, 2013*a*,*b*; Zimmermann, 2013)

Reduplication and Prosodic Affixation

- copying is a general phonological repair, modeled as segmental **fission** violating (21-a) (Spaelti, 1997; Struijke, 2000; Gafos, 2003; Nelson, 2003)
- prosodic node must be filled: proper prosodic parsing (21-b)
- alternatives to fill the prosodic affix: e.g. epenthesis $\textsc{Dep}_S$ (21-c)

(21)

a. $\textsc{Int}_S$
Assign * to every pair of output segments that correspond to the same input segment.

b. $\mu > S$
Assign * to every μ not dominating a segment.

c. $\textsc{Dep}_S$
Assign * to every output-segment without an input correspondent.

Copying as Fission: The Basic Mechanism

(22)

	μ≥S	DEPS	*V:	INTS
μ μ | s1 i2 l'3				
a. μ μ | s1 i2 l'3	*!			
b. μ μ | | ʔ ə s1 i2 l'3		*!*		
c. μ μ \ | s1 iː2 l'3			*!	
☞ d. μ μ | | s1 i2 s1 i2 l'3				**

Avoidance and Truncation in a PA Account

- 'too much' reduplication is avoided to minimize violations of INTS
  (in spirit similar to an account based on unified indexation (Buckley, 1997; Rose, 1997))
- two possible repairs:

1. **coalescence of prosodic nodes on the same tier**, under violation of UNIFORMITY (Saba Kirchner, 2010, 65)

   (23) UNF-μ
   Assign * to every pair of input μ's corresponding to the same output μ.

2. **prosodic affixes on different tiers dominate each other**, under violation of DEPAL(X-Y), e.g. (24)

   (24) DEP(σ-μ)
   Assign * for every colourless association line between a coloured σ and a coloured μ.

Deriving the Typology of MR

Deriving the Typology

(25)

PA on same tier	PA on different tiers
A. Multiple reduplication	
Thompson	Fox
B. Avoidance	
Ahousaht	Kyuoqot
C. Truncation	
Lushootseed	Sikaiana

A. Faithful MR in Thompson: PA's on the Same Tier

(26)

μ_1 μ_2 μ_3 μ_4 μ_5 s_1 i_2 l'_3	μ>S	DEPS	UNF-μ	INTS
☞ a. μ_1 μ_2 μ_3 μ_4 μ_5 s_1 i_2 l_3 s_1 i_2 s_1 i_2 l'_3				7*
b. μ_1 $\mu_{2,3}$ μ_4 μ_5 s_1 i_2 l'_3 s_1 i_2 l'_3			*!	3*

B. Avoidance in Ahousaht: PA's on the Same Tier

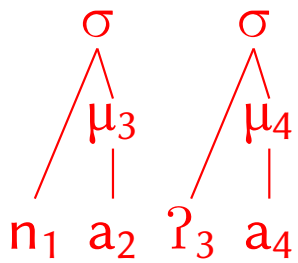
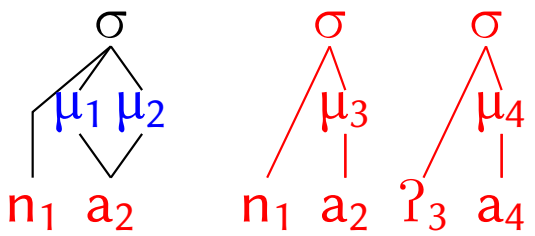
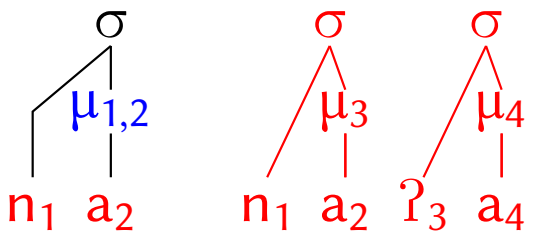
(27)

	μ>S	DEPS	INTS	UNF-μ
μ1 μ2 μ3 μ4 | | n1 a2 ʔ3 a4				
a. μ1 μ2 μ3 μ4 | | | | n1 a2 n1 a2 n1 a2 ʔ3 a4			6*!	
☞ b. μ1,2 μ3 μ4 | | | n1 a2 n1 a2 ʔ3 a4			2*	*

Footnote: Only Heteromorphemic Coalescence

(28) UNF-μ(Mα)
Assign * to every pair of input μ's affiliated with the same morpheme that correspond to the same output μ.

