

Binary laryngeal systems in a privative model of melodic representations

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Aims

- binary laryngeal obstruent systems
- represented in a model based on unary subsegmental primes
- both “laryngeal realism” and “laryngeal relativism” are necessary for a proper account of the full attested laryngeal typology
- **phonetic** similarities/differences vs. **phonological** categorisation

Roadmap

- two-way laryngeal systems
- “laryngeal realism”: [voice] languages vs. [spread glottis] / aspiration languages ~ Element Theory: L-systems vs. H-systems
- “laryngeal relativism” (E. Cyran): both the marked and the unmarked sets may receive any (more or less arbitrary) phonetic interpretation
- proposal: “classical” aspiration languages do not fit into Cyran’s typology -> three subtypes of binary laryngeal systems: L-systems vs. H-systems vs. unmarked systems (h-systems)

Two-way laryngeal contrasts in obstruents

Examples	p ~ ɸ	b	p^h	p^ʰ
English, German, Welsh, Mandarin Chinese	[]		[sg]	
French, Spanish, Russian, Hungarian, Dutch	[]	[voice]		
K'ekchi (Q'eqchi'), Mam	[]			[cst gl]

+ three- and four-way contrasts (Thai, Korean; Hindi)

English-type vs. French-type lang's

- traditional Generative Phonological view: the **phonetic** manifestation of an underlying voiceless vs. voiced distinction
- “the narrow interpretation of [voice]” or “**laryngeal realism**” (e.g., Honeybone 2005, Iverson & Salmons 2008): spread glottis/**aspiration lang's** vs. **voice lang's**
- the difference is primarily **phonological**: two totally different phonological mechanisms – in voice lang's the [voice] feature is phonologically active (-> assimilation processes), in aspiration lang's no signs of any laryngeal activity are detectable (cf. Huber & Balogné Bércecs (2010) and elsewhere) – *to be illustrated below*

The phonological epistemological principle

“The only source of phonological knowledge is phonological behaviour.”

(Jonathan Kaye, p.c.)

-> the presence/absence of phonological behaviour (in our case, RVA) implies the presence/absence of the representation of some phonological agent (in our case, some laryngeal prime/component)

English: *match* [-tʃ] + *box* [b̥-] -> *matchbox* [-tʃb̥-] vs.

Hungarian: *matchbox* [-dʒb-] ‘small toy car’

English *obtain* [-b̥tʰ-] vs. French *obtenir* [-pt-]

Element Theory (GP)

	Element	English	French
Voiced	L	—	bo ‘beautiful’
Neutral	—	⟨bay⟩	po ‘skin’
Voiceless aspirated	H	⟨pay⟩	—

(Harris 1994: 135)

-> L-systems vs. H-systems

“Laryngeal relativism”

- Cyran (various publications, e.g., 2014)
- as long as a sufficient phonetic distance is kept between the two sets of obstruents to maintain phonological contrast (“**sufficient discriminability** in production and perception”), both the marked and the unmarked sets may receive **any** (more or less arbitrary) phonetic interpretation
- phonetic interpretation is partly systemic (phonological)

“Laryngeal relativism”

