



# Basque is (still) an aspiration language

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## Basque:

- an originally/historically fortis-lenis/aspiration system, which switched to voiceless-voiced in all but its northeasternmost dialects (Martinet 1950; Michelena 1977; Trask 1997; Egurtzegi 2014, 2019)
- an alternative approach (e.g., Hualde 2018): the phonologisation of northeastern aspiration is an innovation
- here: re-interpretation:
  - being an aspiration system is phonological, not (only) phonetic (~ Laryngeal Realism/Relativism)
  - the northeastern innovation: addition rather than replacement -> 3 obstr. series
- plus: *all* present-day varieties of Basque phonologically *still* belong to the aspiration type

# Roadmap

- Theoretical background
  - Laryngeal Realism/Relativism
  - (the dialects of) Basque
- Three case studies
  - “Post-nasal voicing”
  - “s-voicing”
  - Coalescence across a word-boundary (incl. Stop deletion – see Dunin-Borkowski [same conf. session])
- Conclusion



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# Theoretical background



# Theoretical background

- Laryngeal Realism (Honeybone 2005; etc. ~ Harris 1994): two language types (binary lar. systems based on VOT):
  - (true) voice languages, with voiced-voiceless; and
  - aspiration languages, with aspirated-unaspirated (fortis-lenis)
- in Element Theory:
  - |L| marks nasality in sonorants and lenis/voiced in obstruents in voice languages;
  - in aspiration systems, fortis/aspirated is marked by |H|
  - tenuis obstruents are underspecified
- phonetic/physiological vs phonological 'voicing' (~ Lar. Relativism – Cyran 2014)

# Theoretical background

Basque (*euskara*):

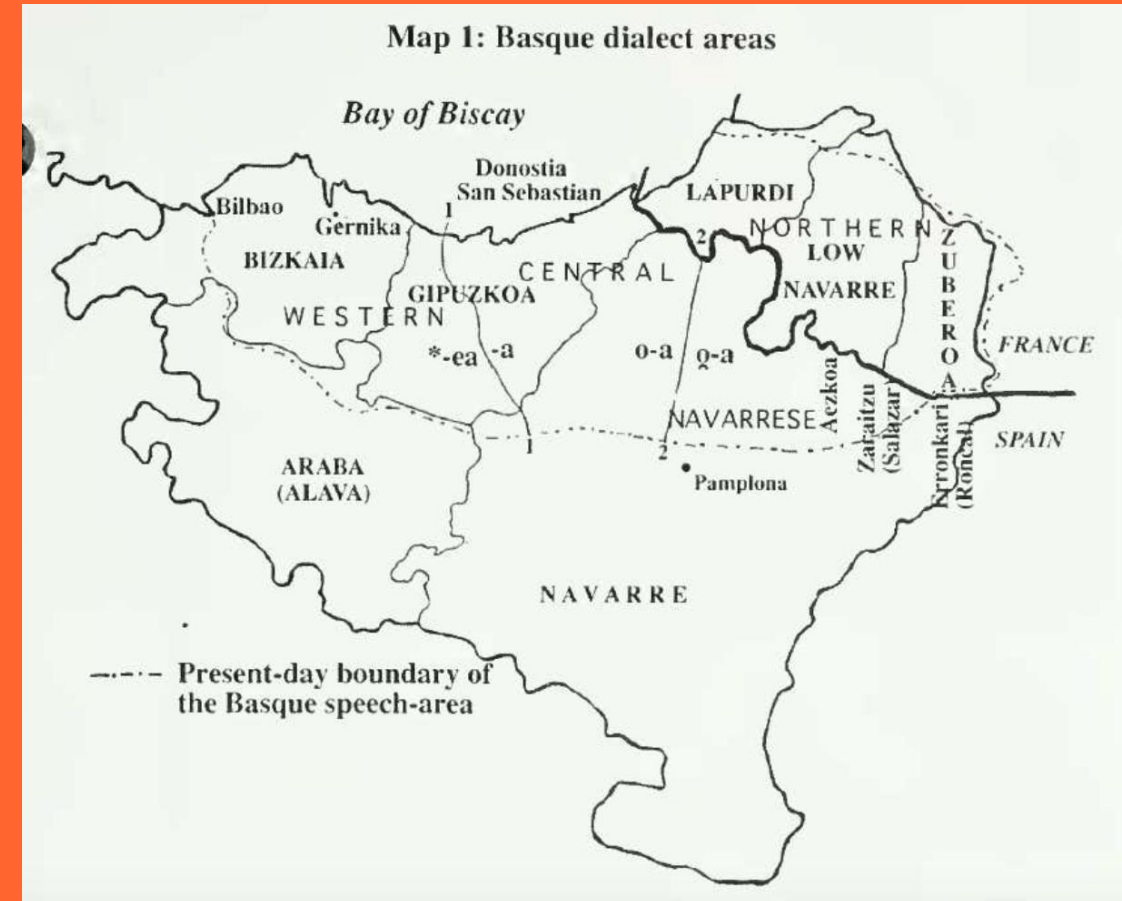
- a language isolate
- the Basque Country (Spain) + SW France (French Basque Country, or Northern Basque Country)



