Interstratal differences and the *ABA-restriction: An argument for Harmonic Layer Theory

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Interstratal differences: Guébie

[+ATR] – [–ATR]

(1) a. sɨ^{2}-a^{2}
be.tired.IPFV-CAUS
'causes to be tired'

b. wi^{3}-ɘ^{2}
cry.IPFV-CAUS
'cause to cry' (28)

c. ju^{4} gbala$^{3.4}$ si^{3}
boy climb.PFV trees
'a boy climbed trees'

(Sande, 2017, 28,43)

- ATR-vowel harmony only applies within words but not across words

(2) Interstratal differences in Guébie: Vowel harmony

Stem 1	Word 2	Phrase 3
VHarm	VHarm	–

Interstratal differences: Nuuchahnulth

(3)

a. ħasaqsuɬ
/ħas-ʔaqsuɬ/
loud-at.the.mouth
'loud voice'

b. ʔapʔaqsuɬ
/ʔap-ʔaqsuɬ/
LOC-at.the.mouth
'mouth'

c. ciʕasʔaːqtɬqa
/ciʕas-ʔaːqtɬ-qaˑ/
WOO-INTENT-3.SUB
'he was going to talk marriage'

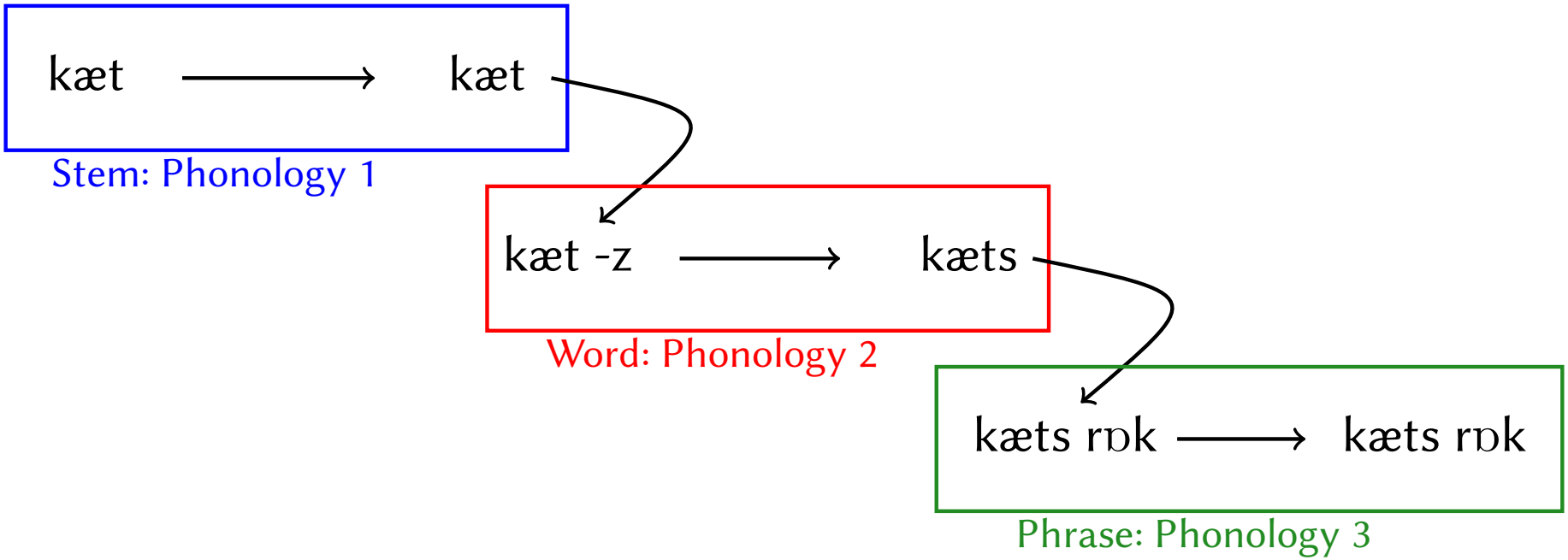
(Stonham, 2007, 110+111)

- only stem-level affixes are undergoers of post-fricative /ʔ/-deletion

(4) Interstratal differences in Nuuchahnulth: Post-fricative /ʔ/

Stem 1	Word 2	Phrase 3
Del	–	–

Interstratal differences: Co-phonologies as a solution



- the output of a lower stratum feeds into the input of the next stratum
- every stratum is potentially associated with a **different phonology**

  (cf. Lexical Phonology → Stratal OT (Kiparsky, 1982, 1985; Kaisse and Shaw, 1985; Mohanan, 1986) → (Kiparsky, 2015; Trommer, 2011, t.a.; Bermúdez-Otero, 2018, i.p.)

Is any combination of phonologies possible within one language?

Our main claim

Interstratal differences are restricted: *ABA

There are no ABA-patterns in the representative typologies of

- tonal behaviour in OCP-contexts
- tonal behaviour in spreading contexts

Novel theory: Harmonic Layer Theory

- derives interstratal differences from cyclic optimizations with **a single phonological grammar**
- based on predictable **activity adjustments** across layers
- inherently excludes ABA-patterns

Interstratal differences are restricted

A restriction on stratal differences: Lexical Phonology

Strong Domain Hypothesis (Kiparsky, 1984, 1985)

A phonological pattern enforced in any given level must also be enforced at all earlier levels.

	*Excluded by SDH	
Stem ①	not P1	not P1
Word ②	process P1	not P1
Phrase ③	process P1	process P1

- ➙ rejected on empirical grounds
- ➙ an add-on assumption in all models

Our proposal: The *ABA-restriction

(5) The *ABA restriction
In a given language L:
It is impossible that a morpho-syntactic layer L_n shows phonological behaviour B1 but an earlier layer L_{n-x} and a later layer L_{n+y} both show the same phonological behaviour B2 (B2≠B1).

(6) Impossible ABA-patterns: Abstract overview

	Identical context C:		
Stem ①	no repair	process P1	process P1
Word ②	process P1	no repair	process P2
Phrase ③	no repair	process P1	process P1

Empirical evidence for *ABA

- the existing patterns discussed as (counter)evidence for the SDH or CSH are compatible with it
- representative empirical studies: What is the variation on possible interstratal differences in specific phonological contexts:
  - tonal OCP-contexts
  - tonal spreading contexts

  → phonological contexts with lots of (morpho-syntactically conditioned?) variation within and across tonal languages, especially Bantu

Typology I: OCP contexts

The OCP (=Obligatory Contour Principle)

Avoid two adjacent identical elements!

V̲=underlying H; V́=surface H, V̲ =underlying H not realized

(7) Example: OCP-triggered deletion in Bari (Yokwe, 1986)

a. kó̲pò
/kópò/
'cup'

b. pòní̲ à 'dé̲p kò̲pò
/pòní à 'dép kópò/
'Poni held the cup'

Typology I: OCP contexts

(8) OCP context: Possible phonological behaviours

Underlying:	H H	
a. OCP tolerated	H H	–
b. Deletion	H	Del
c. Downstep	H L H	DS
d. Fusion	H	Fus
e. Dissimilation	H L	Diss

Example: Interstratal OCP differences in Bari (Yokwe, 1986)

V=underlying H; V́=surface H, V=underlying H not realized, [. . .] – (Macro)Stems

(9) Diss at 3

[pòní] [à] [’dép] [kòpò]

Poni PST hold cup

‘Poni held the cup’ Y:207

(10) Diss at 2

[mòkêt] ná-[kòpò]

handle ASSOC-cup

‘the handle of the cup’ Y:254

(11) – at 1

[kàmú-tát]

guest-SG

‘guest’ Y:173

(12)

Stem 1	Word 2	Phrase 3
–	Diss	Diss

The OCP and interstratal differences: A representative typology

- sample: 34 languages
  which employ some repair in a tonal OCP-context

- one representative pattern per typological classification:
  We excluded languages/varieties showing identical OCP-pattern with an identical typological classification (Hammarström et al., 2025)