(29)

	μ>S	DEPS	UNF-μ(Mα)	INTS	UNF-μ
μ1 μ2 					
☞ a. 				2*	
b. 			*!	2*	*

A. Faithful MR in Fox: PA's on Different Tiers

(30)

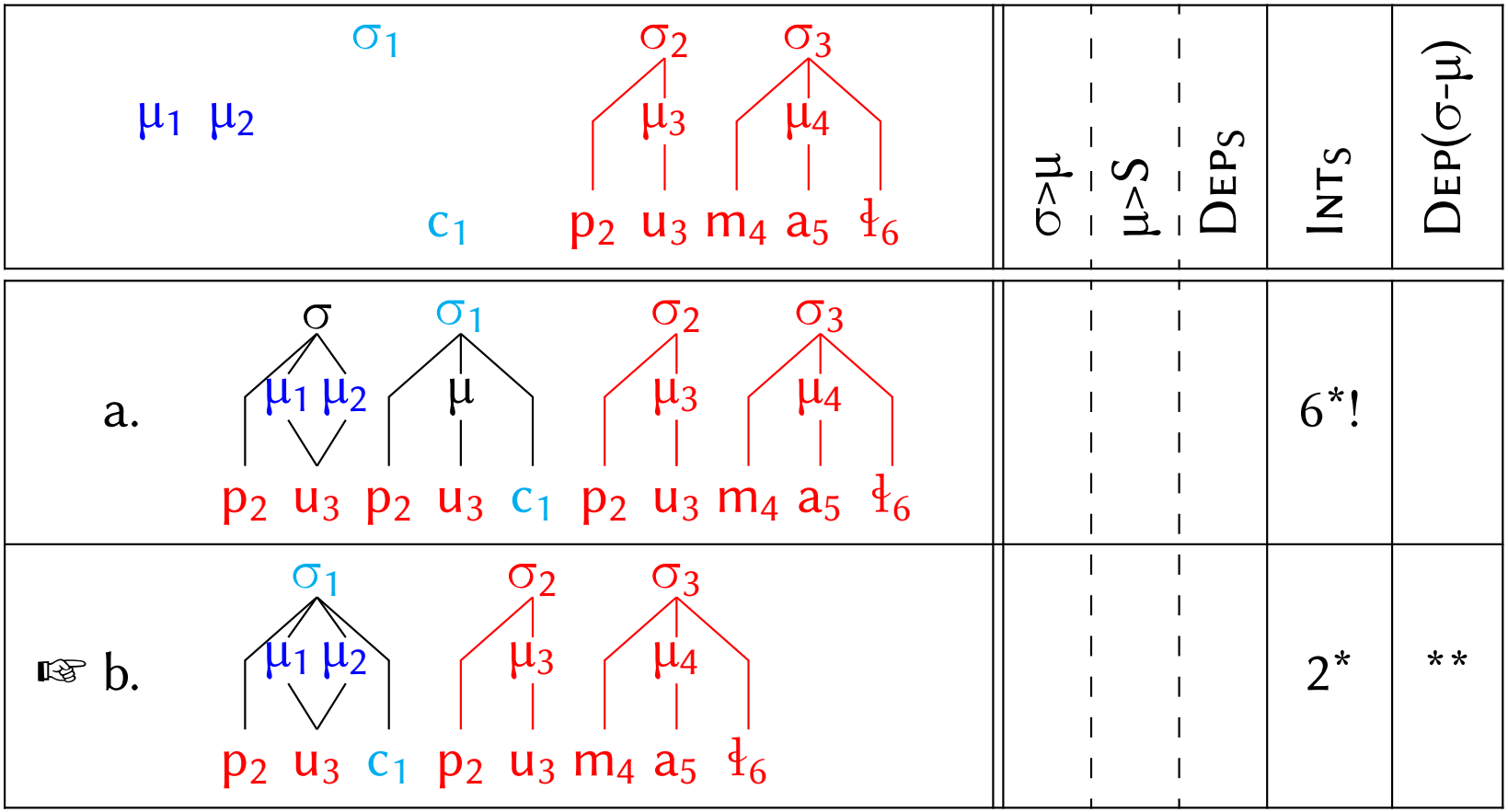
	ω≪S	σ≪S	DEPS	DEP(ω-σ)	INTS
ω σ σ σ a:8 w1 i:2 t3 a4 m5 a6 w7					
☞ a. ω ω σ σ σ σ σ σ w1 a:8 w1 i2 w1 a:8 w1 i:2 t3 a4 m5 a6 w7					8*
b. ω ω σ σ σ σ σ w1 a:8 w1 a:8 w1 i:2 t3 a4 m5 a6 w7				*!	4*

