The typology of multiple reduplication – an argument for a prosodic affixation account

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General question

What can multiple reduplication tell us about the theoretical account of reduplication and the phonology-morphology interface?

(1) *Multiple Reduplication*
The presence of more than one reduplicative morpheme in a word.

Main Claim today

- if more than one reduplicative morpheme is present in a single word, three patterns can be observed in the languages of the world
  - all reduplicants surface as expected
  - **only a single reduplicant** surfaces
  - all reduplicants surface but one is **smaller than expected**

- a **purely phonological account based on prosodic affixation** predicts this typology without recurse to reduplication- or morpheme-specific mechanisms

- avoidance or truncation of multiple reduplication is then simply the avoidance of too many unfaithful phonological repair operations

Two competing forces

'The languages of the world frequently show evidence of conspiracies to **avoid the 'accidental' repetition** of phoneme strings across morphs. These conspiracies are intriguing, since many languages also use the contrary strategy of reduplication – which **deliberately repeats** material within morphs.' (Menn and McWhinney, 1984, 519; my emphasis)

Outline

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Data

Multiple reduplication: Tagalog example

- full reduplication marks plural and /CV-/ reduplication imperfective in (2-a)
- a verb can be marked for both plural (actor) and imperfective by combining both reduplications (2-b+c)

(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'

Excluded (for now): Multiple full reduplication

- intensifying reduplication in Taiwanese affects only monosyllabic adjectives

(3) *Taiwanese, Sino-Tibetan (Zhang and Lai, 2007, 34)*

	'somewhat A'	'very A'	
$p^hoŋ^{21}$	$p^hoŋ^{51}$∼$p^hoŋ^{21}$	$p^hoŋ^{51}$∼$p^hoŋ^{51}$∼$p^hoŋ^{21}$	'blown-up'
sin^{55}	sin^{33}∼sin^{55}	sin^{35}∼sin^{33}∼sin^{55}	'new'
kaw^{33}	kaw^{21}∼kaw^{33}	kaw^{35}∼kaw^{21}∼kaw^{33}	'thick'

Languages with multiple reduplication

Tigre	Afro-Asiatic	Semitic	(Rose, 2003)
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)
Nukuoro	Austronesian	Malayo-Polynesian	(Carroll, 1965)
Papapana	Austronesian	Malayo-Polynesian	(Smith, 2016)
Sikaiana	Austronesian	Malayo-Polynesian	(Donner, 2012)
Tagalog	Austronesian	Malayo-Polynesian	(Blake, 1917)
Thao	Austronesian	Western Plains	(Blust, 2001)
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)
Lushootseed	Salishan	Central Salish	(Urbanczyk, 2001)
Mainland Comox	Salishan	Central Salish	(Watanabe, 1994)
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)

The typology of multiple reduplication

The 'nothing exciting' pattern

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

The faithful pattern

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

A. Faithful multiple reduplication in Thompson

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

a. sí∼sil'
DIM-calico
'a little piece of calico'

b. sil∼síl
DISTR-calico
'patches of calico'

c. sil∼sí∼sil'
DIM-DISTR-calico
'small patches of calico'

A. Faithful multiple reduplication in Fox

- /Caː/Ceː-/ reduplication marks the continuative (5-b), bisyllabic reduplication the continuative (5-c), and both can be combined (5-d)

(5) *Multiple reduplication in Fox (Dahlstrom, 1997, 206+207)*

a.	wiːtamaw-eːwa	'he tells him'
b.	waː∼wiːtamaw-eːwa	'he tells him over and over'
c.	wiːta∼wiːtamaw-eːwa	'he keeps telling him'
d.	waːwi∼waː∼wiːtamaw-eːwa	'he keeps telling him over and over'

Avoidance of multiple reduplication

The 'avoidance' pattern

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

The avoidance pattern

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

Additional complication: independent evidence that R1 is indeed present!

Avoidance in Ahousaht

- some meanings are expressed by reduplication alone (6-a), e.g. PL
- many suffixes trigger prefixing reduplication (=underlined) (6-b)

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

a.

maɬtiː	'house'	
ma∼maɬtiː	'houses'	(PL-maɬtiː)
naʔa	'to hear'	
na∼naʔa	'to understand'	(DER-naʔa)

b.

mi∼miɬk'ukʔicuːʃ
miɬ-k'uk-ʔitʃuːʃ
same-to.resemble-2PL.IND
'both of you look alike'

Avoidance in Ahousaht (Kim, 2003*a*,*b*, 2008)

- two reduplicative morphemes in a word = **a single reduplicant**

(7) *Ahousaht (Kim, 2003*b*, 138)*

a. na∼naʔak'ukʔiʃ (*na∼na∼naʔak'ukʔiʃ)
DER-naʔa-k'uk-ʔiʃ
DER-to.hear-to.resemble-3SG.IND
's/he seems to be knowledgeable'

b. t'u∼t'uc'iːħ (*t'u∼t'u∼t'uc'iːħ)
PL-t'uc'(up)-ʔiːħ
PL-sea.urchin-to.gather/fish
'gathering more than one sea urchin'