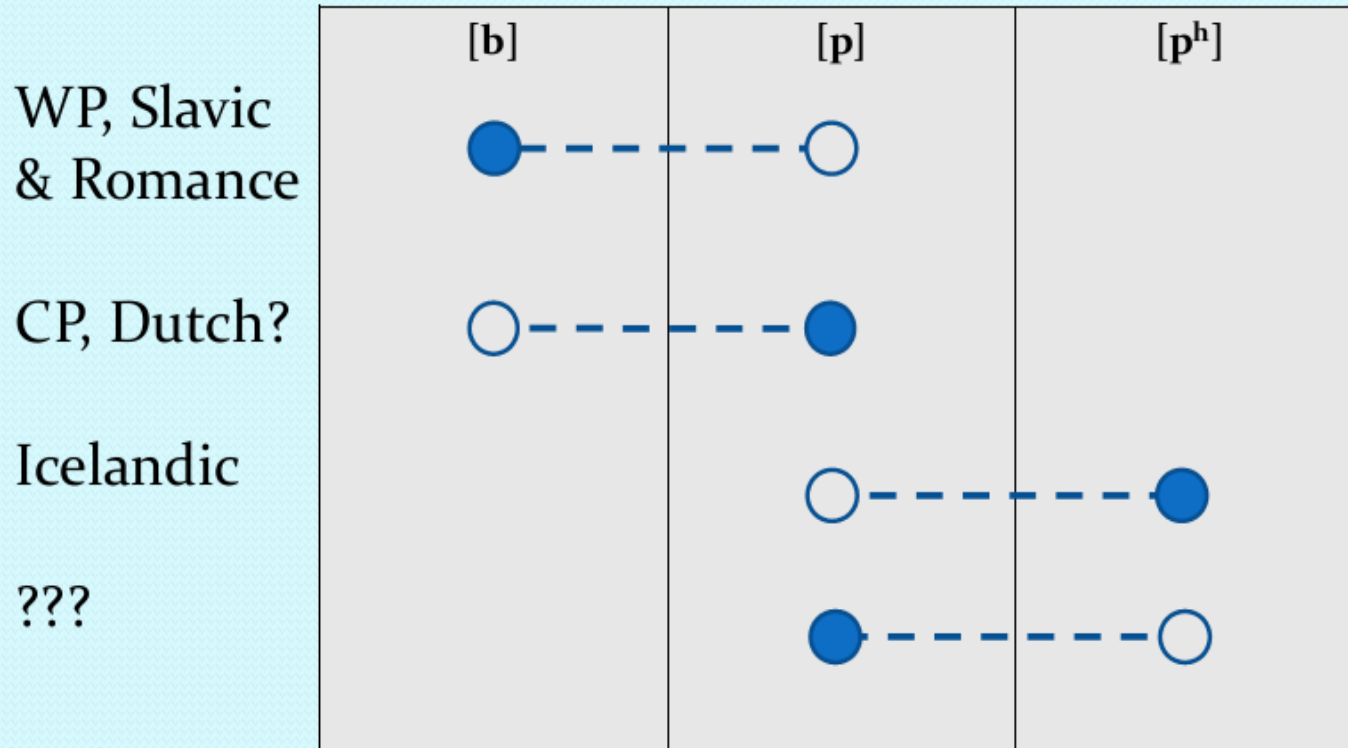
- it may even be the case that two laryngeal systems which are phonetically identical stem from two phonological settings in which the marked / unmarked relation is **reversed**
- Polish: **Warsaw Polish (WP)** vs. **Cracow Polish (CP)**
- differ phonologically but are phonetically identical in terms of laryngeal features:
- WP: “classical” [voice] system (analysed as an “L-system” by Cyran)
- CP: “H-system”, with phonologically active H

	<i>WP</i>	<i>CP</i>	
a. brak <u>o</u> cen <u>y</u> ‘lack of mark’	[k ɔ]	[g ɔ]	__ V
b. brak <u>j</u> asno <u>ś</u> ci ‘lack of clarity’	[k j]	[g j]	__ S
c. brak <u>w</u> ody ‘lack of water’	[g v]	[g v]	__ C ^{+v}
d. brak <u>p</u> ieczę <u>t</u> ki ‘lack of stamp’	[k p]	[k p]	__ C ^{-v}
e. obraz <u>a</u> ni <u>o</u> ła ‘picture of angel’	[s a]	[z a]	__ V
f. obraz <u>m</u> istr <u>z</u> a ‘picture of master’	[s m]	[z m]	__ S
g. obraz <u>b</u> ur <u>z</u> y ‘picture of storm’	[z b]	[z b]	__ C ^{+v}
h. obraz <u>c</u> zł <u>o</u> wieka ‘picture of man’	[s tʃ]	[s tʃ]	__ C ^{-v}

- voice assimilation in both WP and CP: L-spreading vs. H-spreading
- CP: “cross-word pre-sonorant voicing”
- H-system: unmarked lenis obstruents + passive voicing

Typology of two-way systems

phonetic categories



Cyran (2016)

“Laryngeal relativism”

- re-defines the category of H-systems: active H that spreads
- but: recall: in their “classical” version, e.g., in (standard) English and German, no laryngeal activity in the form of any kind of spreading is attested – suggesting the **absence** of any laryngeal element (following Huber & Balogné Bércecs 2010)
- -> we arrive at a typology with three systems:

