

# Elements

Non-Vocalic Elements in Consonants, I

# Consonants

- Resonance elements (3):
  - |I|: *dIp*
  - |U|: *rUmp*
  - |A|: *mAss*

# Consonants

- Non-resonance elements (3):
  - |?|: Energy drop
  - |H|: Noise
  - |L|: Low frequency energy (tomorrow!)

# Consonants

- Resonance elements

CONSONANTS (PULMONIC)																						
	Bilabial		Labiodental		Dental		Alveolar		Postalveolar		Retroflex		Palatal		Velar		Uvular		Pharyngeal		Glottal	
Plosive	p	b					t	d			ʈ	ɖ	c	ɟ	k	g	q	ɢ			ʔ	
Nasal		m		ɱ				n				ɳ	ɲ		ŋ		ɴ					
Trill								r										ʀ				
Tap or Flap								ɾ				ɽ										
Fricative	ɸ	β	f	v	θ	ð	s	z	ʃ	ʒ	ʂ	ʐ	ç	ʝ	x	ɣ	χ	ʁ	ħ	ʕ	h	ɦ
Lateral fricative								ɬ	ɮ													
Approximant				ʋ				ɹ				ɻ	j		ɰ							
Lateral approximant								l				ɭ	ʎ		ʟ							

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

# Consonants

- Non-resonance elements (3):
  - |ʔ| ~ [ʔ]
  - |H| ~ [h]
    - Autonomous Interpretation
    - No resonance properties (duh)

# Consonants

- |?|
- Phonetic properties
  - Sudden drop in energy

# Consonants

- |ʔ|
- Phonological properties
  - Stops
  - Ejectives
  - Implosives
  - Laryngealized Vowels (Creaky vowels)

# Consonants

- |ʔ|
- Common denominator:
  - Suppression of (glottalic) energy

# Consonants

- |ʔ|
- Non-headed: stops, creaky vowels
- Headed: ejectives, implosives

# Consonants

- |? |
- Ejectives and implosives
  - “enhanced” stops
  - Longer energy build-up
  - Louder release

# Consonants

- |ʔ|
- Ejectives and implosives
  - Contrasted by presence/absence of |L|
  - |U, ʔ|: [kʼ]
  - |U, ʔ, L|: [gʼ]

# Consonants

- |? |
- Ejectives and implosives
  - While headed, and hence “better”, no relation to typology!

# Consonants

- |?|
- Corresponds to [-continuant]
  - Reverse definition
  - Vocalic interpretation

# Consonants

- Sonorants with |?|
  - Nasals (often)
  - Laterals (sometimes)

# Consonants

- |H|
- Phonetic properties
  - Aperiodic acoustic energy, aka. Noise
    - Mostly in the higher frequency regions

# Consonants

- |H|
- Phonological properties
  - Fricatives, stops (release)
  - Voicelessness
  - High tone

# Consonants

- |H|
- Vocalic interpretation
  - High tone
  - Voiceless vowels

# Consonants

- |H|
  - Headed: voicelessness
  - Non-headed: aspiration

# Consonants

- We can now make most obstruents:
  - Stops: |I ? H| ~ |U ? H| ~ |A ? H|
  - Ejectives: |I ? H| ~ |U ? H| ~ |A ? H|
  - Aspirated stops: |I ? H| ~ |U ? H| ~ |A ? H|
  - Fricatives: |I H| ~ |U H| ~ |A H|
  - More Fricatives: |I H| ~ |U H| ~ |A H|

# Consonants

- Compare:
  - Stops: |I ? H| ~ |U ? H| ~ |A ? H|
  - Fricatives: |I H| ~ |U H| ~ |A H|

# Consonants

- Fricatives are “lesser” stops
- Very different from feature theory!
  - [ $\pm$ continuant] implies no such relation

# Consonants

- Fricatives are “lesser” stops
- Prediction:
  - Stops can weaken into fricatives
  - Fricatives can strengthen into stops

# Consonants

- Lenition / Consonant weakening
  - very common cross-linguistically
  - Mostly diachronic

# Consonants

- Lenition / Consonant weakening
  - $[b] \rightarrow [\beta] \rightarrow [\beta]$ 
    - $|\underline{U} ? H| \rightarrow |\underline{U} H| \rightarrow |\underline{U}|$
  - $[s] \rightarrow [h]$ 
    - $|A H| \rightarrow |H|$

# Consonants

- Lenition / Consonant weakening
  - Always in weak positions
    - “Coda”
    - Onset of unstressed syllable
    - Intervocalic

# Consonants

- Fricatives can strengthen into stops
  - Very common in child language
  - e.g. /sʌp/ → [tʌp]

# Consonants

- Tomorrow:
  - Laryngeal Realism
  - |L|