

An Alignment Approach to Stress Windows
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Previous OT analyses of specific languages with trisyllabic stress windows:

- Nonfinality (Prince and Smolensky 1993)
- Weak local parsing (Kager 1994, Green 1995, Green and Kenstowicz 1995)
- Extended lapse avoidance (Gordon 2002)
- None provides a general approach to trisyllabic stress windows.

An Alignment-based approach

- McCarthy's (2003) makes alignment sensitive to the order of misaligned edges.
- Establish trisyllabic windows by aligning feet with primary stress.
- Eliminates the Midpoint Pathology identified by Eisner (1997)

Three characteristics of trisyllabic windows

- *Size*: three syllables
- *Position*: right or left edge of word
- *Quantity-sensitivity*: in quantity-sensitive windows, stress avoids heavy antepenult

Some examples:

- (1) Initial stress window in Azkoitia Basque (Hualde 1998)
Of the first three syllables, stress the rightmost that is not also the final syllable of the word.

óna	‘good’
gizóna	‘man’
katedrála	‘cathedral’
melokótoye	‘peach’
telebísixue	‘television’

- (2) Final stress window on Macedonian lexical stress (Comrie 1976)
Stress is maintained on a lexically specified syllable, as long as it is one of the final three syllables.

citát	‘quotation’	romántik	‘romantic’
citátot		romántikot	
citáti		romántici	
citátite		romántícite	

- (3) English trisyllabic shortening
The stressed vowel is long when penultimate or final but shortens when it becomes antepenultimate under suffixation.

sə́rɪ:n ~ səréniɾi	‘serene ~ serenity’
prɒfɛ:n ~ prɒfæniɾi	‘profane ~ profanity’
sé:n ~ səniɾi	‘sane ~ sanity’
ó:mən ~ ómənəs	‘omen ~ ominous’

- (4) Latin
If the penult and antepenult are both light, stress occurs on the antepenult. If the penult and antepenult are both heavy, stress occurs on the penult.

ĹLLH	komítium
ĹHH	amí:kus
ĹHLH	doméstikus
LHH́H	mone:bá:mus

Basics of the proposal

Size

- A standard binary foot establishes the maximum disyllabic distance between stress and edge.
- Follow Hyde (2001, 2002) in assuming exhaustive parsing of syllables into feet.
 - Strings of stressless syllables are the result of stressless feet.
 - I will typically only show peripheral feet in examples and tableaux to help focus on the relationship between peripheral feet and primary stress.

Position

- *Initial window*: Stress occurs either within the initial foot or adjacent to the initial foot.
- *Final window*: Stress occurs either within the final foot or adjacent to the final foot.

- (5) a. Initial Window
- (óσ)σσσσ Inside Window
 (σó)σσσσ
 (σσ)óσσσ
 - (σσ)σóσσ Outside Window
 (σσ)σσóσ
- b. Final Window
- σσσσ(σó) Inside Window
 σσσσ(óσ)
 σσσó(σσ)
 - σσóσ(σσ) Outside Window
 σóσσ(σσ)

Quantity-sensitivity

Whether or not a window is quantity-sensitive is determined by what counts as being adjacent to a peripheral foot.

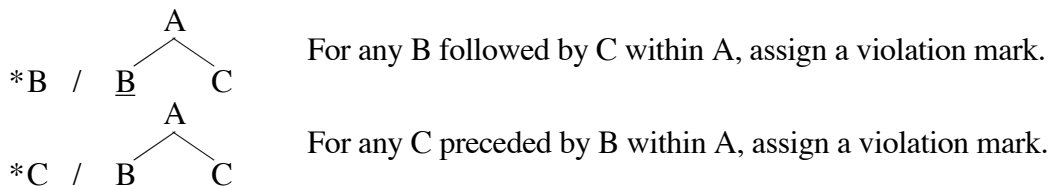
- *Quantity-insensitive windows*: Stress need only occur on the syllable adjacent to the peripheral foot.
- *Quantity-sensitive windows*: Stress must occur on the mora adjacent to the peripheral foot.