Avoidance in Kyuquot

- two reduplicative morphemes in a word = **a single reduplicant** (8-b)

(8) *Kyuquot (Rose, 1981; Stonham, 2004)*

a.	tɬuk-ʼas	tɬuː∼tɬukʼʷas	‘He has wide wrists’	R312
	mitxʷ-ʃi(tɬ)-apa	miː∼miːtxʃitɬap	‘He turned too much’	R325
	ʔu-ħwʼaɬ-apa	ʔuː∼ʔuːħwʼaɬap	‘He used it too much’	R340
b.	mʼaɬ-ʼas-apa	mʼaː∼mʼaːɬʔasap	‘He has really cold wrists’	R341
	tɬʼuk-aːnʼuɬ-apa	tɬʼuː∼tɬʼukʷanʼɬap	‘His legs are really big’	R341
	pumaɬ-suɬ-apa	puːc-puːmaɬ-suɬ-ap	‘He has really itchy eyes’	R341
	mitxʷ-ʼas-stʼaɬ	miː∼mitwʼisstʼaɬ	‘They were twisting each others wrists’	R342

Avoidance in Southern 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**

(9) *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.)

Sidenote: 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, …

Truncatory multiple reduplication

The 'smaller than expected' pattern

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

The truncatory pattern

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

Truncatory multiple reduplication in Sikaiana

- two reduplication patterns: a bisyllabic one for the repetitive and a /CV-/ reduplication for plural that can optionally be reduced to /C-/

(10) *Repetitive reduplication (Donner, 2012, 23)*

one time	repeated	
sopo	sopo∼sopo	'jump'
sepu	sepu∼sepu	'dive'
motu	motu∼motu	'snap'

(11) *Plural reduplication (Donner, 2012, 23)*

Sg	Pl	Optional elided form	
sopo	so∼sopo	s∼sopo	'jump'
sepu	se∼sepu	s∼sepu	'dive'
moe	mo∼moe	m∼moe	'sleep'
anu	a∼anu		'dance'

Truncatory multiple reduplication in Sikaiana

- repeated action of plural subjects results in double reduplication
- the plural reduplicant is now obligatorily /C-/, it cannot be /CV-/

(12) *Repetitive and plural subjects (Donner, 2012, 24)*

Sg	Pl.Rep		
sopo	sopo∼s∼sopo	'jump'	*sopo∼so∼sopo
sepu	sepu∼s∼sepu	'dive'	*sepu∼so∼sepu

Extending the focus: Pseudoreduplication

Pseudoreduplication

- an apparently reduplicated word but the stem alone does not exist without reduplication

(13) *Ahousaht (Kim, 2003*b*, 138)*

kakaw'in	'killer whale'
piːʃpiʃ	'cat'
muːsmuːs	'cow'
maːmaːti	'bird'

Avoidance for Pseudoreduplication in Ahousaht

- pseudoreduplicated stems (found in many loans) block reduplication

(14) *Ahousaht (Kim, 2003*b*, 138)*

a. *Pseudoreduplicated stems*

kakaw'in	'killer whale'
piːʃpiʃ	'cat'
muːsmuːs	'cow'
maːmaːti	'bird'

(Kim, 2003*b*, 137)

b. *Added suffixes: /k'uk-ʔiʃ/ 'to.resemble-*3Sg.Ind*'*

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

Avoidance for Pseudoreduplication in Ditidaht

- some pseudoreduplicated stems block reduplication but not all (15-b):

(15) *Pseudoreduplicated stems in Ditidaht (Stonham, 2003, 248+247)*

	underlying	surface	
a.	kakaw'ad	kakaw'ad	'killer whale'
	kakaw'ad-ataχ	kakaw'adataχ	'hunting killer whale'
		*ka∼kakaw'adataχ	
b.	muːsmus	muːsmus	'cow'
	muːsmus-ataχ	muː∼muːsmusataχ	'hunting cows'
		*muːsmusataχ	

Truncatory 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))

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

a. *φ-reduplication*

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'

b. *σ-reduplication if stem ends in identical syllables*

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 of the Typology

Summary: The Unfaithful Patterns Avoidance and Truncatory

(17) *True multiple reduplication*

Sikaiana	Austronesian	Malayo-Polynesian	(Donner, 2012)
Kyuoquot*	Wakashan	S. Wakashan	(Rose, 1981)
Makah*	Wakashan	S. Wakashan	(Davidson, 2002)
Ditidaht*	Wakashan	S. Wakashan	(Stonham, 1994)
Tsishaath*	Wakashan	S. Wakashan	(Stonham, 2004)

(18) *Pseudoreduplicated stems*

Manam	Austronesian	Malayo-Polynesian	(Donner, 2012)
Ditidaht*	Wakashan	S. Wakashan	(Stonham, 1994)
Tsishaath	Wakashan	S. Wakashan	(Stonham, 2004)

(*some)

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 morpheme = a **segmentally empty prosodic affix** that is filled with 'copied' elements of the base it is added to

