

# The (hi)story of laryngeal contrasts in Government Phonology

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# the proposal

a) laryngeal properties are all privative

b) laryngeal properties are represented as follows

[h] = [spread glottis] (English, German)

[N] = [voice] (Hungarian, French)

[ʔ] = [constricted glottis] (Korean)

c) these elements define the following configurations

aspirated	unaspirated	released
[ <u>h</u> ]	[ ]	[ h ]

voiceless	voiced	nasals
[ ]	[ <u>N</u> ]	[ N ]

voiceless	ejective	occlusion
[ ]	[ <u>ʔ</u> ]	[ ʔ ]

d) their interpretation depends on governing and licencing relations they engage in:

laryngeal contrasts need to be licenced

e) elements are only assumed if there is evidence for their presence in the system

# theoretical framework – 1

*The privative Element Theoretical approach of  
Government Phonology*  
(GP – Kaye et al. 1985, Harris 1994, Backley &  
Takahashi 1998, etc.)

## The beginnings of GP

### *Element Common interpretation*

{h}	Aperiodic noise	audible friction, release burst
{ʔ}	Edge, drop in amplitude	occlusion in stops and laterals
{N}	Murmur	Nasality
{H}	Stiff vocal cords	voiceless/aspiration, high tone
{L}	Slack vocal cords	active voicing, low tone
{I}	Dip	frontness, palatal resonance
{U}	Rump	rounding, labial resonance
{A}	Mass	non-high, pharyngeal
{R}	Rise, high spectral peak	Coronality

## theoretical framework – 2

### *Reducing the set of elements*

Charette and Kaye (1993): no {H}, ATR differences are to be expressed by headship

Backley (1994):

No need to assume {R} for coronality

Jensen (1994):

No need to assume {ʔ} for occlusion.

Non-segmentalist approach started: laryngeal properties ({ʔ}) and friction ({h}) are purely encoded in terms of structure, not in terms of elements

Revised Element Theory (Jonathan Kaye, p.c.)

nasality=low tone > L is low tone, nasality and voicing

Nasukawa (1997:13, 1998, 2005):

[voice] and nasality expressed by {N}

GP 2.0 (Kaye et al. 2009):

radical non-segmentalism:

structure rather than elements

–while we wish to leave open this line of research, it is not adopted here

## theoretical framework – 3

*Towards a constrained “neo-segmental” view*

Backley and Takahashi (1996, 1998):

notion of tiers, tier conflation, activate  $\alpha$ , tier complement

Nasukawa (1997, 1998, 2005):

[N] stands for both voicing and nasality

Nasukawa and Backley (2005):

the Leiden Model

## theoretical framework – 4

*Activate*  $\alpha$  (Backley & Takahashi 1996, 1998)

- a) worked out for vocalic representation only  
(harmony processes specifically)
- b) it assumes *all melodic elements*, {I, U, A}, to be present *in all positions*
- c) it respects the strict Structure Preservation Principle
- d) it introduces ACTIVATION (and tier complement):  
it is a lexical instruction to activate an element lying dormant on its tier (or on the tier complement)

tier complement	>	[comp]	[ ]
		/	/
melodic tier	>	[I]	[I]
aperture tier	>	[A]	[A]
		[e]	[ε]

## theoretical framework – 5

*Leiden paper model* (Nasukawa & Backley 2005)

a) *elements are grouped* into EDGE, SOURCE, RESONANCE and FUNDAMENTAL sets:

EDGE	{ʔ, h}
SOURCE	{L, H}
RESONANCE	{I, U}
FUNDAMENTAL	{A}

b) *all elements are present in all positions* >  
“vowels” and “consonants” are composed of  
*exactly the same elements...*

c) ...in the reverse order of dominance:

consonants		vowels	
EDGE	{h, ʔ} = X	FUNDAMENTAL	{A} = X
SOURCE	{N <sup>1</sup> , H}	RESONANCE	{I, U}
RESONANCE	{I, U}	SOURCE	{N, H}
FUNDAMENTAL	{A}	EDGE	{h, ʔ}

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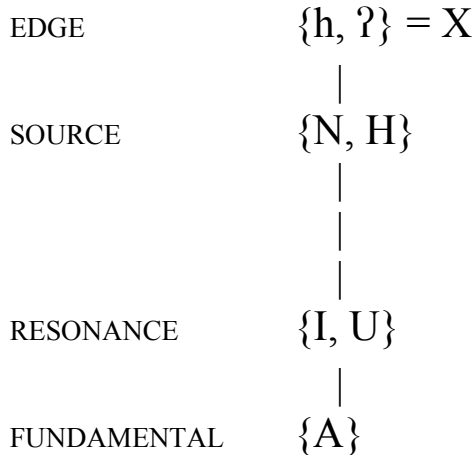
<sup>1</sup> This representation already has {N} for Nasukawa and Backley's {L}.