- (6) a. Quantity-insensitive
- i. CV.CV́(CV.CV) Inside Window
CV.CV́V(CV.CV)
 - ii. CV́.CVV(CV.CV) Outside Window
- b. Quantity-sensitive
- i. CV.CV́(CV.CV) Inside Window
 - ii. CV.CV́V(CV.CV) Outside Window
CV́.CVV(CV.CV)

1 Alignment constraints

- (7) Schema for categorical markedness constraints (McCarthy 2003)
 $*\lambda / C \equiv$ for any λ satisfying condition C, assign a violation mark.

- (8) Schema for alignment constraints (McCarthy 2003)



Notational Conventions

- Association lines indicate that A dominates (contains?) B and C and that there is no other A that dominates (contains?) B or C but not both.
- B and C are not necessarily adjacent.

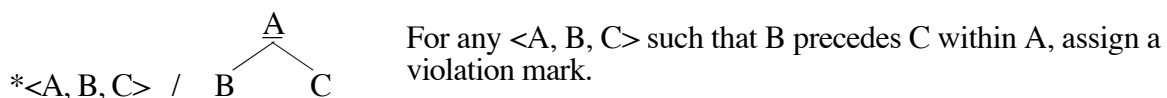
Constraints based on the schemas in (8)

- Are sensitive to the order of the categories being aligned. (good)
- Are categorical. (not good)
- Only capture same-edge alignment. (not good)

Languages problematic for Constraint Categoricality Hypothesis

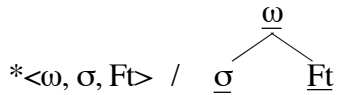
- Primary stress on a non-peripheral foot:
 - Banawá (Buller, Buller, and Everett 1993; Everett 1996a,b)
 - Buriat Mongolian (Walker 1997)
 - Khalka Mongolian (Walker 1997)
 - Maithili (Jha 1940-1944, 1958, Hayes 1995)
 - Paumari (Everett 2002)
- Non-peripheral lapse away from primary stress:
 - Indonesian (Cohn 1989)
 - Norwegian (Lorentz 1996)
 - Spanish (Harris 1983)

- (9) Extension 1: Gradience



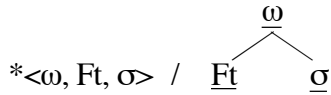
(10) Some familiar constraints in a new formulation

a. ALLFEETL



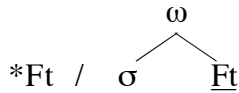
For any $\langle \omega, \sigma, Ft \rangle$ such that Ft is preceded by σ within ω , assign a violation mark.

b. ALLFEETR



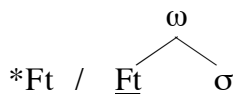
For any $\langle \omega, Ft, \sigma \rangle$ such that Ft is followed by σ within ω , assign a violation mark.

c. FOOTL



For any foot preceded by a syllable within a prosodic word, assign a violation mark.

d. FOOTR

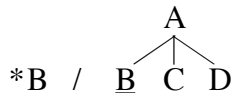


For any foot followed by a syllable within a prosodic word, assign a violation mark.

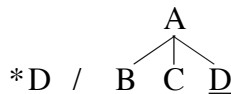
A familiar interaction: FOOTL >> ALLFEETR:

(11)		FOOTL	ALLFEETR
a.	$(\sigma\sigma)(\sigma\sigma)(\sigma\sigma)\sigma$	* *	***** ***! *
b.	$(\sigma\sigma)(\sigma\sigma)\sigma(\sigma\sigma)$	* *	***** ***!
c.	$(\sigma\sigma)\sigma(\sigma\sigma)(\sigma\sigma)$	* *	***** **
d.	$\sigma(\sigma\sigma)(\sigma\sigma)(\sigma\sigma)$	* * *!	***** **

(12) Extension 2: Opposite-edge alignment



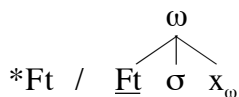
For any B followed by C followed by D within A, assign a violation mark.



For any D preceded by C preceded by B within A, assign a violation mark.

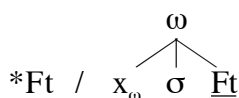
(13) Quantity-insensitive window constraints

a. LEFTWINDOW(σ)



For any Ft followed by σ followed by x_ω within ω , assign a violation mark.

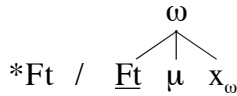
b. RIGHTWINDOW(σ)



For any Ft preceded by σ preceded by x_ω within ω , assign a violation mark.