- not substantially different from segmental affixes: they simply lack segmental content
- a **purely phonological account** without reduplication-specific mechanism or entities like RED or Faith_{BR} (McCarthy and Prince, 1995, and subsequent work)
- 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 (19-a) (Spaelti, 1997; Struijke, 2000; Gafos, 2003; Nelson, 2003)
- that the otherwise prosodic node is filled with segmental material is ensured by constraints ensuring proper prosodic parsing (19-b)
- alternative strategies to realize the prosodic affix: for example epenthesis, penalized by DEP$_S$ (19-c)

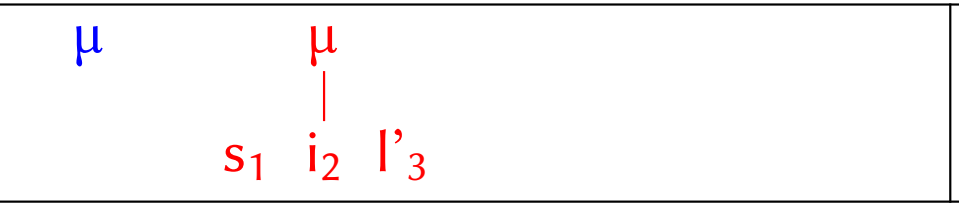
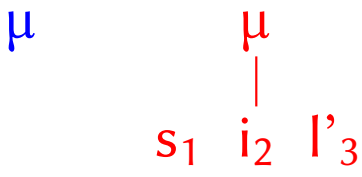
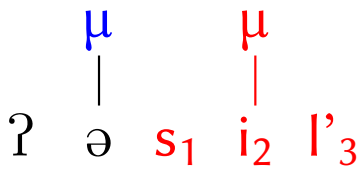
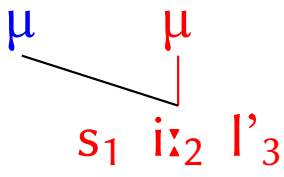
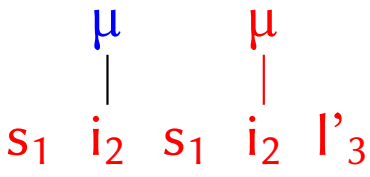
(19)
a. INT$_S$: Assign * to every pair of output segments that correspond to the same input segment.

b. μ>S: Assign * to every μ not dominating a segment.

c. DEP$_S$: Assign * to every output-segment without an input correspondent.

Copying as Fission: The Basic Mechanism

(20)

	μ≥S	DEPS	*V:	INTS
				
a. 	*!			
b. 		*!*		
c. 			*!	
☞ d. 				**

Avoidance and Truncation in a PA Account

- 'too much' reduplication is avoided to minimize violations of $\textsc{Int}_S$
  (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)

   (21) Unf-μ: Assign * to every pair of input μ's that correspond to the same input -μ.

2. **prosodic affixes on different tiers dominate each other**, under violation of DepAL(X-Y), e.g. (22)

   (22) Dep(σ-μ): Assign * for every colourless association line between a coloured σ and a μ.

Background Assumption

- **morphological colours** (=morphological affiliation) allows the phonology to identify whether material is epenthetic (=colourless) and whether two elements belong to the same or different morphemes
  (van Oostendorp, 2003, 2008, 2007; Revithiadou, 2007; Trommer, 2011; Trommer and Zimmermann, 2014; Zimmermann, 2017)

- 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)

Deriving the Typology

	Reduplication	Pseudoreduplication
A. Multiple reduplication		
1. PA on same tier	Thompson	Ditidaht
2. PA on different tier	Fox	
B. Avoidance		
1. PA on same tier	Ahousaht	Ahousaht
2. PA on different tier	Kyuoqot	
C. Truncation		
1. PA on same tier	?	Manam
2. PA on different tier	Sikaiana	

Deriving the Typology: Avoidance

Multiple Prosodic Affixes on the Same Tier

Multiple reduplication	**Avoidance**
e.g. Thompson	e.g. Ahousaht
All μ's filled with segments	Fusion of μ's
➙ Unf-μ ≫Int$_S$	➙ Int$_S$ ≫Unf-μ

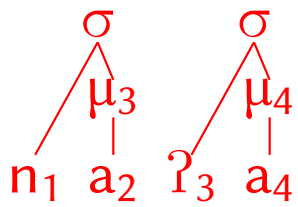
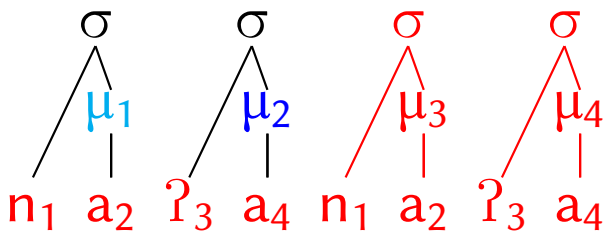
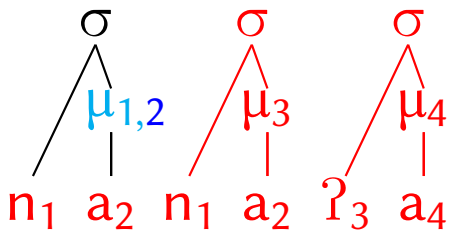
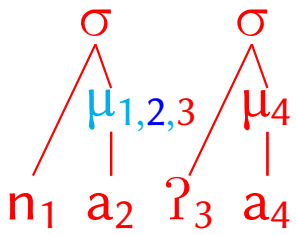
Multiple Reduplicants in Thompson: PA's on the Same Tier