(Simplification: φ excluded; fixed segment is only an underspecified V)

Recall: DEPAL only penalizes associations between morph. coloured nodes!

B. Avoidance in Kyuquot: PA's on Different Tiers

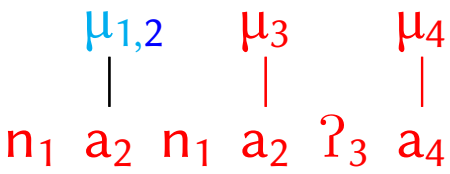
(31)

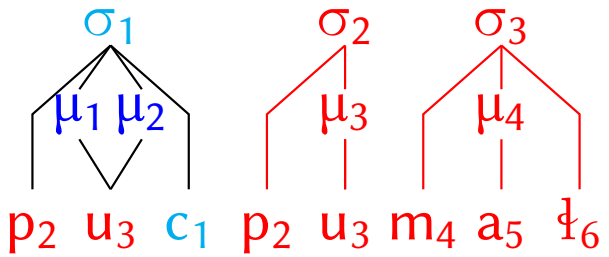


(Simplification: only showing the stem and the PA triggering reduplication)

B. Avoidance in S. Wakashan: The Superset Effect of the Survivor

- follows automatically in a PA account: **No element gets lost**; only identical elements from different morphemes can be subsumed





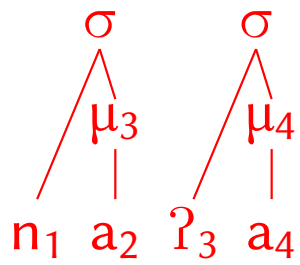
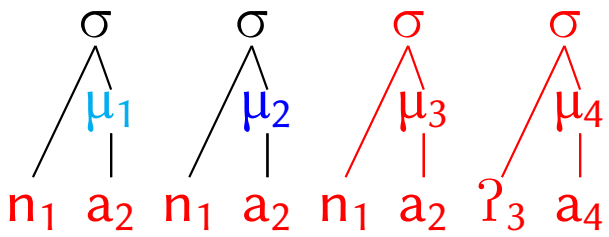
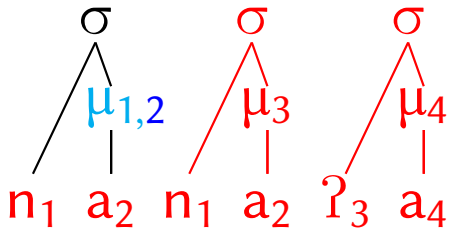
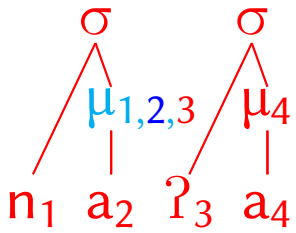
If Avoidance of MR, why not avoiding reduplication altogether?

- background assumption that the stem is **fully prosodified** at the point where affixes are added: a stratal model (Kiparsky, 2011; Bermúdez-Otero, in preparation) with an evaluation prior to concatenation (Trommer, 2011)

- avoidance of any reduplication would hence imply **integration of underlying (affix) prosody under underlying (stem) prosody** which is excluded by constraints like DEP(σ-μ)

B. Ahousaht: Avoidance of MR but not of Reduplication

(32)

		MAX$_\sigma$	μ>S	DEP$_S$	DEP(σ-μ)	INT$_S$	UNF-μ
μ_1 μ_2							
a.						6*!	
☞ b.						2*	*
c.					*!		**

Intermediate Summary: Avoidance vs. Faithful MR

Multiple Prosodic Affixes on the Same Tier

Multiple reduplication	**Avoidance**
e.g. Thompson	e.g. Ahousaht
All μ's filled with segments	Coalescence of μ's
Unf-μ ≫ Ints	Ints ≫ Unf-μ