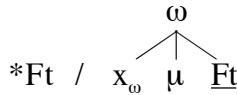
(14) Quantity-sensitive window constraints

a. LEFTWINDOW(μ)



For any Ft followed by μ followed by x_{ω} within ω , assign a violation mark.

b. RIGHTWINDOW(μ)



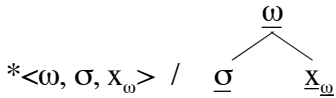
For any Ft preceded by μ preceded by x_{ω} within ω , assign a violation mark.

2 Quantity-insensitive windows

2.1 The proposed account

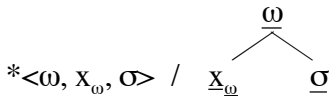
(15) Primary stress alignment

a. x_{ω} -L



For any $\langle \omega, \sigma, x_{\omega} \rangle$ such that x_{ω} is preceded by σ within ω , assign a violation mark.

b. x_{ω} -R



For any $\langle \omega, x_{\omega}, \sigma \rangle$ such that x_{ω} is followed by σ within ω , assign a violation mark.

2.1.1 Initial window in Azkoitia Basque

(16) Azkoitia Basque (Haulde 1998)

Of the first three syllables, stress the rightmost that is not also the final syllable of the word.

- a. óna ‘good’
- b. gizóna ‘man’
- c. katedrála ‘cathedral’
- d. melokótóye ‘peach’
- e. telebísixue ‘television’

(17) NONFIN($x_{\omega}, \sigma, \omega$)

No prosodic word-level gridmark occurs over the prosodic word-final syllable.

(18) Azkoitia Basque ranking

LEFTWINDOW(σ), NONFIN($x_{\omega}, \sigma, \omega$) \gg x_{ω} -R

LEFTWINDOW(σ) \gg x_{ω} -R establishes the three-syllable window at the left edge

- LEFTWINDOW(σ) restricts primary stress to three initial syllables.
- x_{ω} -R pulls primary stress as far to the right as possible within the window.

(19)	me.lo.ko.to.ye	LEFTWINDOW(σ)	x_{ω} -R
	a. (mé.lo)ko.to.ye		***!*
	b. (me.ló)ko.to.ye		***!
	☞ c. (me.lo)kó.to.ye		**
	d. (me.lo)ko.tó.ye	*!	*
	e. (me.lo)ko.to.yé	*!	

NONFIN(x_{ω} , σ , ω) \gg x_{ω} -R prevents stress from occupying a word-final syllable, even if the final syllable is within the three-syllable window.

(20)	gi.zo.na	LEFTWINDOW(σ)	NONFIN(x_{ω} , σ , ω)	x_{ω} -R
	☞ a. (gi.zó)na			*
	b. (gi.zo)ná		*!	

2.1.2 Final window in Pirahã

(21) Pirahã (Everett and Everett 1984, Everett 1988)
Stress the rightmost heaviest of the final three syllables (KVV > GVV > VV > KV > GV)

- a. ʔò.gà.bà.gáì ‘want’
- b. ʔí.bò.bìì.hì ‘ant’
- c. ʔí.tìì.ʔì.sì ‘fish’
- d. káò.bìì.gá.bàì ‘almost falling’

(22) Ranking for Pirahã
 RIGHTWINDOW(σ) \gg StressHeaviest \gg x_{ω} -R

RIGHTWINDOW(σ) \gg STRESSHEAVIEST establishes the three-syllable window at the right edge.

- RIGHTWINDOW(σ) restricts stress to the final three syllables
- STRESSHEAVIEST positions stress on the heaviest syllable within the window.
- Lower-ranked x_{ω} -R resolves ties for heaviest syllable in favor of the rightmost.