(23)

	μ>S	Unf-μ	Ints
	$\mu_1\ \mu_2\ \mu_3\ \mu_4\ \mu_5$ / $s_1\ i_2\ l'_3$		
☞ a.	$\mu_1\ \mu_2\ \mu_3\ \mu_4\ \mu_5$ / $s_1\ i_2\ l_3\ s_1\ i_2\ s_1\ i_2\ l'_3$		*****
b.	$\mu_{1,2,3}\ \mu_4\ \mu_5$ / $s_1\ i_2\ s_1\ i_2\ l'_3$	*!*	**

Avoidance in Ahousaht: PA's on the Same Tier

(24)

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

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) ≫Int$_S$	➙ Int$_S$ ≫Dep(σ-μ)

Multiple Reduplicants in Fox: PA's on Different Tiers

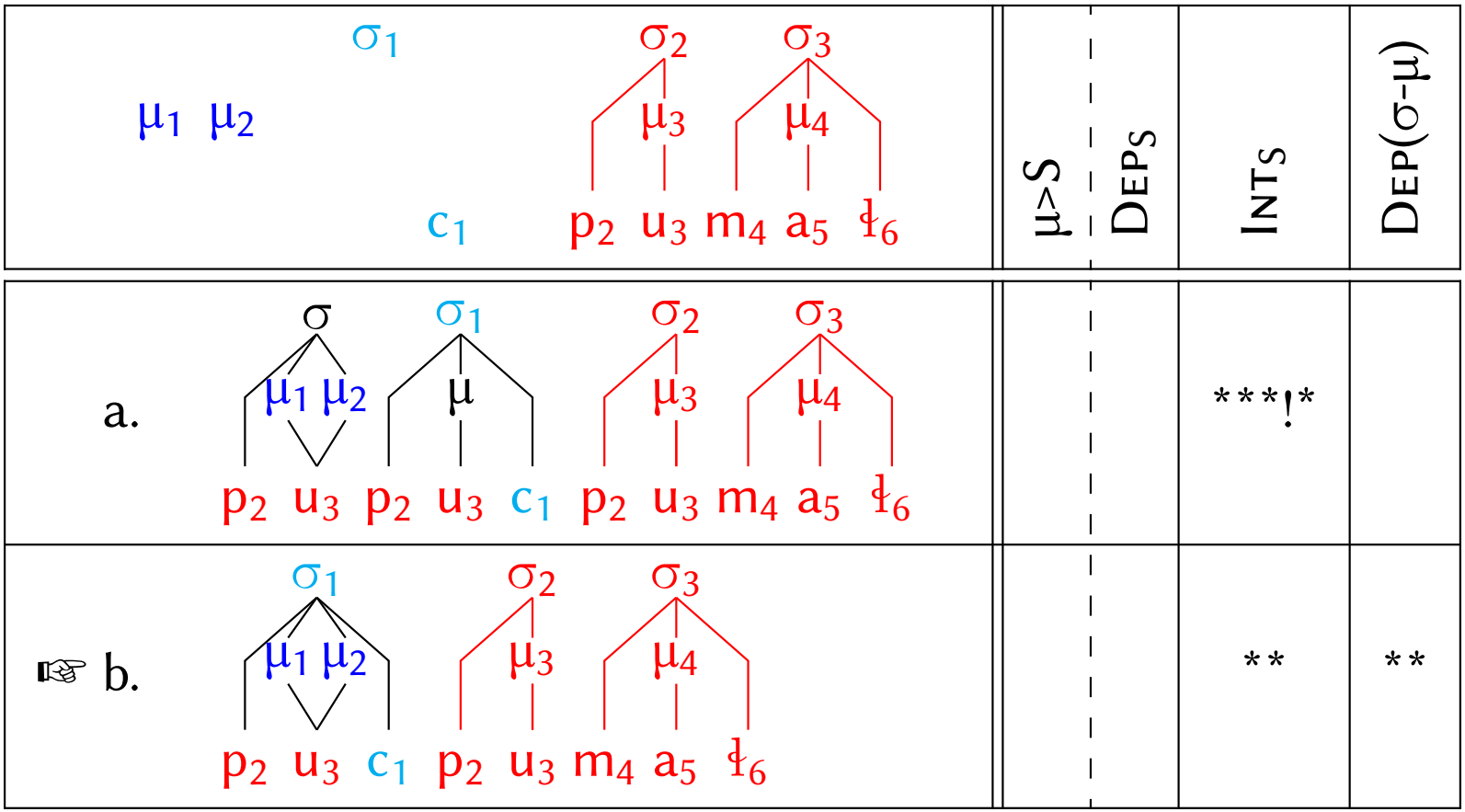
(25)