# theoretical framework – 6

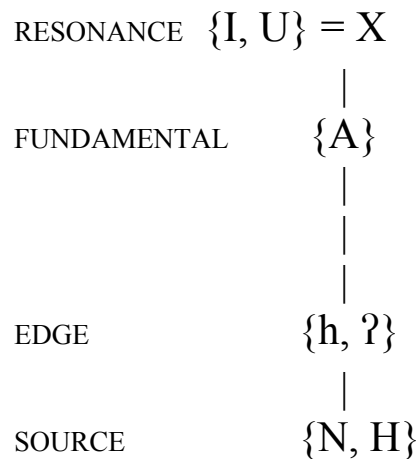
## *Modifying the Leiden Model (1)*

It is not the whole structure which is reversed, it is simply the dominance relations between the edge group (containing EDGE and SOURCE) and the resonance group (comprising RESONANCE and FUNDAMENTAL):

### consonants



### vowels



# theoretical framework – 7

## *Modifying the Leiden Model (2)*

The dependent group, SOURCE and FUNDAMENTAL, can maximally contain *one single element*:

consonants		vowels	
EDGE	{h, ?} = X	RESONANCE	{I, U} = X
SOURCE	{N}	FUNDAMENTAL	{A}
RESONANCE	{I, U}	EDGE	{h, ?}
FUNDAMENTAL	{A}	SOURCE	{N}

the motivation for choosing {N} to replace {L} in all its functions:

a) In Nasukawa and Backley's original proposal {L} and {H} formed a couple based on tonal contrasts.

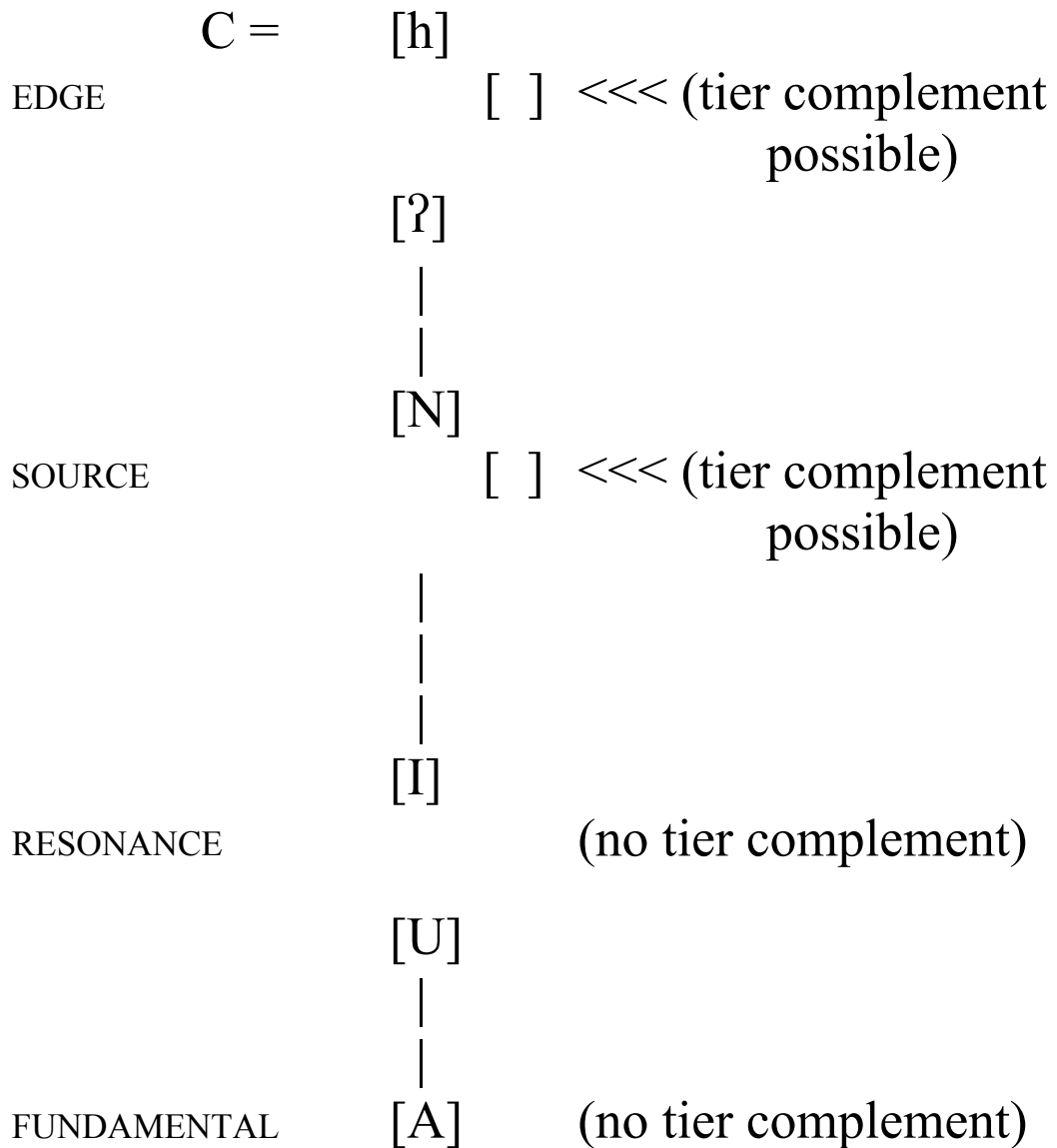
b) We have dispensed with {H} because it is not used for laryngeal (=source) specifications