(23)	káò.bìì.gá.bàì	RIGHTWINDOW(σ)	STRESSHEAVIEST	x_{ω} -R
	☞ a. káò.bìì(gá.bàì)		*	
	b. káò.bìì(gá.bàì)		***!***	*
	c. káò.bìì(gá.bàì)		*	*!*
	d. káò.bìì(gá.bàì)	*!		***

(24)	ʔí.bò.bìì.hì	RightWindow(σ)	StressHeaviest	x_{ω} -R
	a. ʔí.bò(bìì.hì)		***!*	
	☞ b. ʔí.bò(bìì.hì)		*	*

2.1.3 Final window in Macedonian

- (25) Macedonian regular pattern (Comrie 1976)
Stress occurs as far to left as possible but no further to the left than the antepenult.

zbór	‘word’	vodéničar	‘miller’
zbórot		vodeničarot	
zbórovi		vodeničari	
zboróvite		vodeničárite	

- (26) Ranking for Macedonian regular pattern
 $\text{RIGHTWINDOW}(\sigma) \gg x_{\omega}\text{-L}$

$\text{RIGHTWINDOW}(\sigma) \gg x_{\omega}\text{-L}$ produces preference for antepenultimate stress.

- $\text{RIGHTWINDOW}(\sigma)$ restricts primary stress to the final three syllables.
- $x_{\omega}\text{-L}$ draws stress as far to the left as possible within the three-syllable window.

(27)

zbo.ro.vi.te	$\text{RIGHTWINDOW}(\sigma)$	$x_{\omega}\text{-L}$
a. zbo.ro(vi.té)		**!*
b. zbo.ro(ví.te)		**!
☞ c. zbo.ró(vi.te)		*
d. zbó.ro(vi.te)	*!	

- (28) Macedonian irregular pattern (Comrie 1976)
Stress is maintained on a lexically specified syllable, as long as it is one of the final three syllables.

citát	‘quotation’	romántik	‘romantic’
citátot		romántikot	
citáti		romántici	
citátite		romantícite	

- (29) Ranking for Macedonian irregular pattern
 $\text{RIGHTWINDOW}(\sigma) \gg \text{FAITHSTRESS} \gg x_{\omega}\text{-L}$

$\text{FAITHSTRESS} \gg x_{\omega}\text{-L}$ ensures that, within the three-syllable window, stress maintains its lexically specified position.

(30)

ci.tát	$\text{RIGHTWINDOW}(\sigma)$	FAITHSTRESS	$x_{\omega}\text{-L}$
☞ a. (ci.tát)			*
b. (cí.tat)		*!	

$\text{RIGHTWINDOW}(\sigma) \gg \text{FAITHSTRESS}$ ensures that three-syllable window is respected.

- Stress is confined to the window, even when its lexically specified syllable moves outside the window.
- When the lexically specified syllable moves outside the window, the lower-ranked $x_{\omega}\text{-L}$ returns stress to its default position over the antepenult.

(31)	ro.mán.ti.ci.te	RIGHTWINDOW(σ)	FAITHSTRESS	X_{ω} -L
	a. ro.man.ti(ci.té)		*	***!*
	b. ro.man.ti(cí.te)		*	***!
	☞ c. ro.man.tí(ci.te)		*	**
	d. ro.mán.ti(ci.te)	*!		*

2.2 Why Nonfinality doesn't work

- (32) NONFINALITY (Prince and Smolensky 1993)
The head foot is not final in the prosodic word.

A Nonfinality approach

- Doesn't produce initial stress windows.
 - There are good reasons to maintain Nonfinality's asymmetry (Hyde 2002, 2007; Altshuler, *forthcoming*)
- For final stress windows, NONFINALITY >> HdFT-R
 - NONFINALITY excludes the final syllable from the head foot
 - Alignment pushes the head foot to the right
 - Works really well *if* antepenultimate stress is the default and stress avoids final syllable.
 - Doesn't work for cases like Macedonian and Pirahã

- (33) Ranking for Macedonian
FAITHSTRESS >> NONFINALITY >> HdFT-R >> FAITHSTRESS

NONFINALITY >> HdFT-R necessary to establish regular antepenultimate stress.

- NONFINALITY ensures that the final syllable is unparsed.
- HdFT-R pushes the head foot as far to the right as possible without including final syllable.

(34)	zbo.ro.vi.te	NONFINALITY	HdFT-R
	a. zbo.ro(ví.te)	*!	
	☞ b. zbo(ró.vi)te		*
	c. (zbó.ro)vi.te		**!

FAITHSTRESS >> NONFINALITY necessary for final irregular stress

(35)	ci.tá.tot	FAITHSTRESS	NONFINALITY
	☞ a. ci(tá.tot)		*
	b. (cí.ta)tot	*!	