- of these: 14 languages show interstratal differences

14 languages with interstratal differences in OCP context

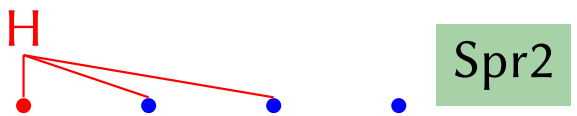
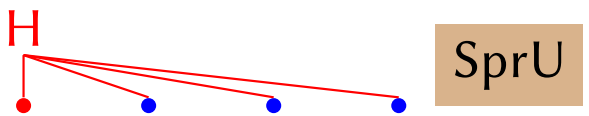
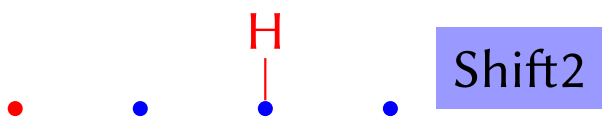
Tiriki	ida	H	Dissimilation, No repair	(Paster and Kim, 2011)
Atlantic-Congo		Northeast Savanna Bantu->Luyia		Tanzania
Chizigula	ziw	H	Deletion, No repair	(Kenstowicz and Kisseberth, 1990)
Atlantic-Congo		Northeast Savanna Bantu->Ruvu		Kenya+Tanzania
Jita	jit	H	Deletion, No repair	(Downing, 1996, 2014)
Atlantic-Congo		Northeast Savanna Bantu->Nyanza Mara		Tanzania
Kishambaa	ksb	H	Fusion, Downstep	(Odden, 1982)
Atlantic-Congo		Northeast Savanna Bantu->Ruvu		Tanzania
Chitonga	toi	H	Deletion, No repair	(Bickmore and Mkochi, 2018)
Atlantic-Congo		East Bantu->Botatwe		Zambia
Fwe	fwe	H	Deletion, Downstep	(Gunnink, 2018)
Atlantic-Congo		East Bantu->Botatwe		Namibia
Tswana	tsn	H	Fusion, Downstep	(Zerbian, 2015; Zerbian and Kügler, 2015, 2023)
Atlantic-Congo		East Bantu->Nuclear Southern Bantu		Botswana
Shona	sna	H	Fusion, Deletion, No repair	(Myers, 1987, 1997)
Atlantic-Congo		East Bantu->Southern Bantu		Zimbabwe
Dagaare	dga	H	Dissimilation, Downstep, No repair	(Anttila and Bodomo, 2022)
Atlantic-Congo		Mabia->Northwest Oti-Volta		Ghana
Dagbani	dag	H	Dissimilation, No repair	(Hyman, 1993)
Atlantic-Congo		Mabia->Northwest Oti-Volta		Ghana+Togo
Moore	mos	H	Dissimilation, No repair	(Kenstowicz et al., 1988; Kenstowicz, 1994)
Atlantic-Congo		Mabia->Northwest Oti-Volta		Burkina Faso
Igbo	ibo	L	Deletion, No repair	(Clark, 1990)
Atlantic-Congo		Benue-Congo->Igboid		South Sudan
Bari	bfa	H	No repair, Dissimilation	(Yokwe, 1986)
Nilotic		Eastern Nilotic		South Sudan
Moro	mor	H	Deletion, No repair	(Jenks and Rose, 2011, 2015)
Heibanic		West Central Heibanic		Sudan

Typology of interstratal differences in OCP contexts: No *ABA

Languages		1 Stem	2 Word	3 Phrase	Patterns
1.	Chitonga	Del	Del	–	AAB
2.	Igbo	Del	Del	–	
3.	Jita	Del	Del	–	
4.	Dagbani	Diss	Diss	–	
5.	Moore	Diss	Diss	–	
6.	Tiriki	Diss	Diss	–	
7.	Fwe	Del	Del	DS	
8.	Tswana	Fus	Fus	DS	
9.	Bari	–	Diss	Diss	ABB
10.	Kishambaa	Fus	DS	DS	
11.	Chizigula	Del	DS	DS	
12.	Moro	Del	–	–	
13.	Dagaare	Diss	DS	–	ABC
14.	Shona	Fus	Del	–	

Representative typology II: Spreading contexts

(13) Spreading contexts: Possible phonological behaviours

Underlying:	
a. Nothing	
b. 1-Spreading	
c. 2-Spreading	
d. Unbounded Spreading	
e. 1-Shifting	
f. 2-Shifting	

Example: Interstratal spreading differences in Shona (Myers, 1987, 1997)

(14) Toneless root
[ku]-[vereng-a]
INF-read-FV
'to read' (Myers, 1997, 860)

(15) Spr1 at 2
[ti-chá]-[véreng-a]
1.PL-FUT-read-FV
'We will read' (Myers, 1997, 860)

(16) Spr2 at 1
[tí-tárís-e]
1PL/SUBJ-look-FV
'we would look' (Myers, 1997, 870)

(17) Spr2 at 1 + Spr1 at 3
[ku]-[téng-és-á] [sádza]
INF-buy-CAUS-FV porridge
'to sell porridge' (Myers, 1997, 862)

(18)

Stem 1	Word 2	Phrase 3
Spr2	Spr1	Spr1

Spreading contexts and interstratal differences: A representative typology (work in progress)

11 languages with interstratal differences in spreading contexts

Shona	sna	H	Spreading	(Myers, 1987, 1997)
Atlantic-Congo		East Bantu->Southern Bantu		Zimbabwe
Silozi	loz	H	Spreading+Shifting	(Bickmore, 2024)
Atlantic-Congo		East Bantu->Southern Bantu		Namibia
Chitonga	toi	H	Spreading	(Bickmore and Mkochi, 2018)
Atlantic-Congo		East Bantu->Botatwe		Zambia
Copperbelt Bemba	bem	H	Spreading	(Kula and Bickmore, 2015)
Atlantic-Congo		East Bantu->Sabi		Zambia
Jita	jit	H	Shifting	(Downing, 1996, 2014)
Atlantic-Congo		Northeast Savanna Bantu->Nyanza Mara		Tanzania
Dagaare	dga	H	Spreading	(Anttila and Bodomo, 2022)
Atlantic-Congo		Mabia->Northwest Oti-Volta		Ghana
Bari	bfa	H	Spreading	(Yokwe, 1986)
Nilotic		Eastern Nilotic		South Sudan
Laal	gdm	H	Spreading	(Lionnet, 2022)
Laal				Tchad
Tanacross	tcb	H	Spreading	(Holton, 2005)
Athabaskan-Eyak-Tlingit		Athabaskan->Tananaic		USA
Hän	haa	H	Spreading	(Lehman, 2018)
Athabaskan-Eyak-Tlingit		Athabaskan->Tananaic		Canada
Chalcatongo Mixtec	mig	L	Spreading	(Macaulay, 1996)
Otomanguean		Eastern Otomanguean->Mixtec		Mexico

Typology of interstratal differences in spreading contexts: No *ABA

Languages	1 Stem	2 Word	3 Phrase	Patterns
Bari	–	–	Spr1	
Tanacross	–	–	Spr1	
Han	–	–	Spr1	
Bemba	–	–	SprU	
Jita	–	–	Shift2	AAB
Laal	Spr1	Spr1	–	
Chitonga	Spr1	Spr1	–	
Silozi	Shift2	Shift2	Spr1	
Dagaare	Spr1	–	–	
Chalcotongo Mixtec	Spr1	–	–	ABB
Shona	Spr2	Spr1	Spr1	