Multiple Prosodic Affixes on Different Tiers

Multiple reduplication	**Avoidance**
e.g. Fox	e.g. Kyuoquot
All PA's must be filled with segments	PA's dominate each other
Dep(ω-σ) ≫ Ints	Ints ≫ Dep(σ-μ)

Deriving the Typology: Truncating MR

- exactly the same mechanism as for avoidance: Can affix prosody 'fuse' or not?
- additional constraints ensure **morpheme contiguity for prosodic dominance relations**
  ➙ ensure that there is no complete subsumption between affix prosody

(33) $^{*}{}_{\mu\alpha}\sigma_{\mu\beta}$:
Assign * to every coloured σ dominating μ's of different morphological colours.

C. Truncating MR in Lushootseed: PA's on the Same Tier

(34)

	μ_1 μ_2 μ_3 μ_4 μ_5 μ_6 μ_7 p_1 a_2 s_3 t_4 $ə_5$ d_6	$\mu > S$	$*_{\mu\alpha\sigma\mu\beta}$	DEP-C	INT-S	UNF-μ
a.	μ_1 μ_2 μ_3 μ_4 μ_5 μ_6 μ_7 p_1 a_2 p_1 a_2 s_3 p_1 a_2 s_3 t_4 $ə_5$ d_6				7*!	
☞ b.	$\mu_{1,2}$ μ_3 μ_4 μ_5 μ_6 μ_7 p_1 a_2 p_1 a_2 p_1 a_2 s_3 t_4 $ə_5$ d_6				6*	*
c.	$\mu_{1,2}$ μ_3 μ_4 μ_5 μ_6 μ_7 p_1 a_2 s_3 p_1 a_2 s_3 t_4 $ə_5$ d_6		*!		3*	*

C. Truncating MR in Lushootseed: PA's on the Same Tier Footnotes

- additional complexity that default /i/ is inserted if an open /ə/-syllable would result in the reduplicant otherwise
- follows from a markedness constraint as (35) and implies that only DEP$_C$ is high-ranked but vowels can indeed be inserted
- in addition, CONTIGUITY ensures that discontiguous copying /*bid∼bəda?/ is excluded

(35) *PLsμ
Assign a violation mark for every μ that only dominates placeless segments.
(similar to *Pl-lessσ (Kurisu, 2001; Urbanczyk, 1998))

Extension to Pseudoreduplication

B. Avoidance for Pseudoreduplication in Ahousaht

- some words are apparently reduplicated but the stem alone does not exist without reduplication
- pseudoreduplicated stems (found in many loans) block reduplication

(36) *Ahousaht (Kim, 2003*b, *137+138)*

PR.	kakaw'in	'killer whale'	
	piːʃpiʃ	'cat'	
	muːsmuːs	'cow'	
	maːmaːti	'bird'	
PR+R.	kakaw'ink'ukʔiʃ	'It looks like a killer whale'	*ka∼kakaw'ink'ukʔiʃ
	piːʃpiʃk'ukʔiʃ	'It looks like a cat'	*pi∼piːʃpiʃk'ukʔiʃ
	maːmaːtik'ukʔiʃ	'It looks like a bird'	*ma∼maːmaati

C. Truncating Pseudoreduplication in Manam

- if the base already ends in two identical syllables, the usually φ-sized reduplicant is only one syllable (Buckley, 1997)
- (similar pattern in Samoan (de Lacy, 1999; Nevins, 2012))

(37) *Pseudoreduplicated stems in Manam (Lichtenberk, 1983, 599-602)*

R.	laba	'be big'	laba∼laba	'older person'	
	salaga	'be long'	salaga∼laga	'long' SG	
	sapara	'branch'	sapara∼para	'having branches'	
	ʔulan	'desire' (V)	ʔulan∼laŋ	'desirable'	
PR+R.	ragogo	'be warm'	ragogo∼go	'warm'	*ragogo∼gogo
	ʔoʔo	'be plentiful'	ʔoʔo∼ʔo	'many, much'	*ʔoʔo∼ʔoʔo
	rere	'like'	rere∼re	'like'	*rere∼rere
	lele	'look for'	lele∼le	'look for'	*lele∼lele