# Theoretical background

Basque (*euskara*):

- a language isolate
- the Basque Country (Spain) + SW France (French Basque Country, or Northern Basque Country)
- five dialect areas:
  - Biscayan or Western
  - Gipuzkoan or Central
  - Upper Navarrese
  - Navarro-Lapurdian
  - Souletin (Zuberoan) } Northern



(Hualde & Gaminde 1998)

# Theoretical background

aspiration in Basque (see overview in Hualde 2018):

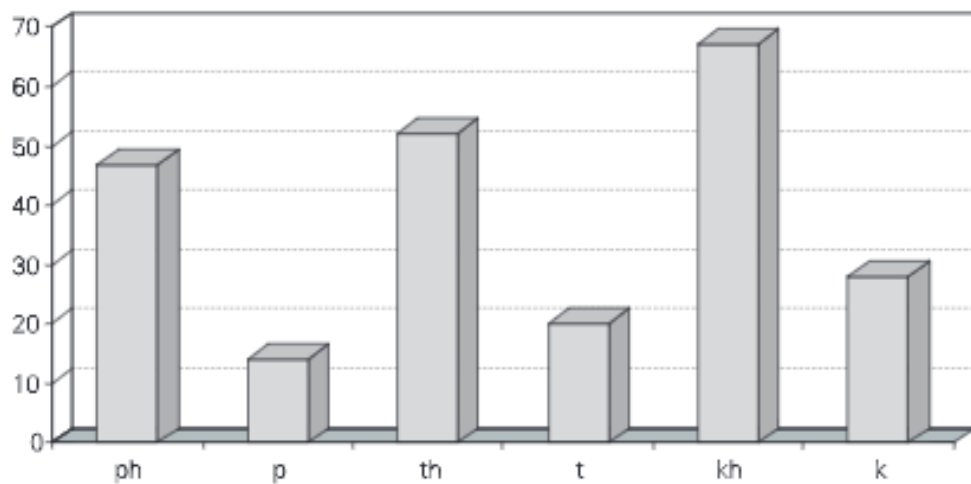
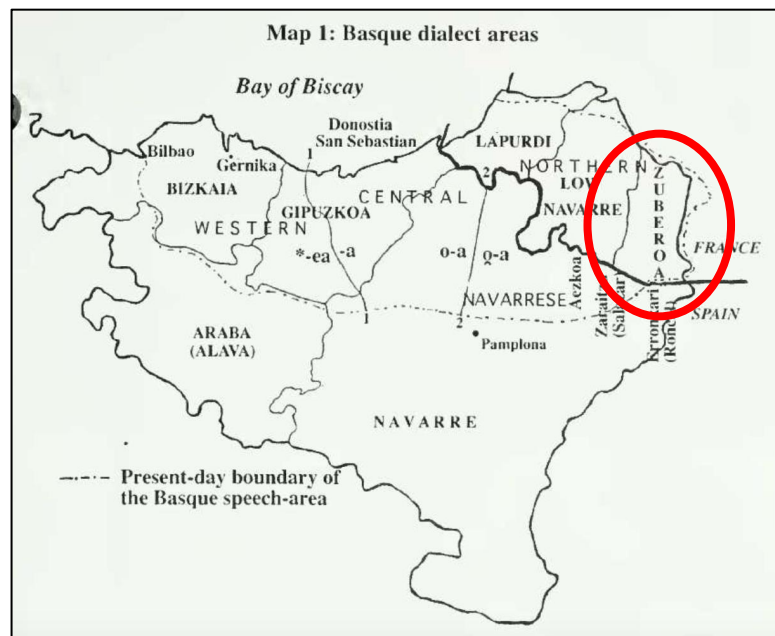
- terminology: ‘aspiration’ referring to both the occurrence of /h/ and of aspirated stops
- most contemporary Basque dialects lack phonological aspiration altogether (either in stops or as /h/)
- contemporary ‘aspirating’ Basque varieties (e.g., Souletin/Zuberoan – Gaminde et al. 2002, Mounole 2004) possess a three-way phonemic contrast in the plosives: prevoiced /b d g/, voiceless unasp. /p t k/ and voiceless asp. /p<sup>h</sup> t<sup>h</sup> k<sup>h</sup>/ (~Ancient Greek, E. Armenian, Thai)