Empirical claim: Summary

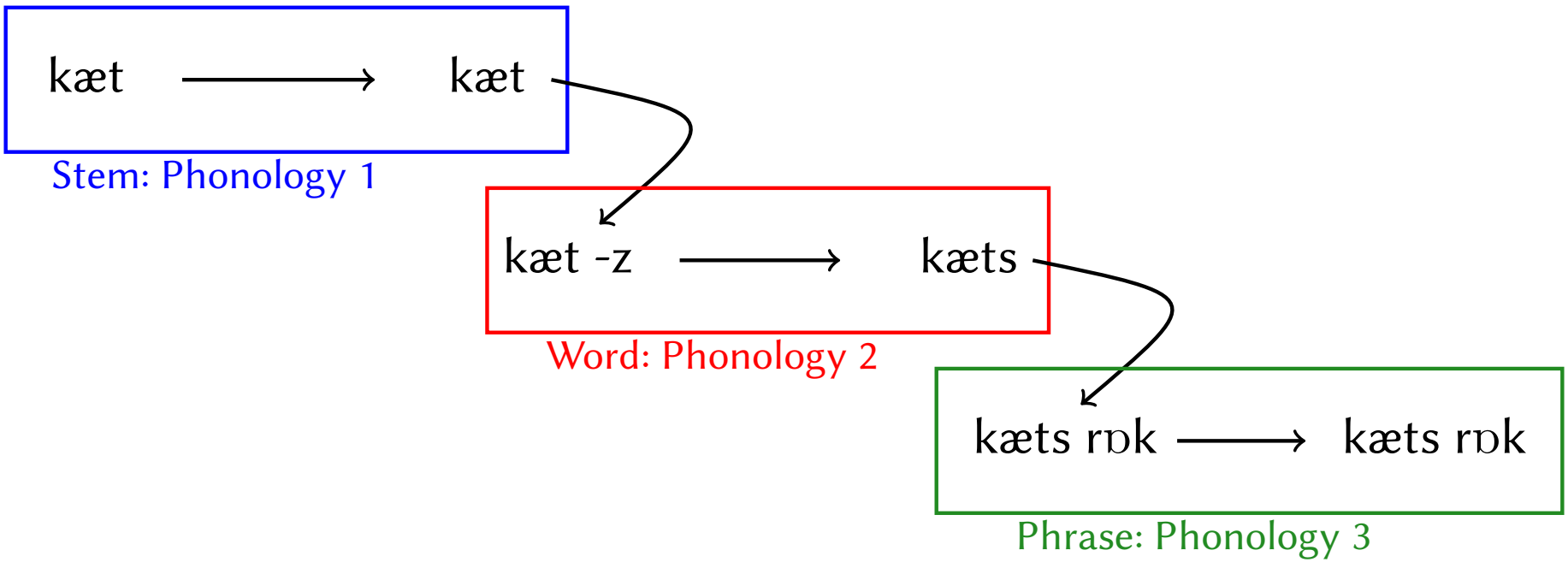
(19) The *ABA restriction
In a given language L: It is impossible that the same phonological context shows phonological behaviour P1 in layer ① and ③ but a different phonological behaviour P2 in the intermediate layer ②.

(20) Impossible ABA-patterns: Abstract overview

	Identical context C:		
Stem ①	no repair	process P1	process P1
Word ②	process P1	no repair	process P2
Phrase ③	no repair	process P1	process P1

A novel theory: HLT

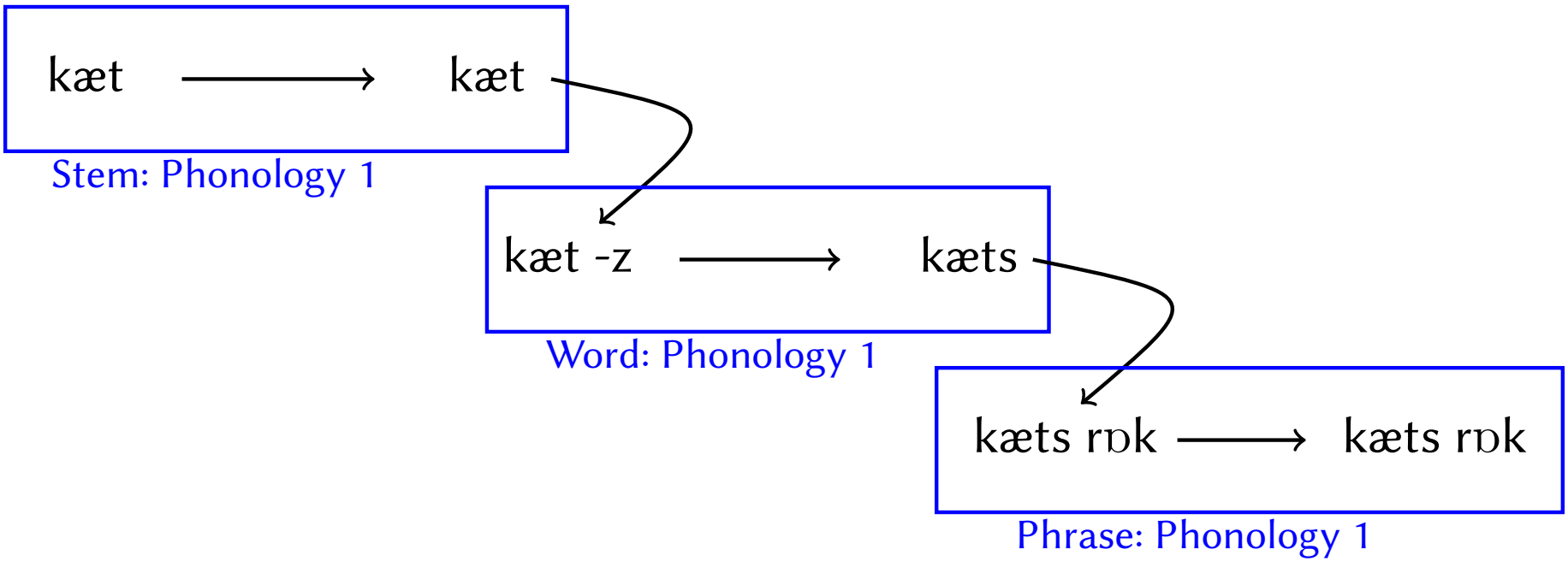
Co-grammars + *ABA = a mystery



Our alternative proposal: Harmonic Layer Theory (=HLT)

(Tebay et al., 2025; Zimmermann, 2025*c*,*b*)

Assumption 1: A single phonological grammar optimizes cyclically



Our alternative proposal: Harmonic Layer Theory (=HLT)

Assumption 2: Phonological elements are gradiently active

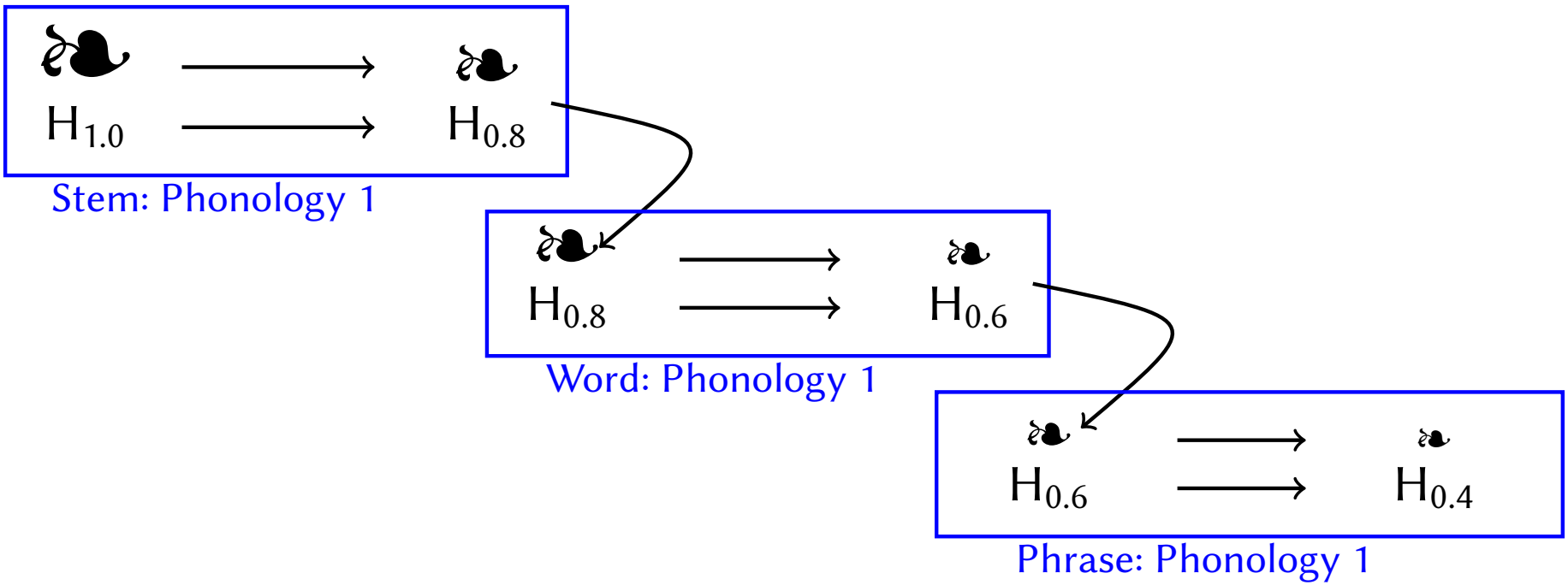
- all linguistic symbols have **activity** that can **gradiently** differ
  (Smolensky and Goldrick, 2016; Rosen, 2016, 2017; Zimmermann, 2018*a*,*b*, 2019, 2025*a*; Kushnir, 2019; Walker, 2020; Shojaei, 2026)
- different activities result in **gradient constraint violations** of both faithfulness and markedness constraints

→ different activity of an element = different phonological behaviour

			MAX-H 10	‖OCP-H‖ 9	
a. /$H_{1.0}$ $H_{1.0}$ $H_{1.0}$ /	☞ a.	$H_{1.0}$ $H_{1.0}$		-1.0	-9
	b.	$H_{1.0}$	-1.0		-10
b. /$H_{0.8}$ $H_{0.8}$ $H_{0.8}$ /	a.	$H_{0.8}$ $H_{0.8}$		-1.0	-9
	☞ b.	$H_{0.8}$	-0.8		-10

HLT: Putting assumptions 1 and 2 together: Activity loss

There can be **monotonic activity decay** across layers (=elements get weaker by each optimization pass).