	ω>S	σ>S	DEPS	DEP(ω-σ)	INTS
ω σ σ σ σ aː8 w1 iː2 t3 a4 m5 a6 w7					
☞ a. ω ω σ σ σ σ σ σ w1 aː8 w1 i2 w1 aː8 w1 iː2 t3 a4 m5 a6 w7					*****
b. ω ω σ σ σ σ σ w1 aː8 w1 aː8 w1 iː2 t3 a4 m5 a6 w7				*!	***

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

Avoidance in Kyuquot: PA's on Different Tiers

(26)



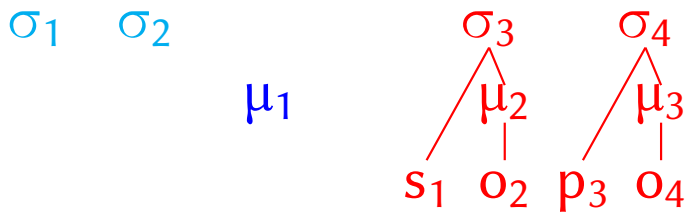
(simplified structure only showing the stem and the PA triggering reduplication)

Deriving the Typology: Truncation

Truncatory Multiple Reduplication in Sikaiana

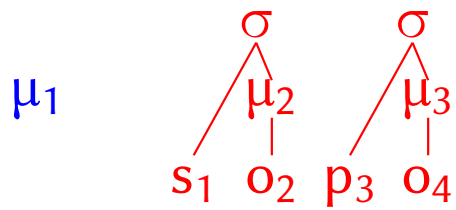
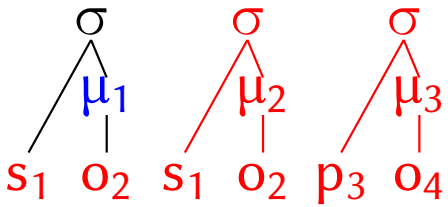
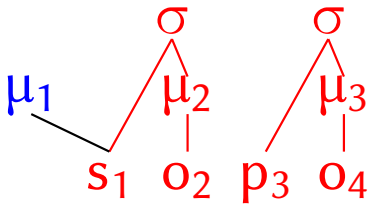
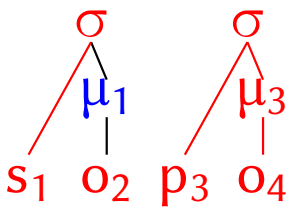
- the repetitive is an affix consisting of two empty σ's and the plural an empty μ
- reduplication or initial gemination for the affixed μ becomes necessary since MorpC is high-ranked
- if both prosodic affixes are present, gemination and integration under the affix-σ is possible without a violation of MorpC and further reduplication is unnecessary

(27) MorpC: Assign * to every σ only dominating μ's of another morphological colour.



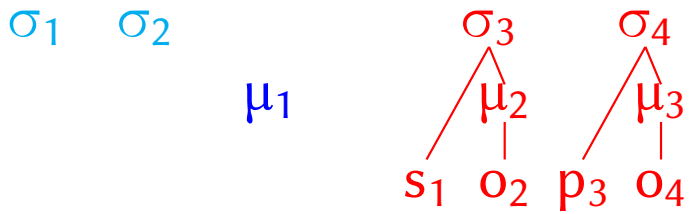
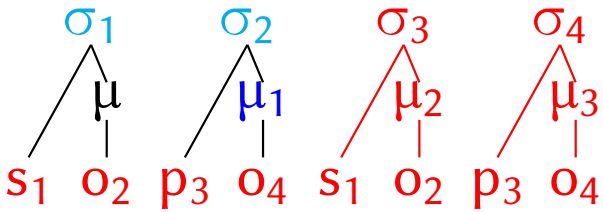
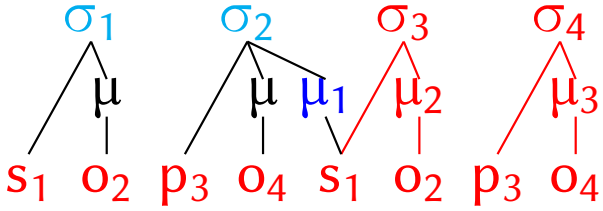
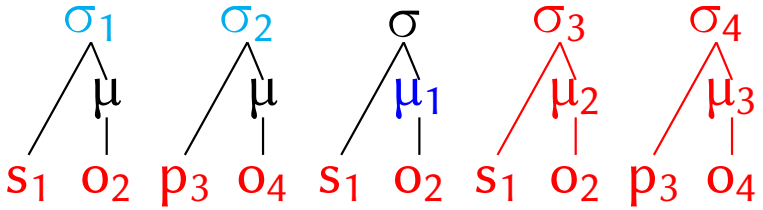
Normal Reduplication or Gemination in Sikaiana

(28)

		μ≤S	MorpC	*InGem	Int$_S$
					
☞ a.					* *
☞ b.				*	
c.			*!		

Truncatory Multiple Reduplication in Sikaiana

(29)

		μ≥S	MorpC	*InGem	Ints
					
a.			*!		4*
☞ b.					4*
c.					6*!