	Batezbestekoa
b	-102
p	20
ph	61
d	-105
t	24
th	67
g	-101
k	27
kh	83

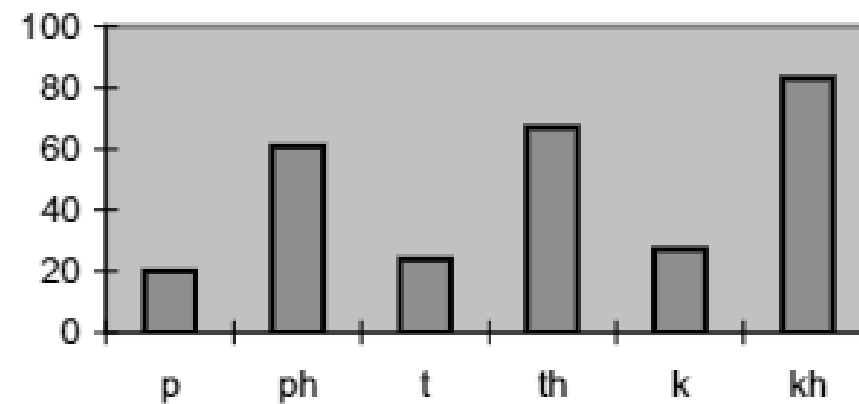
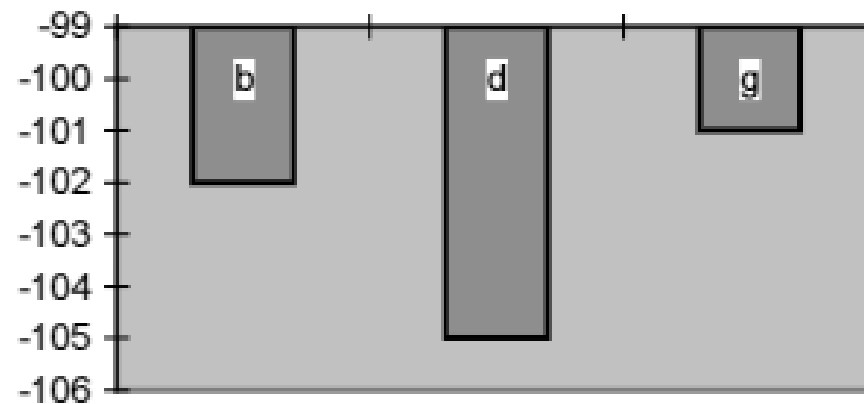
(Gaminde et al. 2002)



# Theoretical background



(Mounole 2004)



(Gaminde et al. 2002)

# Theoretical background

Basque:

- historically: fortis-lenis system -> switched to voice **in all but its northeasternmost dialects** (Zuberoan/Souletin – as seen above) (Martinet 1950; Michelena 1977; Trask 1997; Egurtzegi 2014, 2019)
  - “at some historical point [...] voiceless stops in the onset of stressed syllables were allophonically aspirated, as they are, for instance, in present-day English. [...] **by the 16th century** this was no longer the case” (Hualde 2018: 5-6)
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# Three case studies



# Three case studies

- the argument and data come from Standard Basque and western varieties (Getxo, Gernika, etc.) (to contrast the eastern dialect area):
  - “Post-nasal voicing”
  - “s-voicing”
  - Consonant coalescence across a word-boundary
- all three:
  - asymmetry in *phonological* activity/prominence between [voiced] and [voiceless]
  - the analyses heavily rely on |H| (= [voiceless], i.e., historical [asp]) being the laryngeal prime, and on underspecified obstruents interpreted by the *phonetics* as voiced