c) There remains no particular reason why the remaining laryngeal element should be {L}

d) {N}, involving velar action, seems more compatible with the notion of SOURCE

# theoretical framework – 8

## *The revised Leiden Model (for consonants)*



## theoretical framework – 9

*The representation of consonants in a [voice] system:*

(1) [p]	[f]	[m]	
[U]	[U]	[U]	
[ʔ]	[ ]	[ʔ]	
[h]	[h]	[ ]	
[ ]	[ ]	[N]	
[ ]	[ ]	[ ]	
(2) [b]	[v]	[β] or [v]	[w]
[U]	[U]	[U]	[U]
[ʔ]	[ ]	[ ]	[ ]
[h]	[h]	[ ]	[ ]
[N]	[N]	[N]	[ ]
[N]	[N]	[N]	

*The representation of consonants in a [spr gl] system:*

(3) [p <sup>h</sup> ]	[f <sup>h</sup> ]	[p] = [b]	[f] = [v]	[m]
[U]	[U]	[U]	[U]	[U]
[ʔ]	[ ]	[ʔ]	[ ]	[ʔ]
[h]	[h]	[h]	[h]	[ ]
[h]	[h]	[ ]	[ ]	[ ]

recall: if there is no evidence for the presence of an element, it must not be assumed in the system – in this case, there is no {N} if there is no evidence of its being active

# The problems – 1

## *Problem 1:*

### *Lack of word-final devoicing in [voice] languages*

laryngeal contrasts need to be licenced

=> the theory predicts universal word-final devoicing in [voice] languages

☹ numerous (?) [voice] languages without it, e.g., French

BUT:

Zink (2006:77) and Joly (2003:115): devoicing of final obstruents during the 7th century, after final vowel loss

(a)	Latin	7th century French	French gloss
	/b/ 'plumbu	['plomp]	'lead'
	/d/ 'grande	['grant]	'big'
	/g/ 'longu	['loŋk]	'long'
	/dz/ 'voce	['vojts]	'sound, voice'
	/v/ 'nave	['næf]	'nave'
	'kapu	['tʃjef]	'head, chief'
	/ð/ por'tatu	[pɔr'teθ]	'gateway'
	'fide	['fejθ]	'faith'
	/z/ 'clausu	['klɔs]	'closed'

(b)	Latin		modern French	
	novus	>	neuf	[nœf] 'new; MASC'
	nova	>	neuve	[nœ:v] 'new; FEM'
	brevis	>	bref	[brɛf] 'short; MASC'
	brevem	>	brève	[brɛ:v] 'short; FEM'

## The problems – 2

### *Problem 2:*

### *Word-final devoicing (?) in [spread glottis] languages*

“devoicing” = aspiration? e.g., German  $b > p^h$ ?

word-final “aspiration” = release burst! (cf. e.g., Harris 2009)

=> unaspirated becomes released: a type of “partial fortition”: [ h ] activated, but the licence is not enough for [ h ]

an empty v can licence (to some extent)

“lack of final devoicing” (e.g., English) = the expected pattern: plain obstruents, no aspiration, no release

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