➙ Given that elements with different activities can behave differently: Monotonic activity adjustment predicts **interstratal differences**

Different behaviour for OCP problems: Shona in a nutshell

(21) Different OCP reactions in Shona

Input	Optimal at 1 Fus	Optimal at 2 Del	Optimal at 3 –
H H	H	H	H H
	–H–	H	H H

HLT thresholds: Fusion is the default repair but

- the weaker the H, the cheaper deletion
- the weaker the H, the easier it is to tolerate the OCP

Shona in HLT

1

		OCP-• 27	Max-H 20	‖Unif‖ 17	$\mathcal{H}$
$H_{1.0}$ $H_{1.0}$					
a. $H_{0.8}$ $H_{0.8}$	–	-0.8			-21.6
b. $H_{0.8}$	Del		-1.0		-20.0
☞ c. $-H_{0.8}-$	Fus			-1.0	-17.0

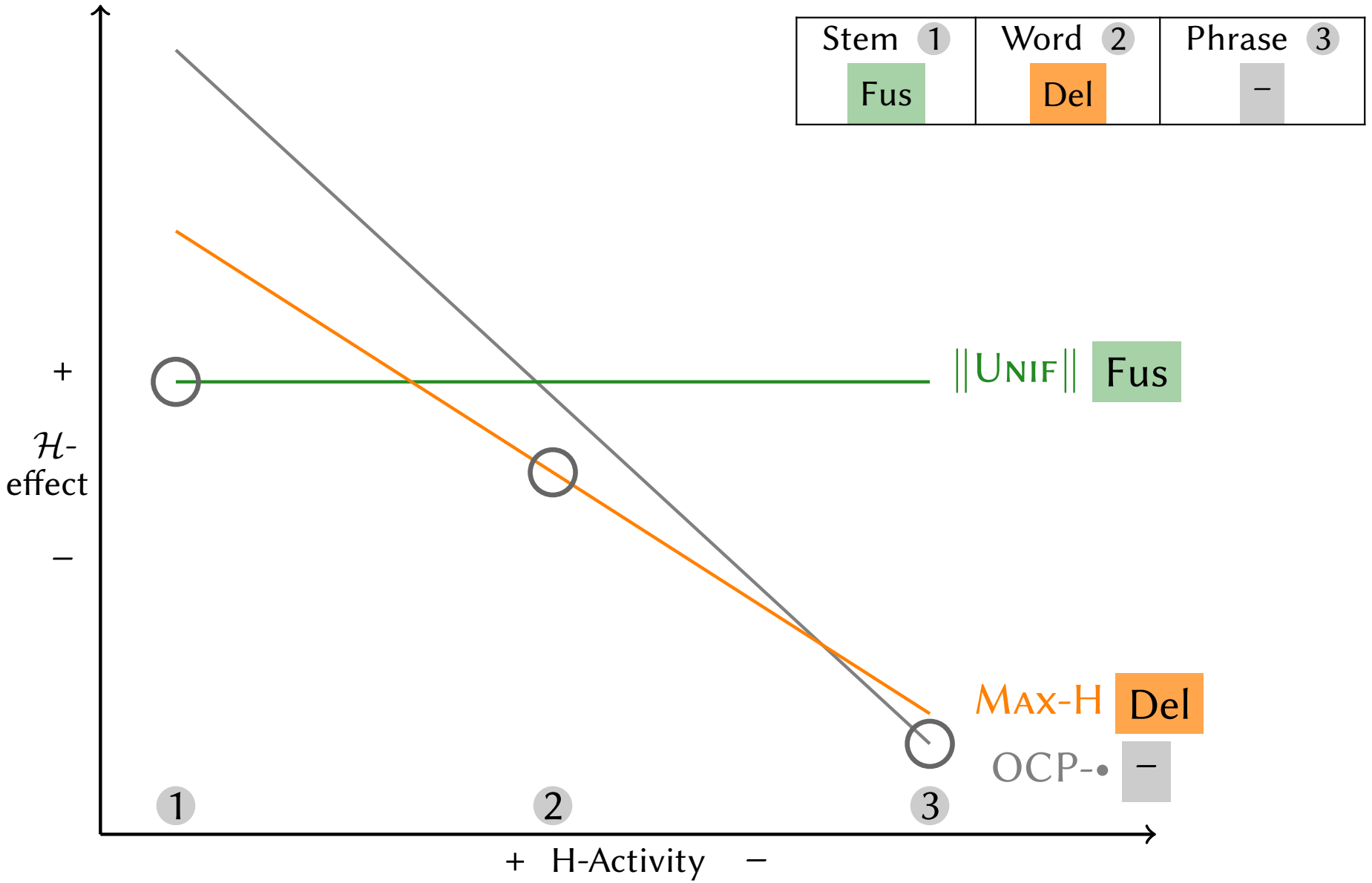
2

		OCP-• 27	Max-H 20	‖Unif‖ 17	$\mathcal{H}$
$H_{0.8}$ $H_{0.8}$					
a. $H_{0.6}$ $H_{0.6}$	–	-0.6			-16.2
☞ b. $H_{0.6}$	Del		-0.8		-16.0
c. $-H_{0.6}-$	Fus			-1.0	-17.0