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# #1: “Post-nasal voicing”



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- “Voicing of stops after noncontinuant sonorants” (Hualde et al. 1994)
- widely attested in Basque dialects (e.g., Standard Basque – Hualde 1991, Hualde 2003; Getxo – Hualde & Bilbao 1992; Lekeitio – Hualde et al. 1994):

(1)	irun	irun-go ‘of Irun’	cf. bilbo-ko ‘of Bilbao’
		irun-dik ‘from Irun’	bilbo-tik ‘from Bilbao’
	gizon	gizon-du ‘become a man’	cf. argi-tu ‘clear up’ (argi ‘light’)
	joan	joan-go ‘will go’	cf. etorri-ko ‘will come’

(Note. Less frequently and variably, also after /l/: madrildik ‘from Madrid’, gal-du ‘lose’, %hil-go ‘will kill’, etc.)

# #1: “Post-nasal voicing”

- Mascaró (2007): allomorphy
- Scheer (2016): autosegmental solution, listing both a linked and a floating consonant (shown in angle brackets) as part of the same underlying form: e.g., /t<d>ik/
- here:
  - Scheer’s style of analysis but floatingness and linking at the level of the feature rather than the segment
  - we regard |H| as floating in the suffixes/clitics
  - whenever it links, they surface voiceless, or else it deletes, which produces a laryngeally unmarked consonant, phonetically interpreted as voiced



# #1: “Post-nasal voicing”

(2) *iru*[ŋ]-go



“voicing” happens in place-sharing, partial geminates, where |H| cannot link since that would be incompatible with the nasal in the structure (due to a \*|L,H| constraint)

(3) *hil-ko*

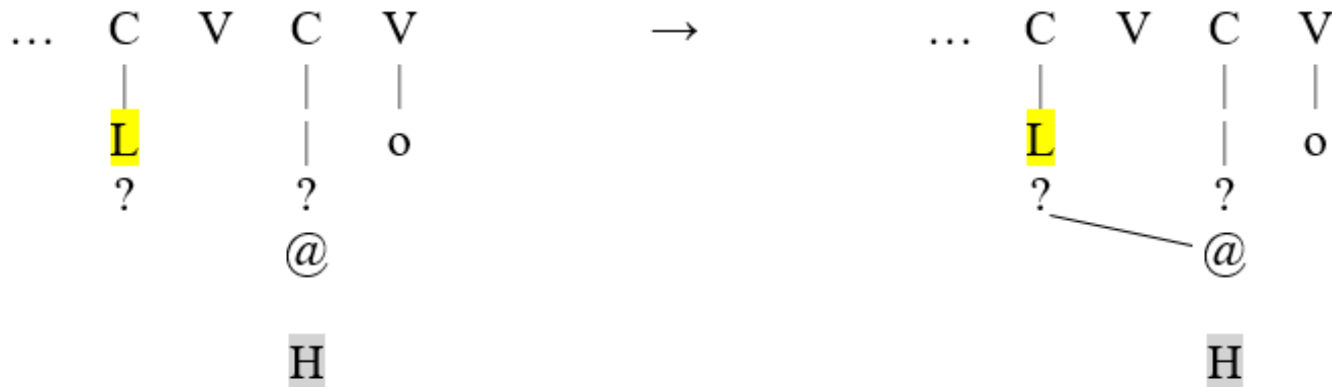
in heterorganic sequences, nothing prevents |H| from linking



(Getxo B.)