Summary: The Unfaithful Patterns Avoidance and Truncation

(38) *True multiple reduplication*

Kyuoquot	Wakashan	S. Wakashan	(Rose, 1981)
Makah	Wakashan	S. Wakashan	(Davidson, 2002)
Ditidaht	Wakashan	S. Wakashan	(Stonham, 1994)
Tsishaath	Wakashan	S. Wakashan	(Stonham, 2004)
Ahousaht	Wakashan	S. Wakashan	(Kim, 2003*b*)
Sikaiana	Austronesian	Malayo-Polynesian	(Donner, 2012)
Lushootseed	Salishan	Central Salish	(Urbanczyk, 2001)

(39) *Pseudoreduplicated stems*

Ahousaht	Wakashan	S. Wakashan	(Kim, 2003*b*)
Ditidaht*	Wakashan	S. Wakashan	(Stonham, 1994)
Manam	Austronesian	Malayo-Polynesian	(Donner, 2012)
Samoan	Austronesian	Malayo-Polynesian	(de Lacy, 1999)

(*some)

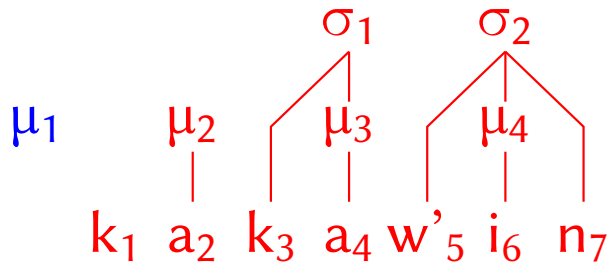
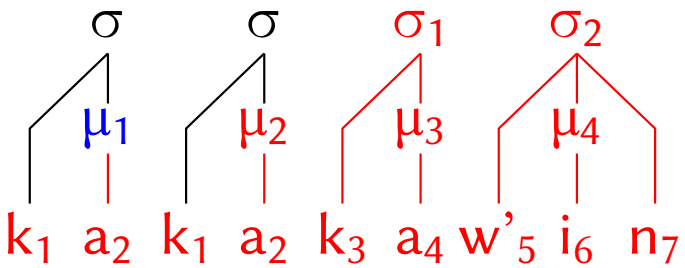
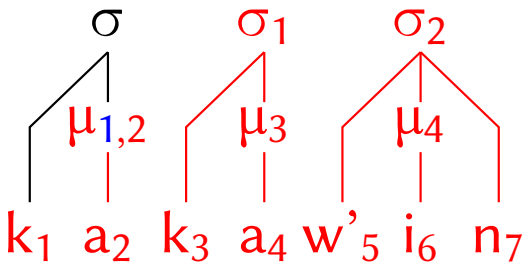
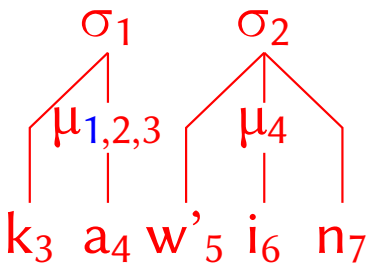
A PA Account of Pseudoreduplication

- the pseudoreduplicated portion behaves 'affix-like': it is **not properly prosodified** and 'fusion' is hence possible

→ the pseudoreduplicated structure is 'not really there' and maybe even added later/after the stem stratum