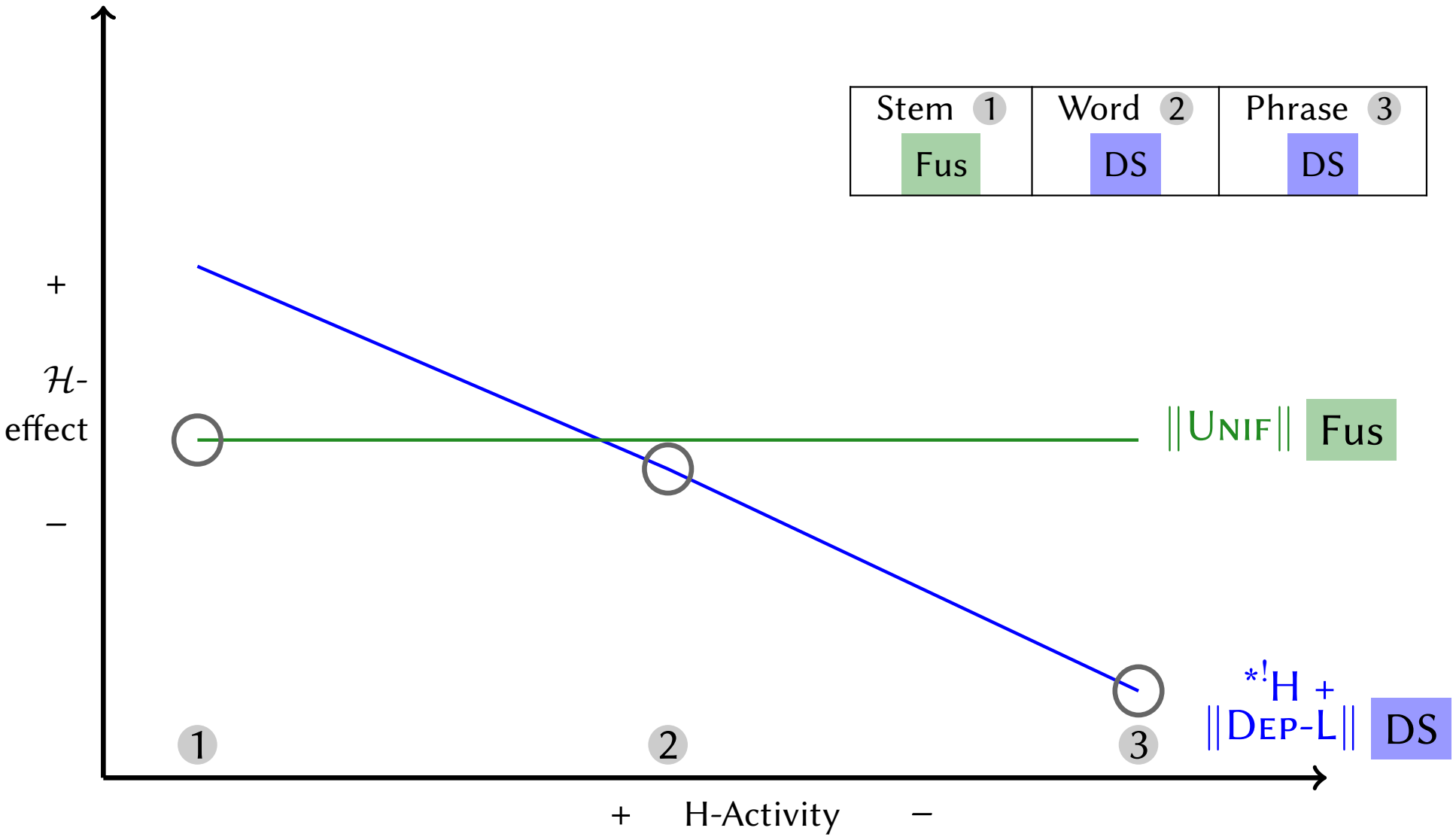
3

		OCP-• 27	Max-H 20	‖Unif‖ 17	$\mathcal{H}$
$H_{0.6}$ $H_{0.6}$					
☞ a. $H_{0.4}$ $H_{0.4}$	–	-0.4			-10.8
b. $H_{0.4}$	Del		-0.6		-12.0
c. $-H_{0.4}-$	Fus			-1.0	-17.0

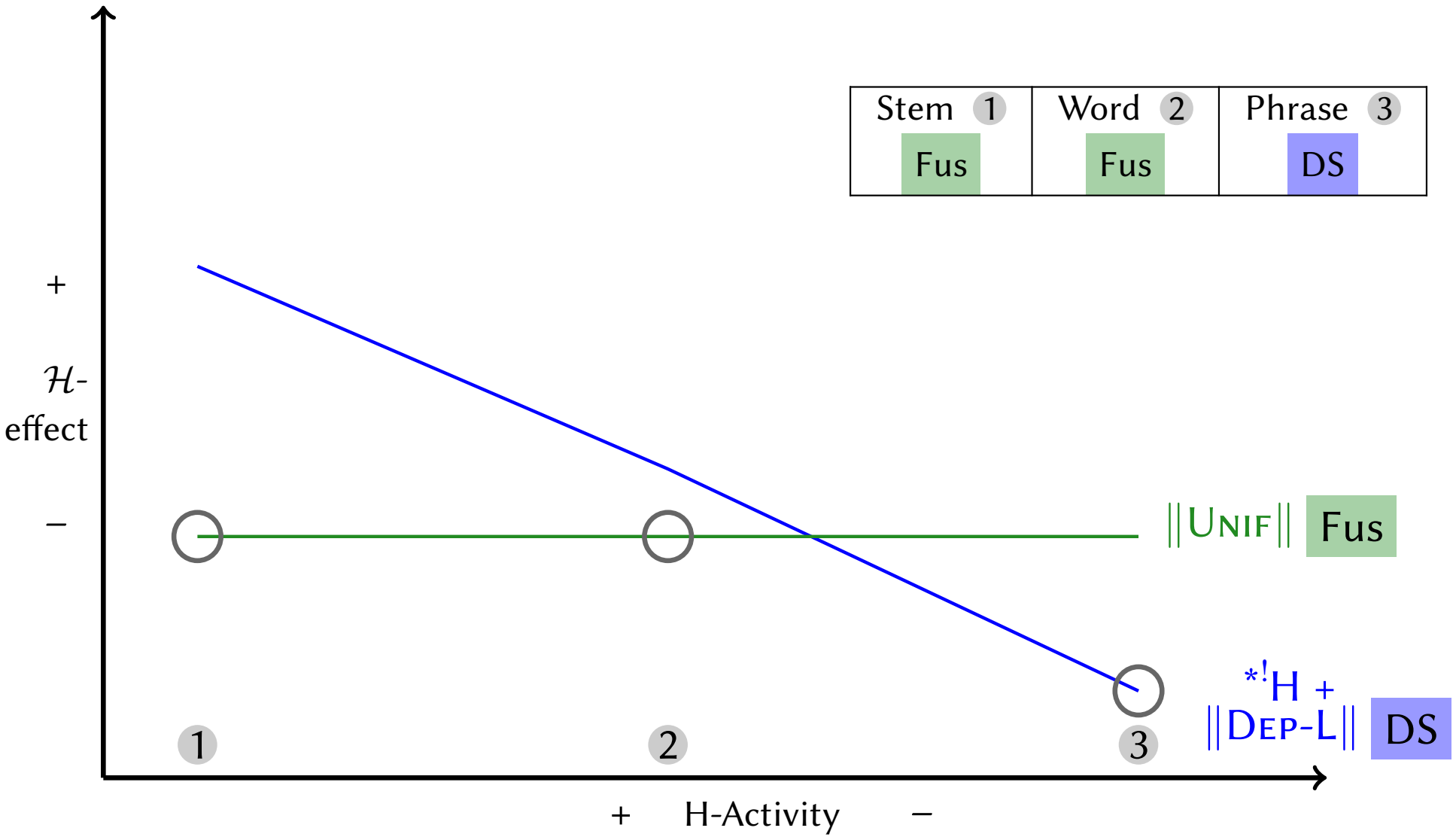
Shona/Chitonga: HLT thresholds



Kishambaa: HLT thresholds

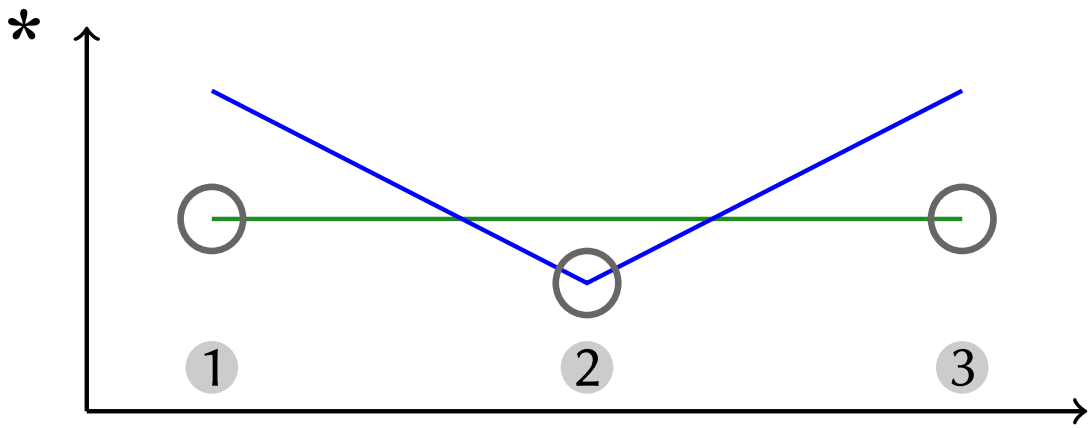


Tswana/Venda: HLT thresholds



Interstratal differences in HLT

- fall out from predictable activity adjustment across layers
- → and predictable activity adjustment is **restricted by monotonicity**



(22) The *ABA restriction
In a given language L: It is impossible that the same phonological context shows phonological behaviour P1 in layer ① and ③ but a different phonological behaviour P2 in the intermediate layer ②.