HdFT-R >> FAITHSTRESS necessary for window on irregular stress.

(36)	ro.mán.ti.ci.te	NONFINALITY	HdFT-R	FAITHSTRESS
	☞ a. ro.man(tí.ci)te		*	*
	b. ro(mán.ti)ci.te		**!	

- (37) Pirahã
- NONFINALITY must dominate HDFT-R to establish a three syllable window, but
 - HDFT-R must dominate NONFINALITY to capture Pirahã’s preference for final stress.

3 Quantity-sensitive windows

3.1 The proposed approach

- (38) Additional constraints
- MAX- μ
Every mora present in the input is also present in the output.
 - FIRSTMORA
In a stressed syllable, the foot-level gridmark occurs over the leftmost mora.

3.1.1 English

- (39) English trisyllabic shortening
The stressed vowel is long when penultimate or final but shortens when it becomes antepenultimate under suffixation.

- səri:n ~ sərénti ‘serene ~ serenity’
- profé:n ~ profænti ‘profane ~ profanity’
- sé:n ~ sænti ‘sane ~ sanity’
- ómən ~ ómənəs ‘omen ~ ominous’

- (40) English ranking
FAITHSTRESS, RIGHTWINDOW(μ) >> MAX- μ

FAITHSTRESS, RIGHTWINDOW(μ) >> MAX- μ to shorten a stressed antepenultimate syllable.

- RIGHTWINDOW(μ) confines stress to the final foot or the mora adjacent to the final foot.
- FAITHSTRESS ensures that stress occupies the same syllable as it does prior to affixation.
- MAX- μ is violated when the antepenult is shortened to preserve the window and the underlying location for stress.

(41)

pro.fée.ni.ti	FAITHSTRESS	RIGHTWINDOW(μ)	MAX- μ
a. pro.fee(ní.ti)	*!		
b. pro.fée(ni.ti)		*!	
☞ c. pro.fæ(ni.ti)			*

3.1.3 Latin

(47) Latin
Stress a heavy penult. Otherwise stress the antepenult. (Stress avoids the final syllable.)

- a. $\acute{L}LH$ símula:
- b. $L\acute{H}H$ amí:kus
- c. $L\acute{L}LH$ komítium
- d. $L\acute{H}LH$ doméstikus
- e. $LH\acute{H}H$ mone:bá:mus
- f. $HL\acute{L}LH$ partikípium

(48) STRESS-TO-WEIGHT: $\text{NONFIN}(x_{\omega}, \mu, \sigma)$
 No prosodic word-level gridmark occurs over a syllable-final mora.

(49) Latin ranking
 $\text{NONFIN}(x_{\omega}, \sigma, \omega), \text{RIGHTWINDOW}(\sigma) \gg \text{STRESS-TO-WEIGHT} \gg \text{RIGHTWINDOW}(\mu) \gg x_{\omega}\text{-L}$

$\text{RIGHTWINDOW}(\sigma) \gg \text{STRESS-TO-WEIGHT} \gg \text{RIGHTWINDOW}(\mu)$ creates a ‘soft’ quantity-sensitive window within a ‘hard’ quantity-insensitive window at the right edge.

- $\text{RIGHTWINDOW}(\sigma) \gg \text{STRESS-TO-WEIGHT}$ prevents stress from occurring to the left of the antepenult, even for purpose of occupying a heavy syllable.
- $\text{STRESS-TO-WEIGHT} \gg \text{RIGHTWINDOW}(\mu)$ allows stress to occupy a heavy antepenult, if the penult is light.

(50)

par.ti.ki.pi.um	$\text{RIGHTWINDOW}(\sigma)$	STRESS-TO-WEIGHT	$x_{\omega}\text{-L}$
a. par.ti.ki(pí.um)		*	***!
☞ b. par.ti.kí(pi.um)		*	**
c. par.tí.ki(pi.um)	*!	*	*
d. pá.r.ti.ki(pi.um)	*!		

(51)

do.mes.ti.kus	STRESS-TO-WEIGHT	$\text{RIGHTWINDOW}(\mu)$
a. do.mes(tí.kus)	*!	
☞ b. do.més(ti.kus)		*

$\text{RIGHTWINDOW}(\mu) \gg x_{\omega}\text{-L}$ ensures that stress cannot occupy a heavy antepenult – violating the ‘soft’ quantity-sensitive window – simply to position itself further to the left.