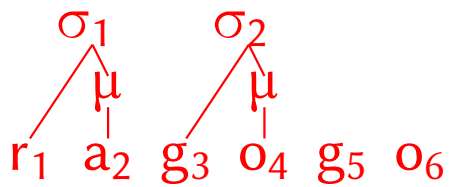
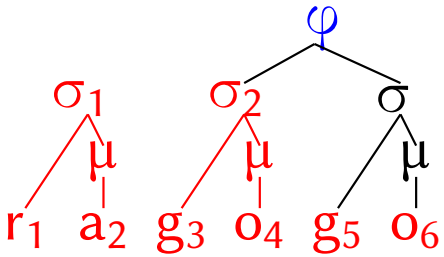
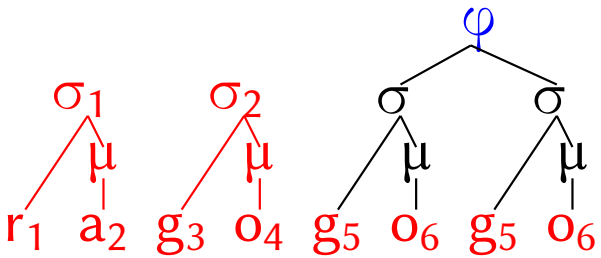
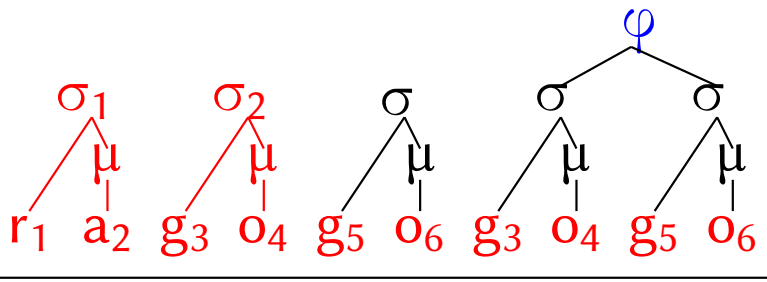
Pseudoreduplication: Avoidance in Ahousaht

(40)

	μ≥S	DEPS	DEP(σ-μ)	INTS	UNF-μ
					
a. 				*!*	
☞ b. 					*
c. 			*!		**

Pseudoreduplication: Truncation in Manam

(41)

	φ⊃σ	FtBin	Dep(φ-σ)	Ints
				
a. 			*!*	
☞ b. 				2*
c. 				4*!

Conclusion

Summary

- the typology found in multiple reduplication patterns
  - Faithful MR
  - Avoidance of MR
  - Subtractive MR

  follows under a **purely phonological account based on prosodic affixation**

- the factorial typology – different affixed prosodic nodes can 'fuse' (=coalescence or prosodic integration) or not – is ensured by re-ranking of standard faithfulness constraints

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Appendix: A. Faithful multiple reduplication in Fox

- /Caː/Ceː-/ reduplication marks the continuative (42-b), bisyllabic reduplication the continuative (42-c), and both can be combined (42-d)

(42) *Fox (Dahlstrom, 1997, 206+207)*

	wiːtamaw-eːwa	'he tells him'
R1.	waː∼wiːtamaw-eːwa	'he tells him over and over'
R2.	wiːta∼wiːtamaw-eːwa	'he keeps telling him'
R1+R2.	waːwi∼waː∼wiːtamaw-eːwa	'he keeps telling him over and over'

Appendix: B. Avoidance of MR in Ahousaht (Kim, 2003*a*,*b*, 2008)

- some meanings are expressed by reduplication alone and many suffixes trigger prefixing reduplication (=underlined)
- in combinations, only a single reduplicant surfaces

(43) *Ahousaht (Kim, 2003*b*, 136+138)*

R1.	maɬtiː	'house'	ma∼maɬtiː	'houses'
	naʔa	'to hear'	na∼naʔa	'to understand'
R2.	mi∼miɬkʼukʔicuːʃ			
	miɬ-kʼuk-ʔitʃuːʃ			
	same-to.resemble-2Pl.Ind			
	'both of you look alike'			
R1+R2.	na∼naʔakʼukʔiʃ		(*na∼na∼naʔakʼukʔiʃ)	
	Der-naʔa-kʼuk-ʔiʃ			
	Der-to.hear-to.resemble-3Sg.Ind			
	's/he seems to be knowledgeable'			

Appendix: B. Avoidance in Wakashan (Stonham, 1994, 2004, 2007)

- multiple reduplication surfaces if derivational/inflectional reduplicative morphemes are combined

→ follows in a **stratal** model of grammar: multiple reduplication is only avoided within one stratum

- additional phonological evidence for different strata based on behaviour of affixes with respect to lenition, glottalization, …

Appendix: Lushootseed MR: DIM≫DIST

(44)

bədáʔ	'child'	bíbədbədaʔ	'dolls, litter'	1:225
s-q^{w}əbáy	'dog'	q^{w}iq^{w}əbq^{w}əbáyʔ-cut	'make self (sound) like a dog'	1:225
ləx	'light'	líləxləx-ʃad	'flashlight' (lit: 'little flashing light')	1:225