Summary

Summary

- interstratal differences are restricted by *ABA
- HLT is inherently restricted by *ABA: Interstratal differences result from monotonic activity adjustment
- future research:
  - extend our typological studies (more tonal and non-tonal patterns)
  - explore predictions of HLT beyond the classical three layers

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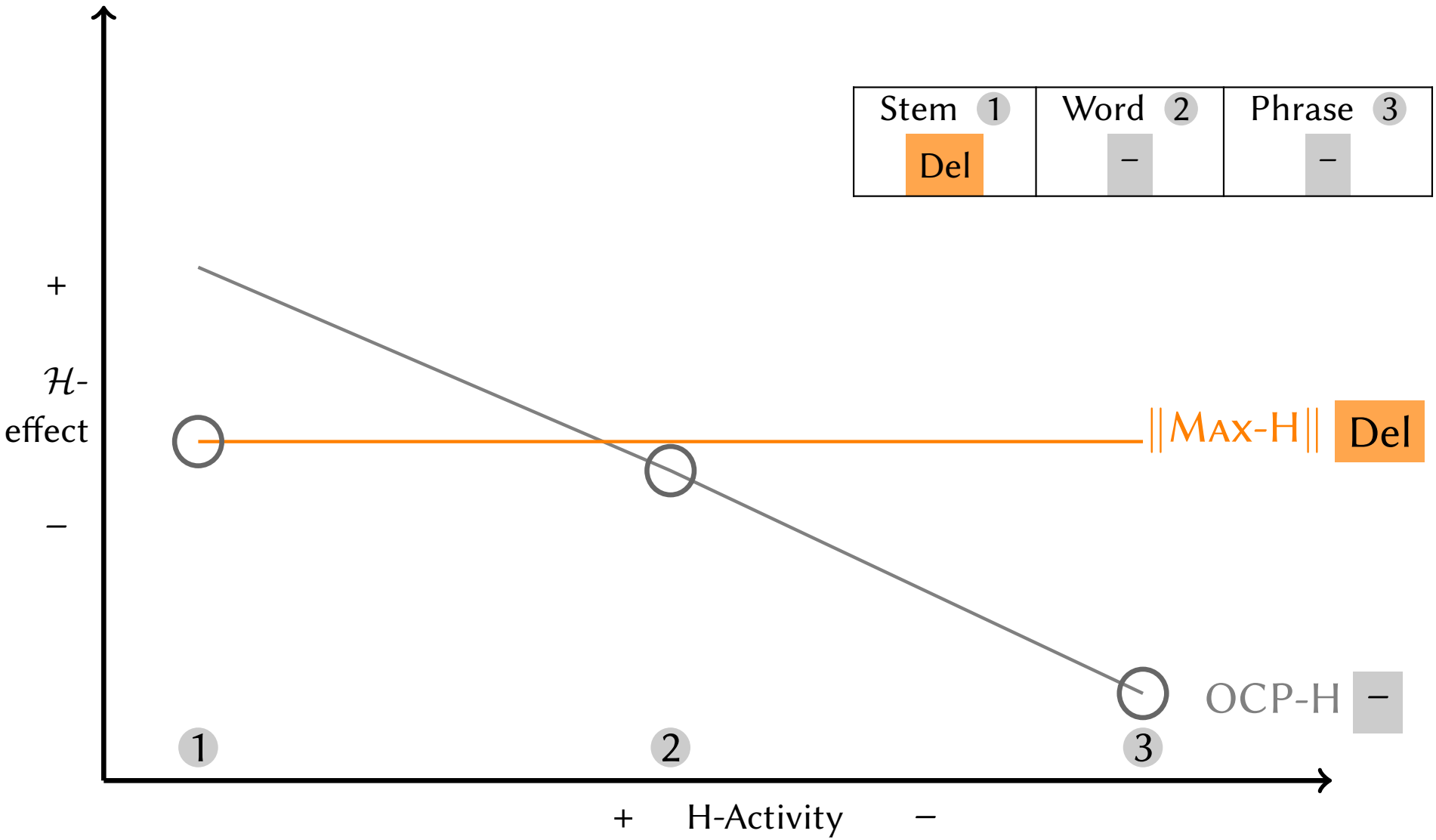
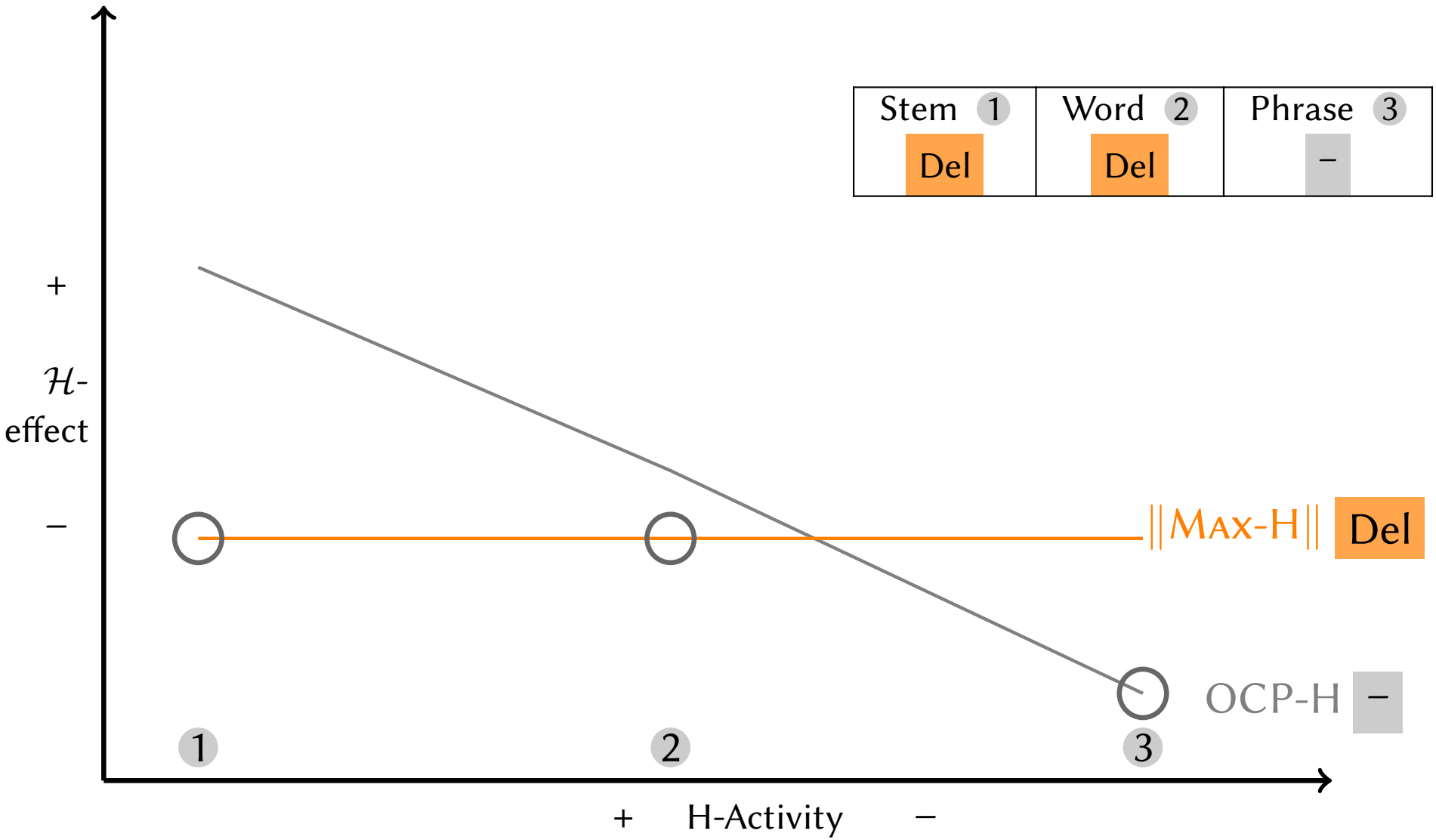
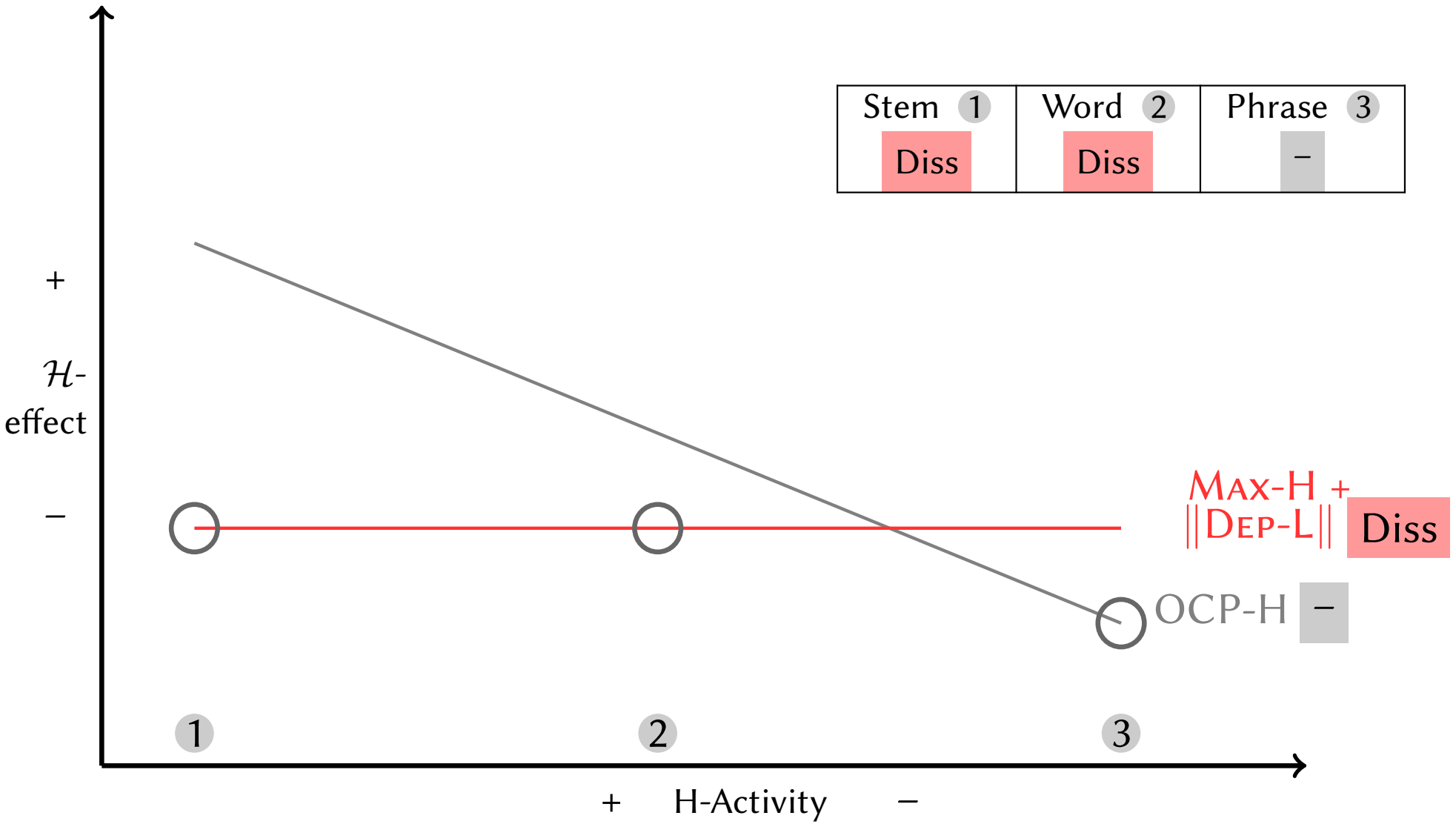
Moro: HLT thresholds