Deriving the Typology: Pseudoreduplication

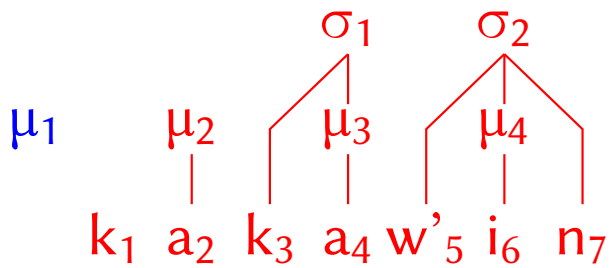
Extension to Pseudoreduplication

- pseudoreduplicated stems have an **exceptional underlying prosodic structure** and lack certain prosodic nodes
- the lack of underlying prosodic structure predicts that the empty affix prosody that usually triggers reduplication can simply dominate the pseudoreduplicated structure

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

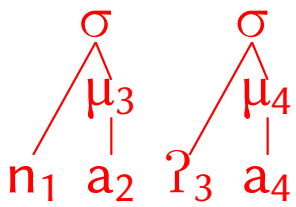
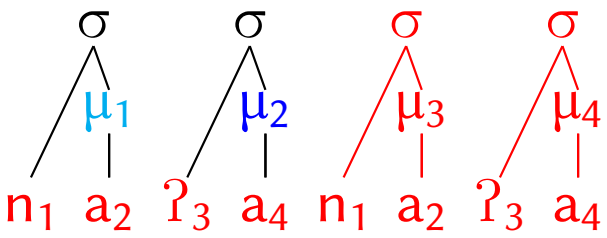
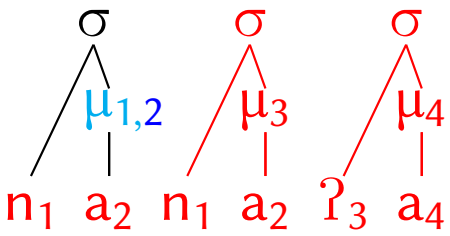
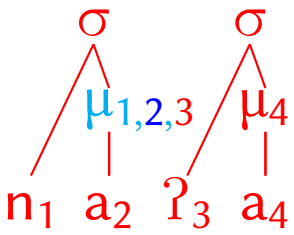
Pseudoreduplication: Avoidance in Ahousaht

- a pseudoreduplicated structure lacks a σ: fusion of an affixed μ and this underlying μ hence does not imply a DEP(σ-μ)-violation
  ➙ the pseudoreduplicated part is treated/behaves like an affix



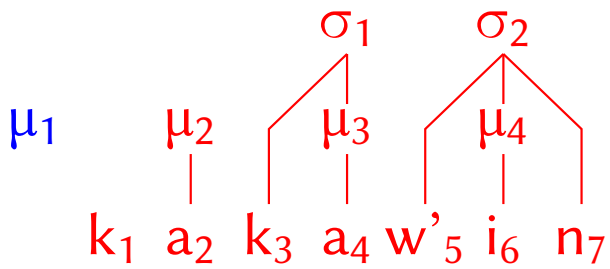
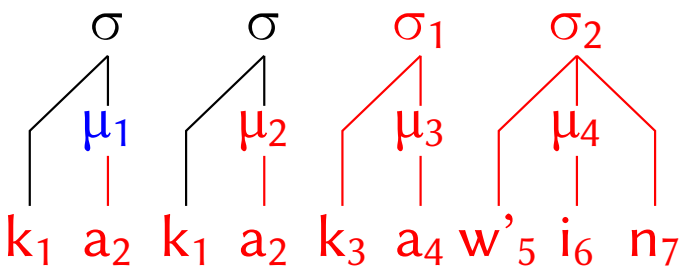
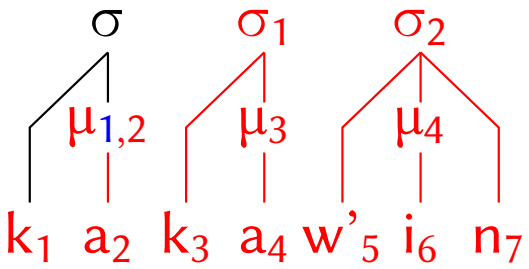
Recall: Avoidance in Ahousaht

(30)

μ_1 μ_2 	μ>S	DEPS	DEP(σ-μ)	INTS	UNF-μ
a. 				***!*	
☞ b. 				**	*
c. 			*!*		**

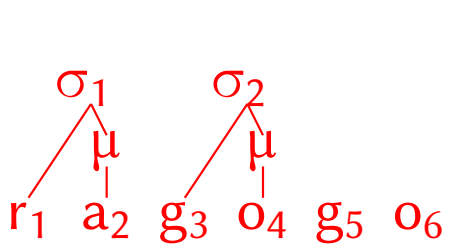
Pseudoreduplication: Avoidance in Ahousaht

(31)