- If the penult is heavy, stress will occupy the penult and avoid the antepenult.

(52)

mo.nee.baa.mus	STRESS-TO-WEIGHT	$\text{RIGHTWINDOW}(\mu)$	$x_{\omega}\text{-L}$
☞ a. mo.nee(báa.mus)			**
b. mo.née(baa.mus)		*!	*

3.1.4 Maithili

- (53) Maithili (Jha 1940-1944, 1958, Hayes 1995)
Primary stress preferences: H penult > H ultima > H antepenult > L penult
Secondary stress: stress the initial syllable and every even numbered syllable counting from the right. (Heavy syllables affect pattern.)

a.	̀̀LH̀H̀	àgǎrá:hì:	‘setting fire to a thing’
b.	̀̀HL	dè:k ^h á:rǎ	‘seen’
c.	̀̀LLH̀L	dàhìnǎbá:rǐ	‘the right one’
d.	̀̀LH̀	kù:ɟǎní:	‘a small jar’
e.	̀̀LLLH̀	bù.ɟ ^h ǎnàgǎrí:	‘name of a village’
f.	̀̀LLH̀LL	ɟimùtǎbá:hðnǎ	(proper name)
g.	̀̀LL	bìndúlǎ	‘a fabulous horse’
h.	̀̀LLL	bà:ɟitót ^h ɪ	‘speak-3 FUT.’

- (54) Maithili Ranking

RIGHTWINDOW(σ) >> STRESS-TO-WEIGHT >> RIGHTWINDOW(μ) >> NONFIN(x_ω , σ , ω) >> x_ω -R

As in Latin, RIGHTWINDOW(σ) >> STRESS-TO-WEIGHT >> RIGHTWINDOW(μ) creates a ‘soft’ quantity-sensitive window within a ‘hard’ quantity-insensitive window at the right edge.

- RIGHTWINDOW(σ) >> STRESS-TO-WEIGHT prevents stress from occurring to the left of the antepenult, even for purpose of occupying a heavy syllable.
- STRESS-TO-WEIGHT >> RIGHTWINDOW(μ) allows stress to occupy a heavy antepenult, if the penult and the ultima are both light.

(55)

(baa.ɟi)(tò.t ^h ɪ)	RIGHTWINDOW(σ)	STRESS-TO-WEIGHT
☞ a. (bàa.ɟi)(tò.t ^h ɪ)		*
b. (báa.ɟi)(tò.t ^h ɪ)	*!	

(56)

(ɟi)(mu.tǎ)(baa)(hðnǎ)	STRESS-TO-WEIGHT	RIGHTWINDOW(μ)
a. (ɟi)(mù.tǎ)(bàa)(hðnǎ)	*!	
☞ b. (ɟi)(mù.tǎ)(báa)(hðnǎ)		*

RIGHTWINDOW(μ) >> NONFIN(x_ω , σ , ω) ensures that the ‘soft’ quantity sensitive window is respected if the penult or the ultima is heavy.

- Stress avoids a heavy antepenult in favor of a heavy penult or ultima.

(57)

(kuu)(ɟǎ.nii)	STRESS-TO-WEIGHT	RIGHTWINDOW(μ)	NONFIN(x_ω , σ , ω)
☞ a. (kùu)(ɟǎ.níi)			*
b. (kúu)(ɟǎ.nìi)		*!	

NONFIN(x_ω , σ , ω) >> x_ω -R establishes default penultimate stress.

(58)

(a.gǎ)(raa)(hii)	STRESS-TO-WEIGHT	NONFIN(x_ω , σ , ω)	x_ω -R
a. (à.gǎ)(ràa)(híi)		*!	
☞ b. (à.gǎ)(ráa)(hìi)			*

Why don't see initial quantity-sensitive windows?

- Because stress seems almost always to fall on the initial mora of a heavy syllable, stressing a heavy antepenult would not locate the stress outside of a quantity-sensitive window.
- (CV.CV)CVV

3.2 Why extended lapse avoidance doesn't work

- (59) a. *EXTENDED LAPSE RIGHT (Gordon 2002)
A maximum of two unstressed syllables separates the rightmost stress from the right edge of a stress domain.
- b. *EXTENDED LAPSE LEFT
A maximum of two unstressed syllables separates the leftmost stress from the left edge of a stress domain.