CV – CVC – stem
Ci – CVC – stem

Appendix: Lushootseed MR: Dist≫Dim

(45)

bədáʔ	'child'	bíbibədaʔ	'small children'	9:225
pástəd	'white person'	pápapstəd	'many white children'	9:U226
ʧ'tɬ'aʔ	'rock'	ʧ'íʧ' iʧtɬ'aʔ	'gravel'	9:U226
ləgʷəb	'youth'	lílil'gʷəb	'little fellows'	9:U226
píʃpis	'cat'	pípipʃpis	'kittens'	9:226
gʷədíl	'sit'	gʷígʷigʷədil	'children sitting'	B8:326

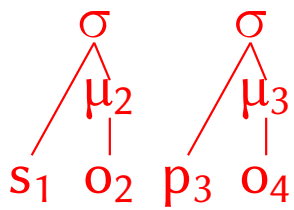
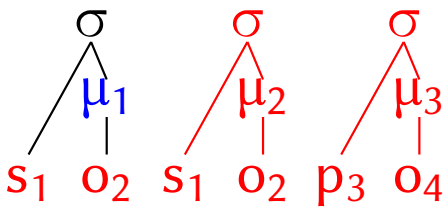
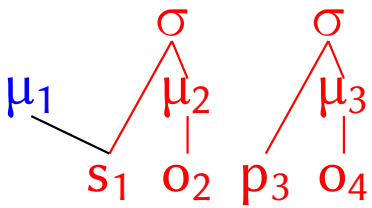
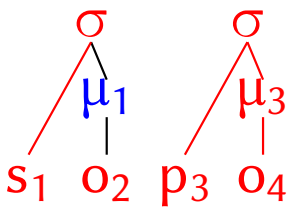
CV – CV – stem
Ci – Ci – stem

Appendix: Normal Reduplication or Gemination in Sikaiana

(46) $^{*}\sigma\alpha_{\mu\beta}$

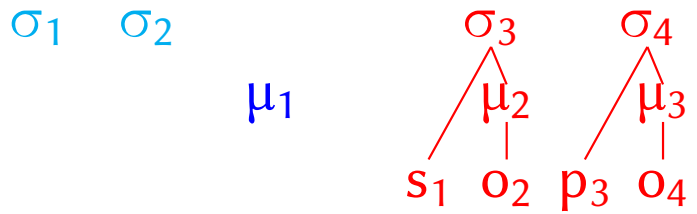
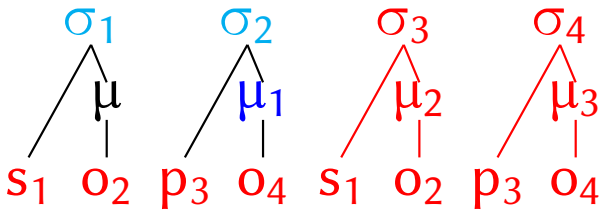
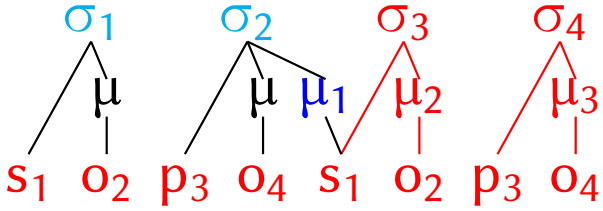
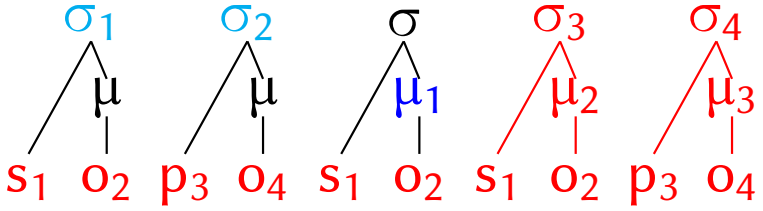
Assign * to every coloured σ only dominating μ's of another morphological colour.

(47)

	μ>S	$^{*}\sigma\alpha_{\mu\beta}$	*IngGem	Ints
μ_1 				
☞ a. 				**
☞ b. 			*	
c. 		*!		

Appendix: C. Truncating MR in Sikaiana: PA's on different tiers

(48)

		μ≤S	*σα_μβ	*InGem	Ints
					
a.			*!		4*
☞ b.					4*
c.					6*!