# #1: “Post-nasal voicing”

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precursors to the \*|L,H| constraint, e.g.:

- Vaux (1998): “nasal voicing in both Zoque and New Julfa [Armenian] is blocked from applying to fricatives or aspirates, thereby **preventing the creation of \*[+nasal, +spread] configurations**” (p.220)
- Breit (2013): [on voiceless/fortis nasals] “a proposed **element-antagonism between |L| and |H|**, reflected in their opposing acoustic properties, makes representations containing both elements highly marked” (p.17)



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## #2: “s-voicing”



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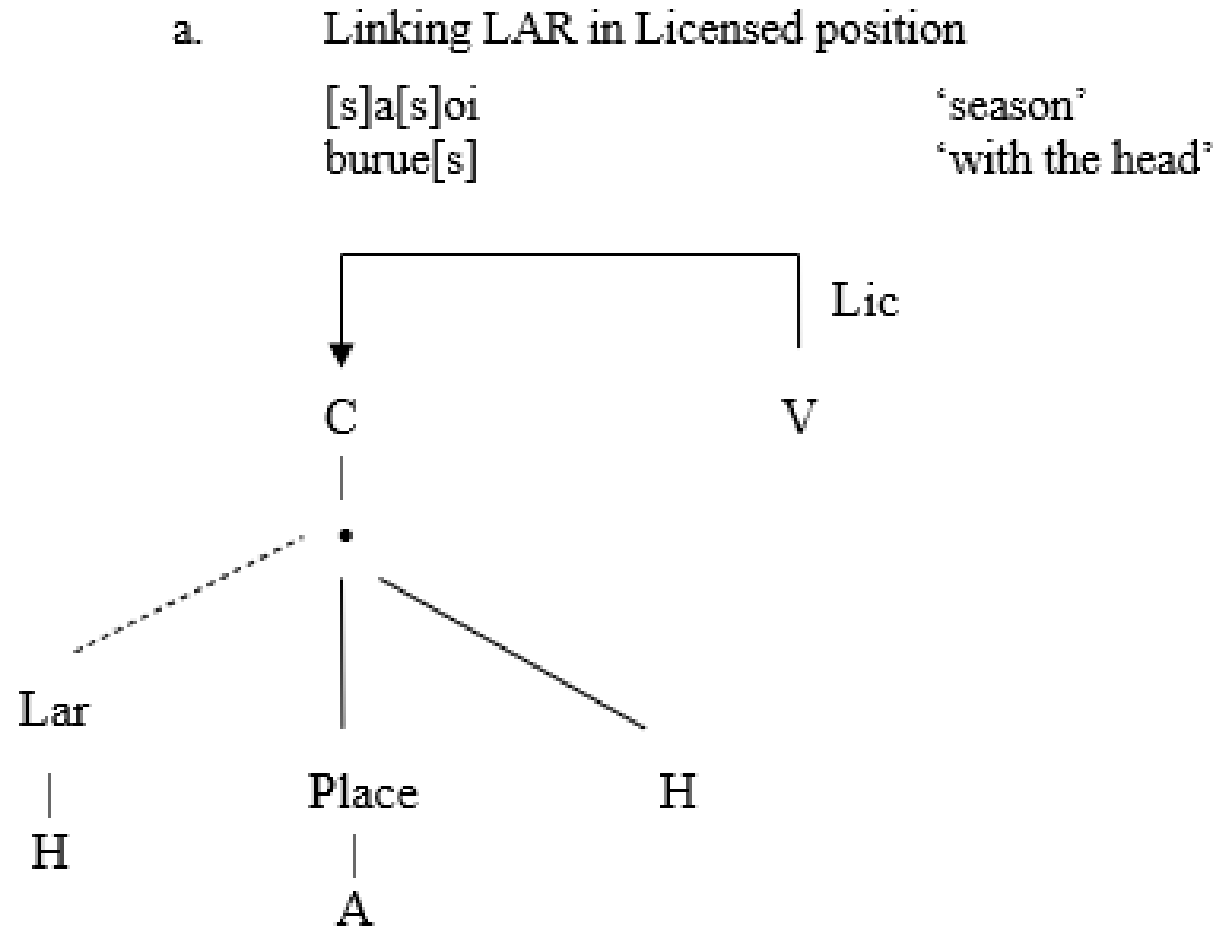
- “Voice assimilation of /s/”; e.g., Getxo Basque (Hualde & Bilbao 1992); in Basque in general (Hualde 2003: 41–42), etc.
- /s/ undergoes voicing before consonantal sonorants and voiced obstruents; in other positions, including before voiceless consonants, word-finally and prevocally, the /s/ surfaces as voiceless

(4) e[z]ne ‘milk’  
 arna[z] luse ‘long breath’  
 buru[z] dakit ‘I know  
 by heart (lit. head)’

cf. burue[s] ‘with a head’  
 buru[s] ikisi ‘learn by heart (lit. head)’  
 burue[s] pentsa ‘to think with the  
 head’  
 a[s]to ‘donkey’      bo[s]t ‘five’