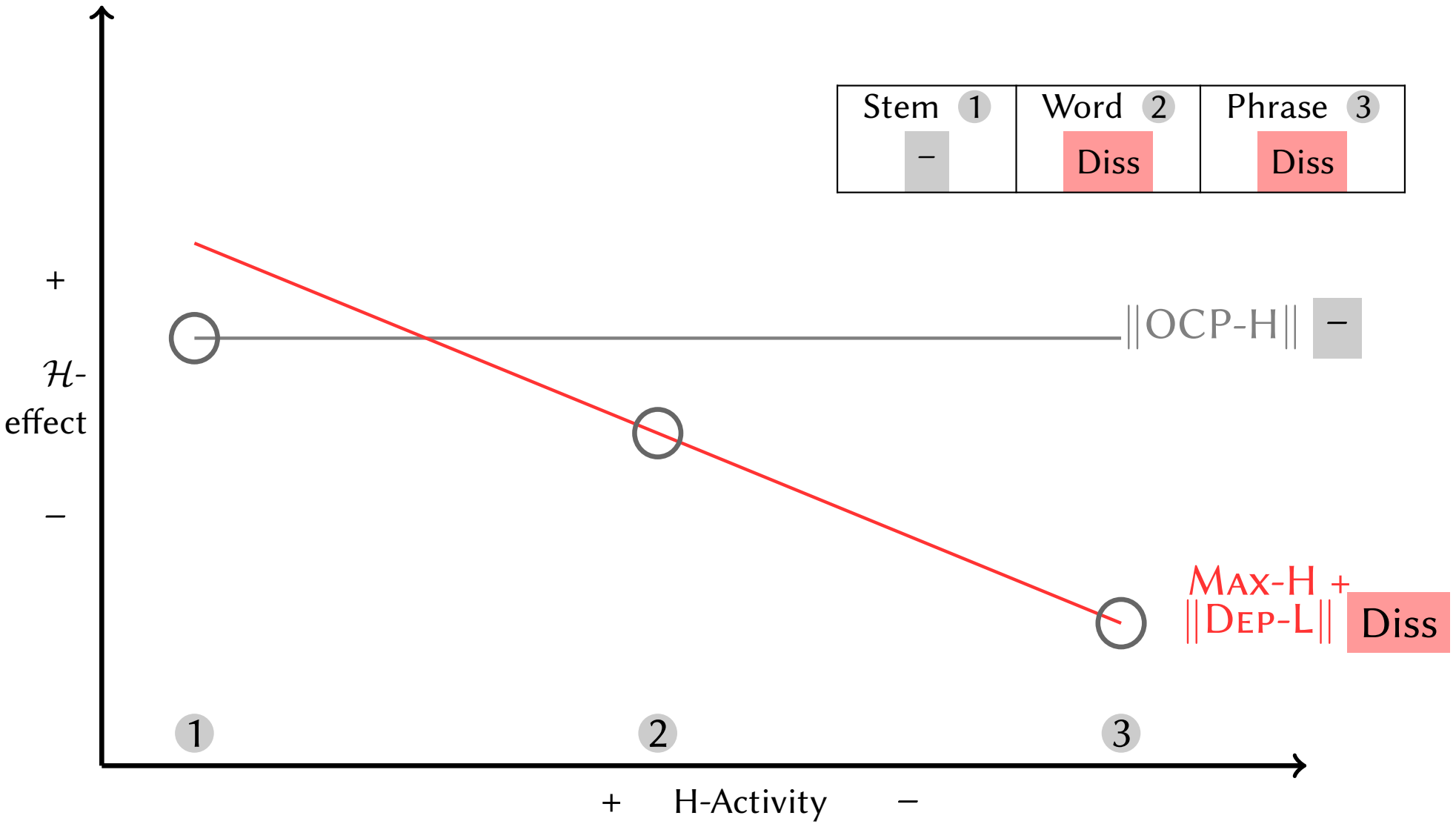
Jita/Chizigula: HLT thresholds



Tiriki/Dagbani/Moore: HLT thresholds



Bari: HLT thresholds



Interstratal OCP-asymmetries: Moore (Kenstowicz et al., 1988; Kenstowicz, 1994)

(23)

H-toned suffix, p.78

	SG	PL	
a.	kòr-gó	kòr-dó	‘sack’
b.	ròò-gó	rò-tó	‘house’

(24)

Diss at 1/ 2 for the suffix, p.78

	SG	PL	
a.	wób-gò	wób-dò	‘elephant’
b.	láŋ-gò	lán-dò	‘hole’

(25) – at 3

a.	sá béd-a	‘big brooms’	
	cf. kor béd-a	‘big sacks’	p.83
b.	zá sáa-ga	‘bring a broom’	
	cf. ko͡ sáa-ga	‘give a broom’	p.80

(26)