Three subtypes of binary laryngeal systems

- a) the absence of a source element
- b) L in the marked series of obstruents
- c) H in the marked series of obstruents

a) the absence of a source element: h-systems

- (true) aspiration languages like English and German
- fortisness/aspiration is dominant obstruency (**h**) dependent on licensing, i.e., on prosodic position (Huber & Balogné Bércecs 2010)
- no laryngeal spreading
- the lenis series undergoes word-internal and cross-word passive voicing

a) the absence of a source element: h-systems

obtain [əb₀'t^heɪn]

cheesecake ['tʃi:z₀k^heɪk]

bigfoot ['b₀ɪg₀fʊt]

egghead ['eg₀hed₀]

roadster ['rəʊd₀stə(r)]

matchbox ['mætʃ₀bɒks]

baseball ['beɪsbɔ:tl]

cookbook ['k^hʊkbʊk]

life gear ['laɪfgɪə(r)]

Shoot back! ['ʃu:t 'bæk]

a) the absence of a source element: h-systems

- plus: “laryngeal relativism” predicts languages in which the lenis series is phonetically voiced -> account for **Swedish** (“the [voice] fallacy of [sg] languages” – Balogné Bérce & Huber 2010)
- Swedish simply “overshoots” the phonetic distance required for discriminability

Swedish initial plosives

[p^h]acka 'pack'

[b]ad 'bath'

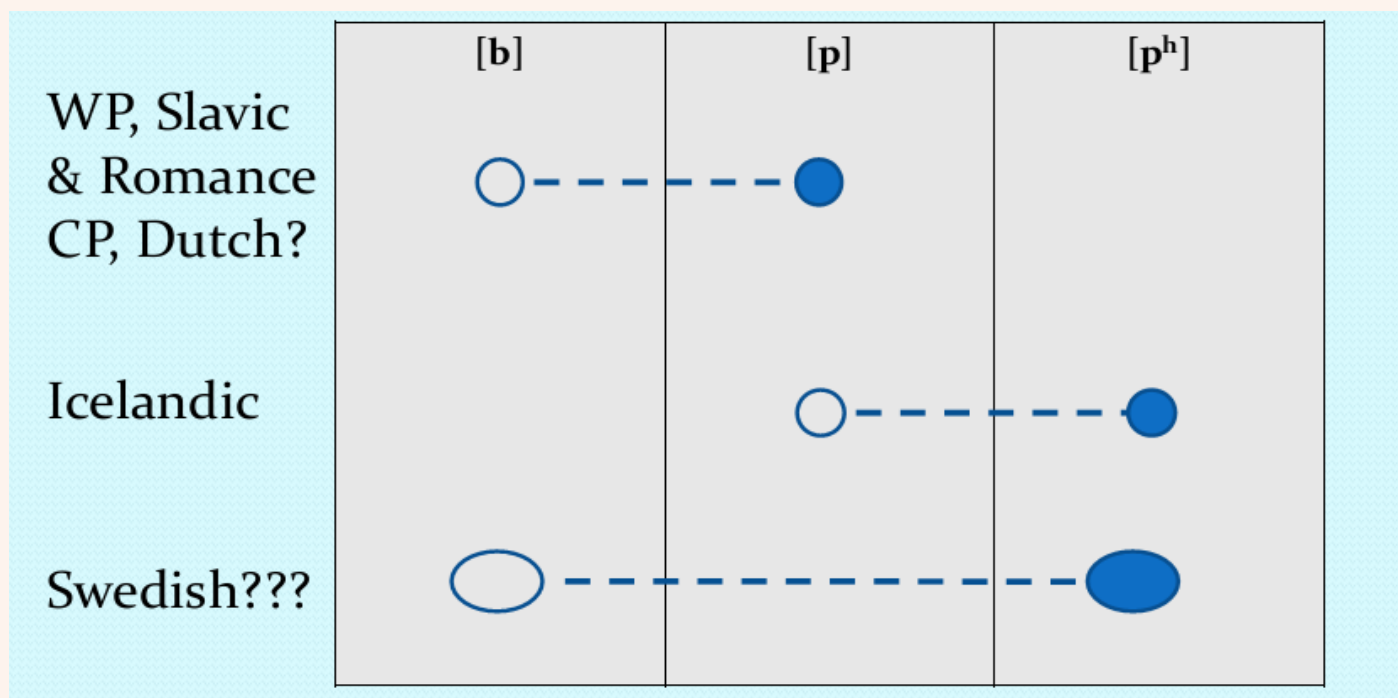
[t^h]ak 'roof'