# #2: “s-voicing”

- here: /s/ has a floating |H|, linked only in licensed positions, i.e., before a filled V-slot or a final empty nucleus (parametrically a licenser)



# #2: “s-voicing”

- “s-voicing” happens when |H| cannot link in an unlicensed position  
→ a lenition process in non-final codas

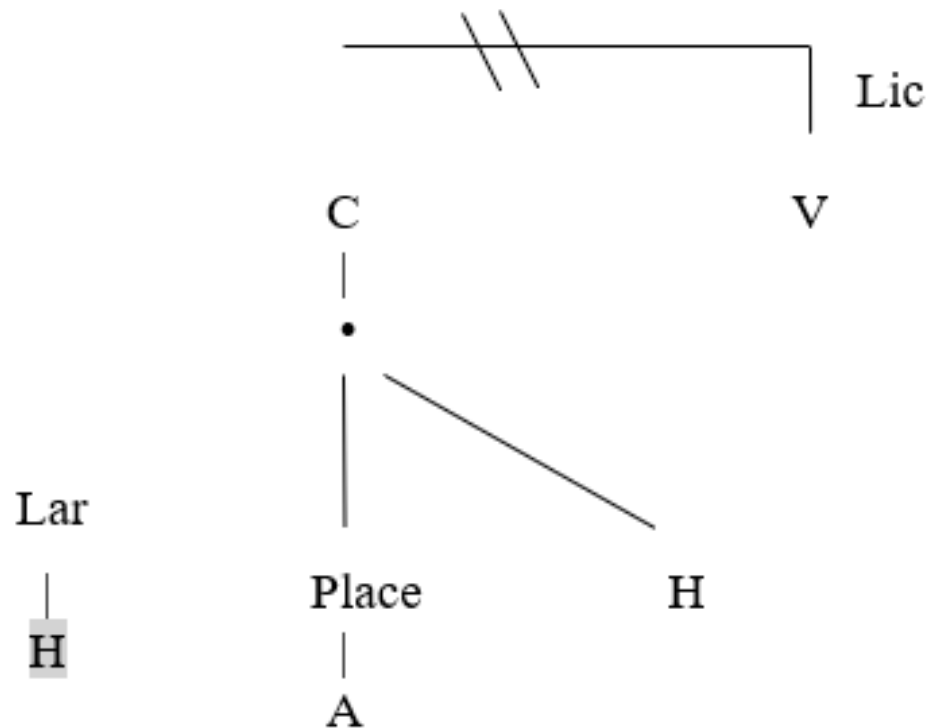
b. Non-linking of LAR in Non-Licensed position

e[z]ne

‘milk’