Stem 1	Word 2	Phrase 3
Diss	Diss	–

Moore: HLT tableaux

- based on a directional OCP: *HH$_x$

1	$H_{1.0}$	OCP-H 10	‖Max-H‖ 6	‖Dep-L‖ 1	$\mathcal{H}$
	☞ a. $H_{0.8}$				0

2	$H_{0.8}$ $H_{1.0}$		OCP-H 10	‖Max-H‖ 6	‖Dep-L‖ 1	$\mathcal{H}$
	a. $H_{0.6}$ $H_{0.8}$	–	-0.8			-8.0
	☞ b. $H_{0.6}$ $L_{0.8}$	Diss		-1.0	-1.0	-7

3	$H_{0.6}$ $H_{0.6}$		OCP-H 10	‖Max-H‖ 6	‖Dep-L‖ 1	$\mathcal{H}$
	☞ a. $H_{0.4}$ $H_{0.4}$	–	-0.4			-4.0
	b. $H_{0.4}$ $L_{0.4}$	Diss		-1.0	-1.0	-7

Bari: HLT tableaux

1			Max-H	‖OCP-H‖	‖Dep-L‖	$\mathcal{H}$
	$H_{1.0}$ $H_{1.0}$		10	10	1	
☞	a. $H_{0.8}$ $H_{0.8}$	–		-1.0		-10.0
	b. $H_{0.8}$ $L_{0.8}$	Diss	-1.0		-1.0	-11.0

2			Max-H	‖OCP-H‖	‖Dep-L‖	$\mathcal{H}$
	$H_{1.0}$ $H_{0.8}$		10	10	1	
	a. $H_{0.8}$ $H_{0.6}$	–			-1.0	-10.0
☞	b. $H_{0.8}$ $L_{0.6}$	Diss	-0.8		-1	-9.0

3			Max-H	‖OCP-H‖	‖Dep-L‖	$\mathcal{H}$
	$H_{0.6}$ $H_{0.8}$		10	10	1	
	a. $H_{0.4}$ $H_{0.6}$	–			-1.0	10.0
☞	b. $H_{0.4}$ $L_{0.6}$	Diss	-0.8		-1	-9.0

- in addition: Alternation prohibits morpheme-internal OCP-repairs at 3 (=a deassociated H must be rescued unto a neighboring TBU)

Empirical arguments against the SDH

- Mohanan (1989) and syllabification in Malayalam: codas necessary early but only open syllables later
- Turkish Velar Drop Inkelas and Orgun (1995): only applies at levels 3+4 but not 1+2
- Dagbani High Tone Spreading Hyman (1993): HTS1 and HTS2 – both are seemingly phrasal (but also apply within words)
- vowel raising in Basque Hualde (1989)

Interstratal OCP-asymmetries: Kishambaa (Odden, 1982)

(27)

Fus at 1 between Obj+root

[ku]-[wá-kóm-á]

INF-them-kill-FV

'to kill them' (O2:191)

(28)

DS at 2 (+HSpread)

[ní-kí]-[ǃchí-kóm-á]

1SG-PROG-it-kill-FV

'I was killing it' (O2:191)

(29)

DS at 3

ní ǃkúi

COP dog

'it is a dog' (O2:187)

(30)

Stem 1	Word 2	Phrase 3
Fus	DS	DS

Interstratal OCP-asymmetries: Bari (Yokwe, 1986)

(31)

– at 1: Root+singulative

a. kàmú-tát ‘guest’
b. bóyí-tát ‘wild fig tree’
cf. yàng’ò-tát ‘yaws’, p.172

(32)

Diss at 2: Ass.prfx+NP2

b. /kú’bâ ló-kúlàng’/
kú’bâ ló-kùlàng’
‘the in-law of Kulang’, p.254

(33)

Diss at 3 between V+NP

d. /pòní à ’dép kópò/
pòní à ’dép kòpò
‘Poni held the cup’, p.207

(34)

Diss at 3: NP2+ass.prfx

c. /rét ná-bòngóʔ/
rét nà-bòngóʔ
‘the tear of the cloth’, p.259

(35)

Stem 1	Word 2	Phrase 3
–	Diss	Diss

Apparent ABA in Seri?

(36) Prefix classes in Seri (Cole, 1986)

	OBL	DIR	Object	Subject	Mood	NEG
V-deletion *VV	+	+	-	-	+	+
C__C /i/-deletion	-	-	-	-	-	-

But not compatible with a standard stratal architecture

- acknowledged in Cole (1986): Affixes within one stratum are arbitrarily marked for triggering [±cyclic] rules

→ better analysed as **morpheme-specific undergoers** of deletion: Representational account as ghost/latent vowels (Zoll, 1996; Rubach, 2013; Zimmermann, 2019)

- corroborated by arguments that Seri has ghost/empty C's (Marlett and Stemberger, 1983; Marlett, 1997)

Apparent ABA in Choguita Rarámuri?

(37) Suffix classes in Caballero (2010)

	Derived stem		Syntactic stem			Aspectual stem			Finite verb			Sub verb
	INCH	TR	APPL	CAUS	APPL	DESID	MOT	EV	Voice/Asp	TAM	TAM	SUB
Stress	Shifting		Neutral			Shifting	Neutral		Shifting		Neutral	

But even more 'strata'

And affix re-ordering across 'strata'

- a cophonology account in Caballero (2008)

→ representational accounts exist that explain stress-behaviour of morphemes from different underlying representations (?)

Morpheme-specificity instead of ABA-patterns

- similar patterns where two different classes of affix-behaviour do not correlate with affix ordering:
  - tone replacive and non-replacive suffixes in Hausa (Inkelas and Zoll, 2007); representational re-analysis in Trommer (2021)
  - stress-dominant or recessive affixes in Moses Columbian Salish (Czaykowska-Higgins, 1993); representational re-analysis in Zimmermann (2018*b*)
  - a suffix not triggering in ATR-harmony ordered inbetween those that do in Karimojong (Lesley-Neumann, 2012); representational re-analysis in Trommer (2023)
  - …

→ morpheme-specificity is expected in a HLT system that is based on gradient representations: We expect that **lexical activity differences** can cross-cut the predictably activity adjustment

Restrictions on stratal differences: Lexical Phonology

Continuous Stratum Hypothesis (Mohanan, 1982, 1986)

aka: 'Stratum Domain Hypothesis' or 'Continuity of Strata Hypothesis'

The domain of a rule is specified as a set of continuous strata (Mohanan, 1982).
The domain of a rule may not contain nonadjacent strata (Mohanan, 1986).

Strong Domain Hypothesis (Kiparsky, 1984, 1985)

A phonological pattern enforced in any given level must also be enforced at all earlier levels.

	*Excluded by SDH	
Stem ①	not P1	not P1
Word ②	process P1	not P1
Phrase ③	process P1	process P1

	*Excluded by CSH
Stem ①	process P1
Word ②	not process P1
Phrase ③	process P1

- → SDH rejected on empirical grounds
- → they are add-on assumptions in all models

Example: Interstratal OCP differences in Shona (Myers, 1987, 1997)

V̲=underlying H; V́=surface H, V̲=underlying H not realized, […] – (Macro)Stems

(38)

Fus at 1 between Obj+root

[tí̲-té̲ng-és-é]

1PL/SUBJ-buy-CAUS-FV

'we should sell' (M7:870)

(39)

Del at 2, fed by Fus at 1

[há̲]-[ti̲-te̲ng-es-e]

HORT-1PL/SUBJ-buy-CAUS-FV

'let us sell' (M7:870)

(40)

No Del at 2

[í̲]-[badzá̲]

COP-hoe

'(it) is a hoe' (M7:860)

(41)

– at 3

badzá̲ gú̲rú

hoe big

'big hoe' (M7:874, FN.21)

Interstratal differences: Shona

	Derivation 1		Derivation 2		Derivation 3		
	H ha	H H ti-teng-es - e	H i	H ba dza	H ba dza	H gu ru	
1	H ha	H ti teng es e Fusion (+H-Spread)	H i	H ba dza	H ba dza	H gu ru (H-Spread)	
2	H ha ti teng es e Deletion		H H i ba dza		H ba dza	H gu ru	
3	H ha ti teng es e		H H i ba dza		H ba dza	H gu ru	

(42) Interstratal differences in Shona: Adjacent H-tones

Stem 1	Word 2	Phrase 3
Fus	Del	–