[d]äck 'deck'

[k^h]ub 'cube'

[g]ap 'mouth'

a) the absence of a source element: h-systems



Cyran (2016), incorporating van der Hulst (2015)

b) L in the marked series of obstruents

- (true) [voice] languages/**L-systems** like Warsaw Polish, French or (Standard) Hungarian, in harmony with Cyran

rabtól ['rɒptɔ:l]
rézkarc ['re:skɔrts]
hangfal ['hɒŋkɒl]
éghez ['e:khez]
roadshow ['ro:tʃo:]
(glosses: 'from prisoner'
'copper etching'
'loudspeaker'
'to sky'
'ibid.')

matchbox ['mɛdʒbɔks]
baseball ['be:zbo:l]
tökből ['tɔgbø:l]
afgán ['ɒvga:n]
kertből ['kɛrdbø:l]
(glosses: 'toy car'
'ibid.'
'from pumpkin'
'Afghan'
'from garden')

c) H in the marked series of obstruents

- (Cyran's) **H-systems**, i.e., languages like Cracow Polish
- H-spreading only
- in harmony with Cyran, if such languages also have final obstruent delaryngealisation, they also exhibit **cross-word passive voicing** manifested in “pre-sonorant voicing” (cf. Slovak, Catalan, Southern Dutch/West Flemish, Ecuadorian Spanish)

c) H in the marked series of obstruents

- if final obstruent delaryngealisation does not take place in an H-system, a “simple” devoicing assimilation system with word-internal and cross-word passive voicing of the lenis series is found, e.g., North-of-England English varieties displaying “Yorkshire assimilation”

c) H in the marked series of obstruents

Yorkshire assimilation (Wells 1982: 366-367, data from Honeybone 2011):

<i>jazz</i>	[dʒaz]	<i>pass</i>	[pas]
<i>jazz music</i>	[dʒazmju:zɪk]	<i>pass Molly</i>	[pasmɒli]
<i>jazz band</i>	[dʒazbænd]	<i>pass Barry</i>	[pasbæri]
<i>jazz dance</i>	[dʒazdɑ:ns]	<i>pass Dave</i>	[pasde:v]
<i>jazz club</i>	[dʒasklʌb]	<i>pass Keith</i>	[paski:θ]
<i>jazz pub</i>	[dʒaspub]	<i>pass Pete</i>	[paspi:t]

matchbox: YE=StE [-tʃb̥-]

(cf. Hung. [-dʒb-])

jazz club: YE [-sk^h-] vs. StE [-ʒk^h-]

Conclusion

- fundamental theoretical assumption: the phonological epistemological principle -> **phonetic** similarities/differences vs. **phonological** categorisation
- a model with unary subsegmental primes
- both “laryngeal realism” and “laryngeal relativism” are necessary for a proper account of the full attested typology of binary laryngeal obstruent systems
- “laryngeal realism” highlights the very existence of a **typology** (as opposed to the phonological uniformity of languages, traditionally assumed since SPE)

Conclusion

- “laryngeal relativism” clarifies the relation btw. **phonological system** and **phonetic realisation** (“sufficient discriminability in production and perception”) and explains how two different systems may receive identical phonetic interpretation
- the present paper: adds the insight of Huber & Balogné Bérces (2010, etc.) concerning representations in aspiration languages
- -> proposal: three subtypes of binary laryngeal systems: L-systems vs. H-systems vs. unmarked systems (h-systems)

Conclusion

- it is assumed that 3- and 4-way systems (Thai, Korean; Hindi) can be accounted for in a similar vein
- here: binary distinctions that can be phonetically related to voice onset time (VOT) (i.e., distinctions of voicing and aspiration/spread glottis) – systems based on constricted glottis (e.g., K'ekchi) are left for future research

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