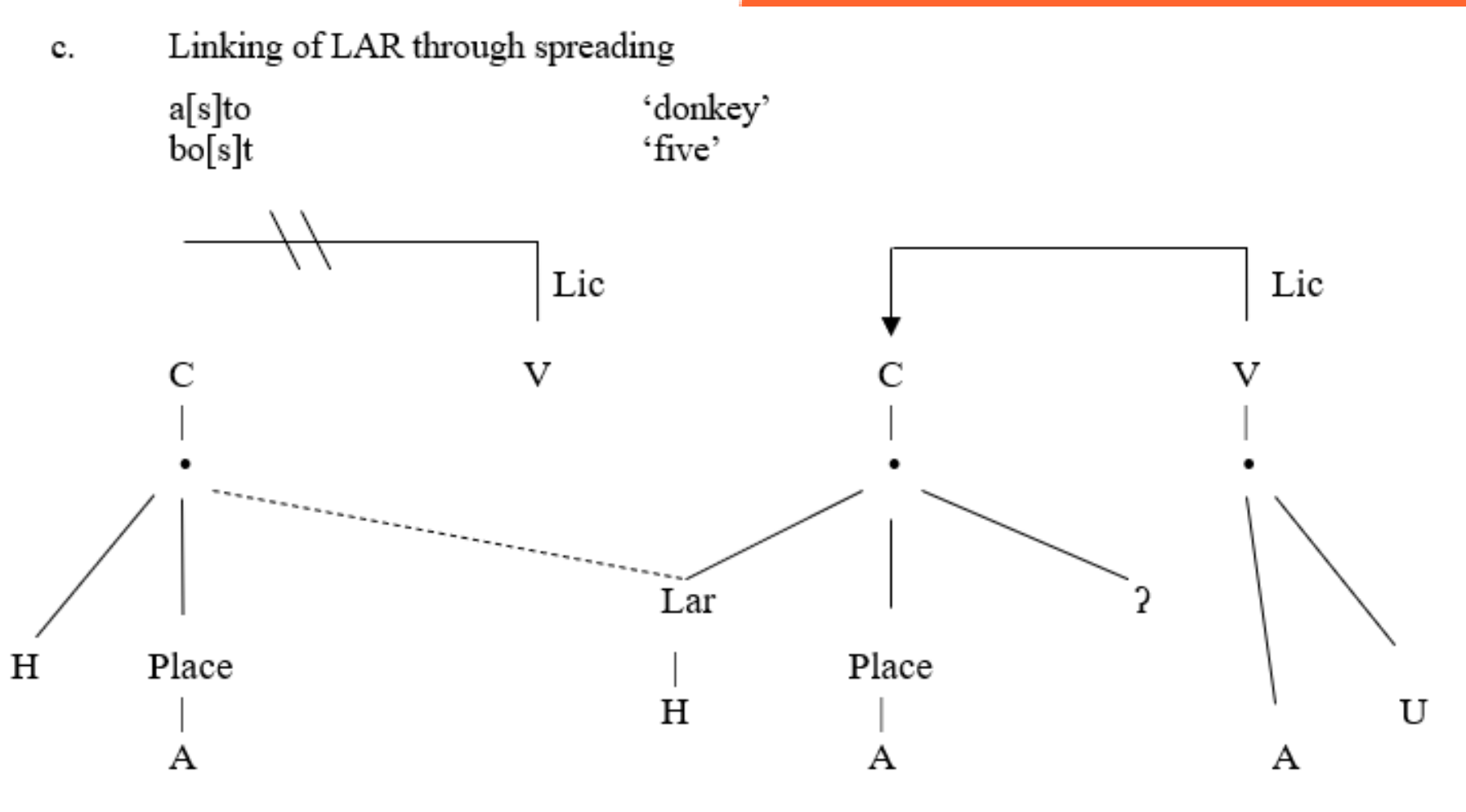
buru[z] dakit

‘I know by heart’



# #2: “s-voicing”

- |H| can be obtained by spreading from C2





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# #3: Coalescence across a word-boundary





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- or: “Reduction and deletion in heterosyllabic consonantal sequences” (Hualde 2003)
- all Basque dialects (e.g., Getxo Basque – Hualde & Bilbao 1992; Lekeitio – Hualde et al. 1994; in Basque in general – Hualde 1991, Hualde 2003)
- deletion of C1 in C1+C2 **PLUS** word-initial voiced stop C2 (= the only remaining C) becomes voiceless; nasal stops cannot devoice

(5) bat bakarik    ba[p]akarik    ‘only one’  
 suk dusti      su[t]usti      ‘you-ERG everything’  
 cf. bat plasan    ba[p]lasan    ‘one in the square’  
      bat san        ba[s]an        ‘it was one’  
      bat naiko      ba[n]aiko      ‘one (is) enough’