How it works (using *EXTENDED LAPSE RIGHT as the example)

- A high-ranked *EXTENDED LAPSE RIGHT prevents the rightmost stress from occurring more than two syllables from the edge of the word.
- If the primary stress is always the rightmost stress, then a final stress window is established.

Two Problems

- *EXTENDED LAPSE RIGHT is not sensitive to the weight of the antepenult, so it couldn't produce the quantity-sensitive windows discussed above.
 - Even a moraic version – a maximum of two unstressed moras separates the rightmost stress from the right edge of a stress domain – would not make the window quantity-sensitive in the right way.
 - In Latin, *CV.CV́.CVV would be preferred over CV́.CV.CVV.
 - In Greek, *CV.CV́V.CV would be preferred over CV́.CVV.CV
- Only works for languages where *EXTENDED LAPSE RIGHT is active in determining the position of primary stress, in other words, when the primary stress is peripheral.
 - *EXTENDED LAPSE RIGHT cannot produce languages with binary secondary patterns like Maithili, because the primary stress is not always the rightmost stress.

Latin

Wrong result with *EXTENDED LAPSE RIGHT(σ)

(60)

	*EXTENDED LAPSE RIGHT(σ)	STRESS-TO-WEIGHT	X _w -L
mo.nee.baa.mus			
a. mo.nee.báa.mus			* *
☞ b. mo.née.baa.mus			*

Wrong result with *EXTENDED LAPSE RIGHT(μ)

(61)

	*EXTENDED LAPSE RIGHT(μ)	X _w -L
si.mu.laa		
☞ a. si.mú.laa		*
b. sí.mu.laa	*!	

Section 3.3 Why weak local parsing does not work

- (62) a. PARSE-2 (Kager 1994)
One of two adjacent stress units must be parsed by a foot.
- b. *LAPSE (Green 1995)
Adjacent unstressed syllables are separated by a foot boundary.

How it works

- A high-ranked PARSE-2 or *LAPSE prevents the rightmost (or leftmost) foot from occurring more than one syllable away from the edge of the word.
- If the head foot is always the rightmost (or leftmost) foot, then a stress window is established.

Two Problems

- Similar to the problems with *EXTENDED LAPSE
- Weak local parsing is not sensitive to the weight of the antepenult, at least not in the right way.
 - Foot well-formedness restrictions might be able to produce Latin and English, but not Greek.
 - In English trisyllabic shortening, (C[́]V.CV)CV makes for a better trochee than *(C[́]V.V.CV)CV.
 - In Latin, CVV(C[́]V)V)CV makes for a better trochee than *(C[́]V.V.CVV)CV
 - In Greek, (CV[́].CV)CV doesn't make for a better trochee than *(C[́]V.V.CV)CV
- Only works for languages where weak local parsing is active in positioning the head foot, in other words, where the head foot is peripheral.
 - Weak local parsing cannot produce languages with binary secondary patterns like Maithili, because parsing is (strongly) local, and the head foot is not always the rightmost foot.

4 The midpoint pathology

One of the most significant differences between the original and revised formulations arises when a less mobile category (syllable, foot) is aligned with a more mobile category (tone, stress).

- The original formulation produces the Midpoint Pathology (Eisner 1993).
- The revised formulation produces a stress window.

Following McCarthy and Prince (1993), let cat_1, cat_2, cat_3 be prosodic, metrical, or morphological categories and $edge_1, edge_2 \in \{L, R\}$ where L, R are functions from categories to category edges, $L(cat_1)$ returning the left edge of cat_1 , $R(cat_1)$ returning the right edge of cat_1 , then the traditional Alignment formulation can be given as in (63).

- (63) ALIGN($cat_1, edge_1, cat_2, edge_2, cat_3$)
The $edge_1$ of every cat_1 is aligned with the $edge_2$ of some cat_2 . Violations are assessed for intervening instances of cat_3 .

The original formulation

- ALIGN(Ft, R, x_ω, R) positions the stress over the second syllable of the middle foot.
- ALIGN(Ft, L, x_ω, R) positions the stress over the syllable to the left of the middle foot.