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

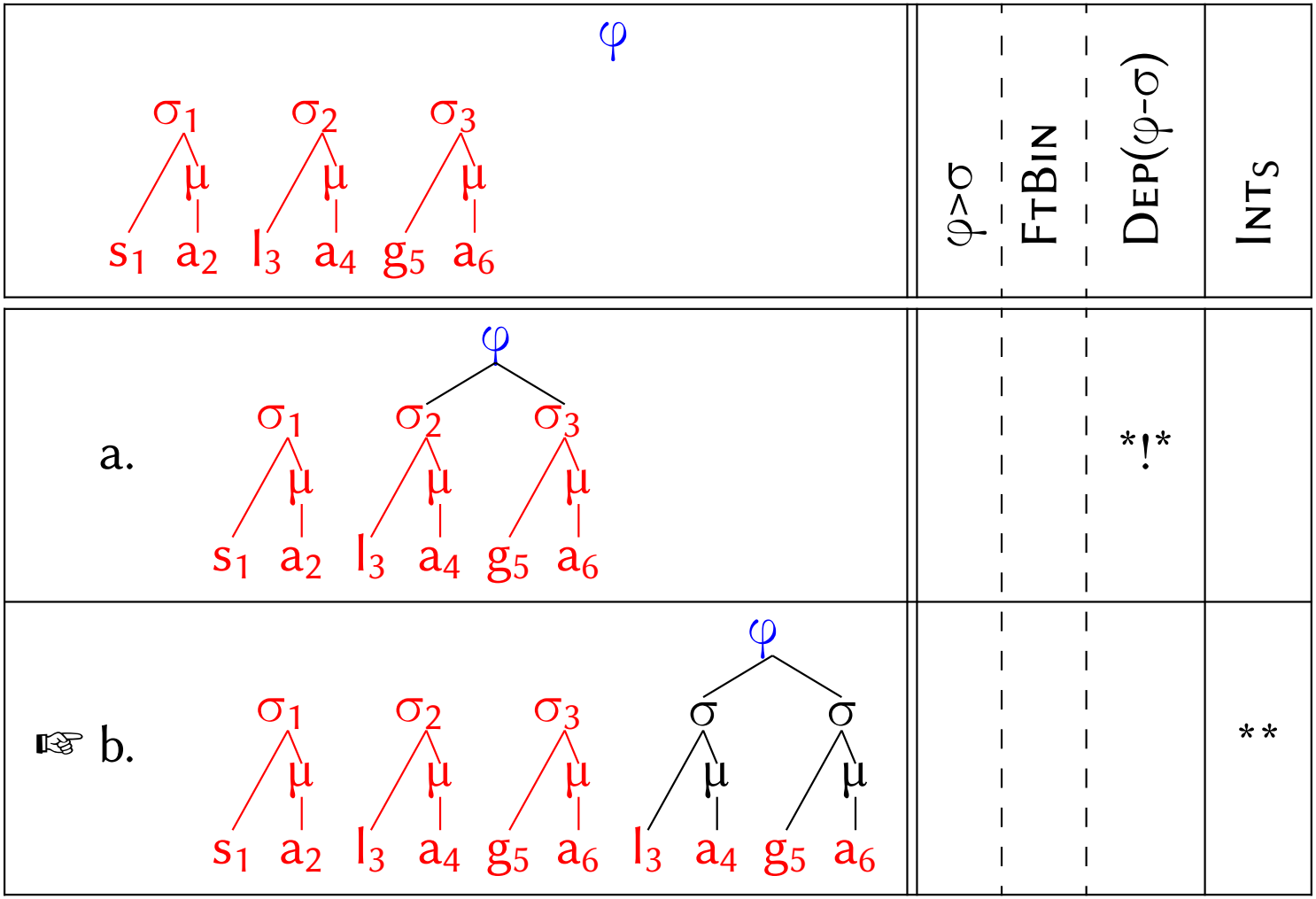
Pseudoreduplication: Truncation in Manam

- the reduplication-triggering affix is an empty φ-node and reduplication applies since this φ-node can't simply dominate underlying σ's due to Dep(φ-σ)
- a pseudoreduplicated structure lacks a σ, an epenthetic σ hence has to be inserted and this can be integrated under the affix prosody without a violation of Dep(φ-σ)