# #3: Coalescence across a word-boundary

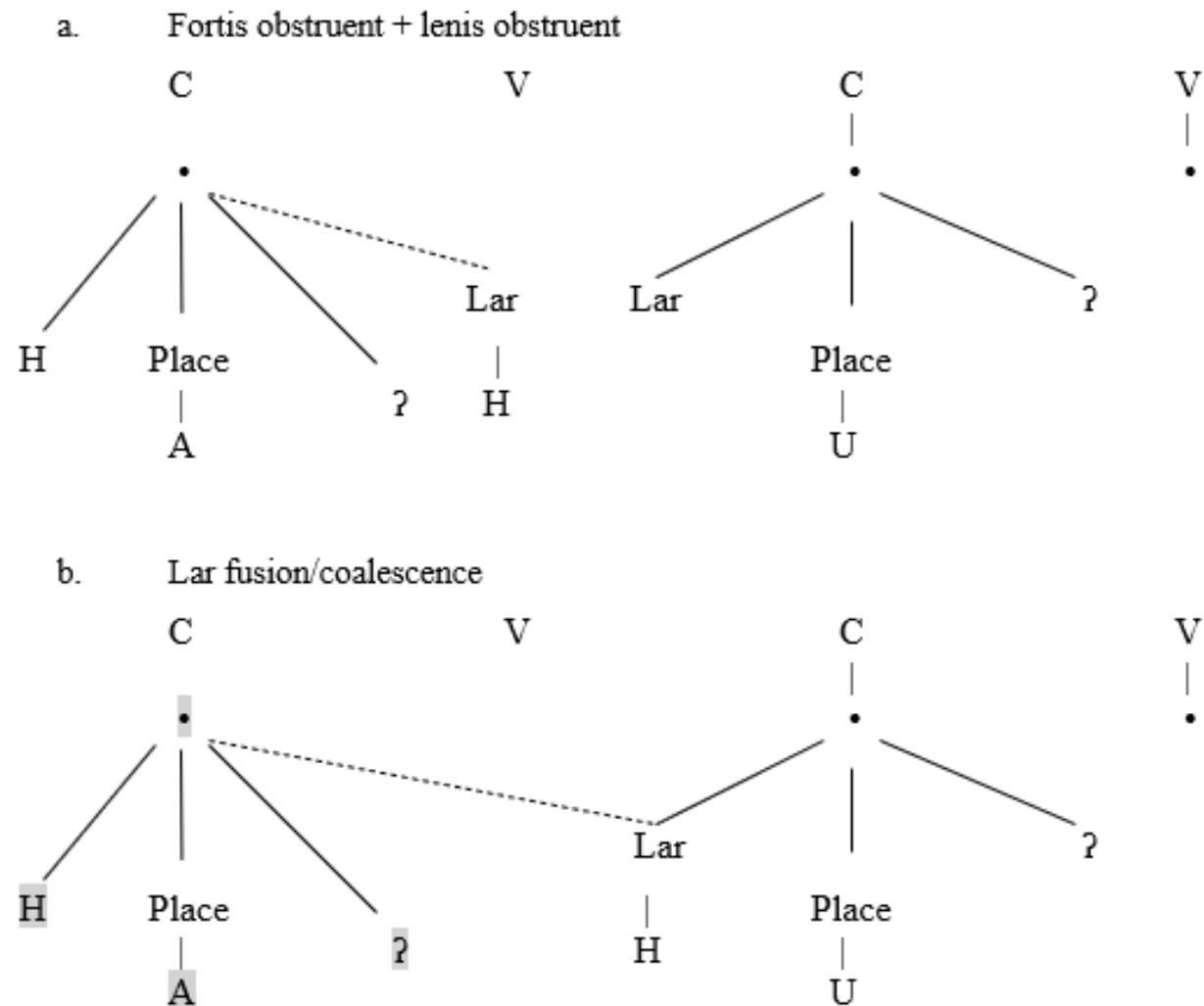
- Hualde (1991), etc.: rule ordering: Devoicing must apply before Stop Deletion
- here: C1 is deleted, but C2's empty Lar node is able to receive its |H|
- (In bat naiko > ba[n]aiko, |H| cannot link since that would be incompatible with the nasal.)

e.g., bat bakarik → ba[p]akarik

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# Conclusion

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- three case studies brought together
  - no recourse to allomorphy but phonology (contra, e.g., Mascaró 2007)
  - analysis resorts to floating features (expanding on, e.g., Scheer 2016) rather than floating segments
  - no need for marking sonorants for [voiced] (contra Hualde)
  - no rule ordering (contra Hualde)

# Conclusion

- all three analyses heavily rely on |H| being the laryngeal prime and on underspecified obstruents interpreted by the *phonetics* as voiced
- plus: no evidence of phonologically active [voiced]/|L| (e.g., voicing RVA) in Basque
- → Basque is (still) an |H|-system *phonologically*, therefore it is (still) an aspiration language
- similarly: phonetic contrast is based on voice but phonologically voiceless is the marked/active feature: Cyran (2014) (Cracow Polish, Durham English), Iosad (2017) (Bothoa Breton), Balogné Bércecs & Huszthy (2018) (Italian), etc.

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Thank you · Dziękuję · Köszönöm · Eskerrik asko

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