- (64) a. ALIGN(Ft, R, x_ω, R)
The right edge of every foot is aligned with the right edge of some x_ω. Violations are assessed for intervening syllables.
- b. ALIGN(Ft, L, x_ω, R)
The right edge of every foot is aligned with the right edge of some x_ω. Violations are assessed for intervening syllables.

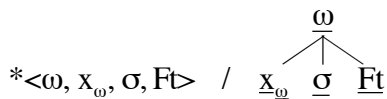
(65)

	ALIGN(Ft, R, x _ω , R)	ALIGN(Ft, L, x _ω , R)
a. (óσ)(σσ)(σσ)(σσ)(σσ)	1 3 5 7 9 (25)	1 1 3 5 7 (17)
b. (σó)(σσ)(σσ)(σσ)(σσ)	2 4 6 8 (20)	2 2 4 6 (14)
c. (σσ)(óσ)(σσ)(σσ)(σσ)	1 1 3 5 7 (17)	3 1 1 3 5 (15)
d. (σσ)(σó)(σσ)(σσ)(σσ)	2 2 4 6 (14)	◀ 4 2 2 4 (12)
e. (σσ)(σσ)(óσ)(σσ)(σσ)	3 1 1 3 5 (15)	5 3 1 1 3 (15)
f. (σσ)(σσ)(σó)(σσ)(σσ)	◀ 4 2 2 4 (12)	6 4 2 2 (14)
g. (σσ)(σσ)(σσ)(óσ)(σσ)	5 3 1 1 3 (15)	7 5 3 1 1 (17)
h. (σσ)(σσ)(σσ)(σó)(σσ)	6 4 2 2 (14)	8 6 4 2 (20)
i. (σσ)(σσ)(σσ)(σσ)(óσ)	7 5 3 1 1 (17)	9 7 5 3 1 (25)
j. (σσ)(σσ)(σσ)(σσ)(σó)	8 6 4 2 (20)	10 8 6 4 2 (30)

The revised formulation

- Cannot formulate something equivalent to ALIGN(Ft, R, x_ω, R) in the revised approach.
- The closest thing to ALIGN(Ft, L, x_ω, R) in the revised approach is a gradient version of RIGHTWINDOW(σ).

- (66) RIGHTWINDOW(σ) (Gradient)



For any *⟨ω, x_ω, σ, Ft⟩ such that Ft is preceded by σ preceded by x_ω within ω, assign a violation mark.

(67)

	RIGHTWINDOW(σ) (Gradient)
a. (óσ)(σσ)(σσ)(σσ)(σσ)	1 3 5 7 (16)
b. (σó)(σσ)(σσ)(σσ)(σσ)	2 4 6 (12)
c. (σσ)(óσ)(σσ)(σσ)(σσ)	1 3 5 (9)
d. (σσ)(σó)(σσ)(σσ)(σσ)	2 4 (6)
e. (σσ)(σσ)(óσ)(σσ)(σσ)	1 3 (4)
f. (σσ)(σσ)(σó)(σσ)(σσ)	2 (2)
g. (σσ)(σσ)(σσ)(óσ)(σσ)	1 (1)
☞ h. (σσ)(σσ)(σσ)(σó)(σσ)	(0)
☞ i. (σσ)(σσ)(σσ)(σσ)(óσ)	(0)
☞ j. (σσ)(σσ)(σσ)(σσ)(σó)	(0)

5 Conclusions

McCarthy's (2003) alignment formulation

- Makes alignment sensitive to the order of misaligned edges.
- Can easily be extended to allow gradient assessment.
- Can easily be extended to allow opposite-edge alignment.
- Avoids the Midpoint Pathology.

The trisyllabic domain of stress windows

- Is defined by the maximum distance (a disyllabic foot) that stress can occur from the edge of the word.
- Aligning feet with the primary stress enforces the maximum distance restriction.

Quantity-sensitivity

- Is determined by what position counts as being adjacent to a peripheral foot.
- If an adjacent syllable is required, the window is quantity-insensitive.
- If an adjacent mora is required, the window is quantity-sensitive.
- The adjacency requirement depends on whether alignment violations are measured in terms of moras or syllables.