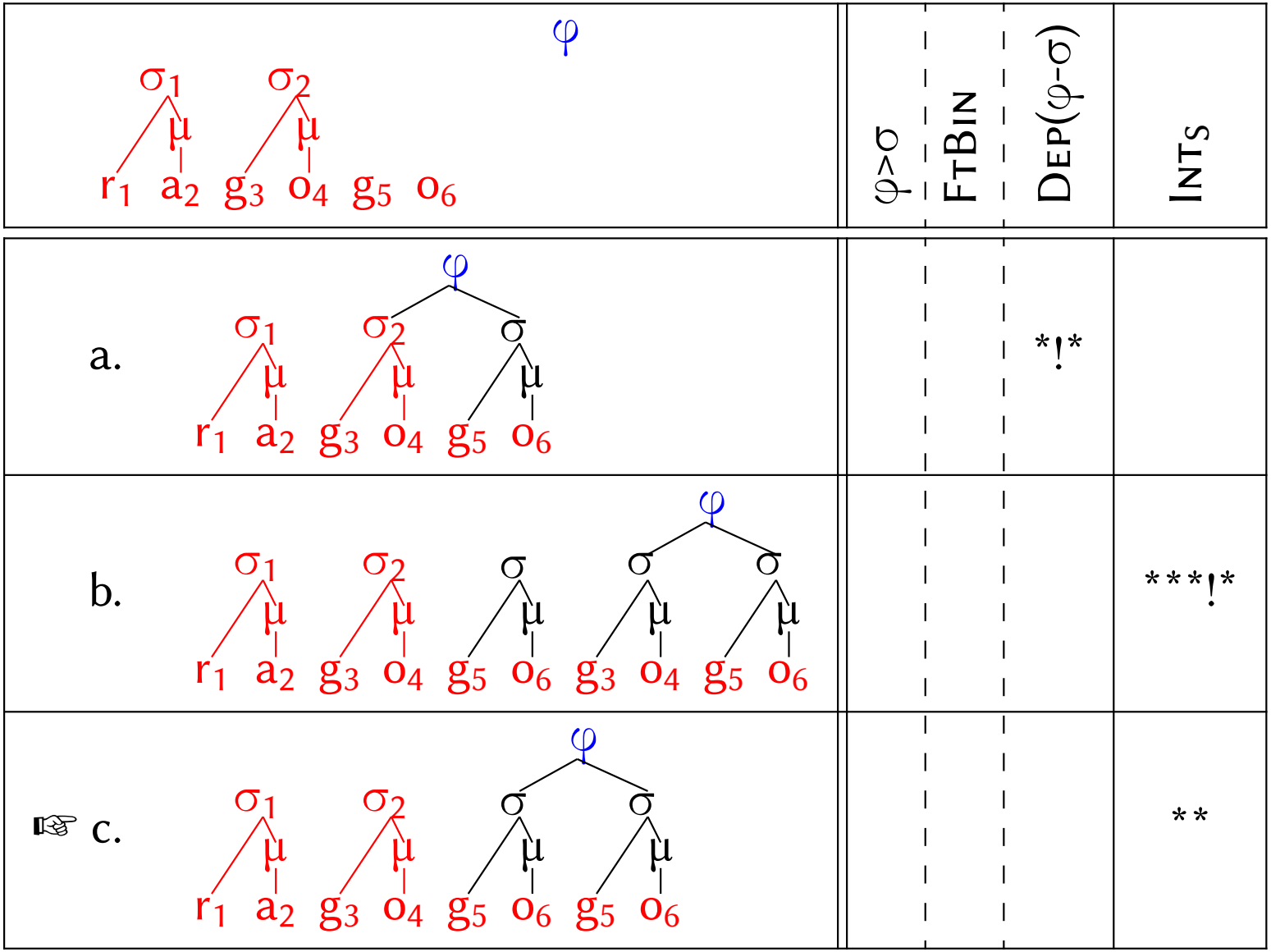
Normal Reduplication in Manam

(32)



Pseudoreduplication: Truncation in Manam

(33)



BR-Faith Alternative

Red and Base-Reduplicant Faithfulness

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

- phonologically empty **RED** is the trigger for reduplication: a BR-faithfulness relation between base and reduplicant is established
- crucial: every reduplicative morpheme establishes its own **BR-relation**

(34)

	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’		**	

BRCT and Avoidance of Multiple Reduplication

- multiple reduplication avoidance follows from a constraint *DupDup (or *RedRed) that 'disallow[s] multiple copies' (Stonham, 2004, 172)
- it is violated as soon as two reduplicants are in the output: it hence refers to the **exponence type that a phonological element represents**

= a complex constraint type that sees more than phonological structure (=the presence of a RED-morpheme in the input and the fact that phonological elements in the output represent this RED

- (Note: it can not simply refer to the presence of two different BR-faithfulness relations in the output: those are established as soon as RED is present in the input – non-realization of a reduplicant does not (in most standard BRCT implementations) avoid the BR-relation)

BRCT and Avoidance of Multiple Reduplication

(35) *No multiple reduplicants in Ahousaht*

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

→ *DupDup predicts that **only a single reduplicant surfaces**

BRCT and Truncatory Multiple Reduplication

- only possible as a **phonological identity avoidance** effect (Menn and McWhinney, 1984; Yip, 1998)
- it has to be a **counting constraint** that tolerates 2x an identical string but excludes it if it occurs 3x
  - conjoined OCP_σ&OCP_σ (Smolensky, 1995; Lubowicz, 2002, 2003)
  - a threshold effect in Harmonic Grammar (Legendre et al., 1990)

→ inherently **excludes that pseudoreduplicated words undergo reduplication**: a pattern like Ditidaht where some pseudoreduplicated words can undergo reduplication is impossible

Conclusion

Summary

- the typology found in multiple reduplication patterns
  - faithful multiple reduplication
  - avoidance of multiple reduplication
  - truncatory multiple reduplication

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

- the crucial mechanism: Different affixed prosodic nodes can 'fuse' (=coalescence or prosodic integration) or not; ensured by standard faithfulness constraints

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