

HS 133: Introduction to Phonetics

August 21, 2024

Manner of articulation

- How airstream is manipulated
- In IPA chart, on the vertical side
- From most occlusion to the least
- Degree of stricture

THE INTERNATIONAL PHONETIC ALPHABET (revised to 2020)

CONSONANTS (PULMONIC)

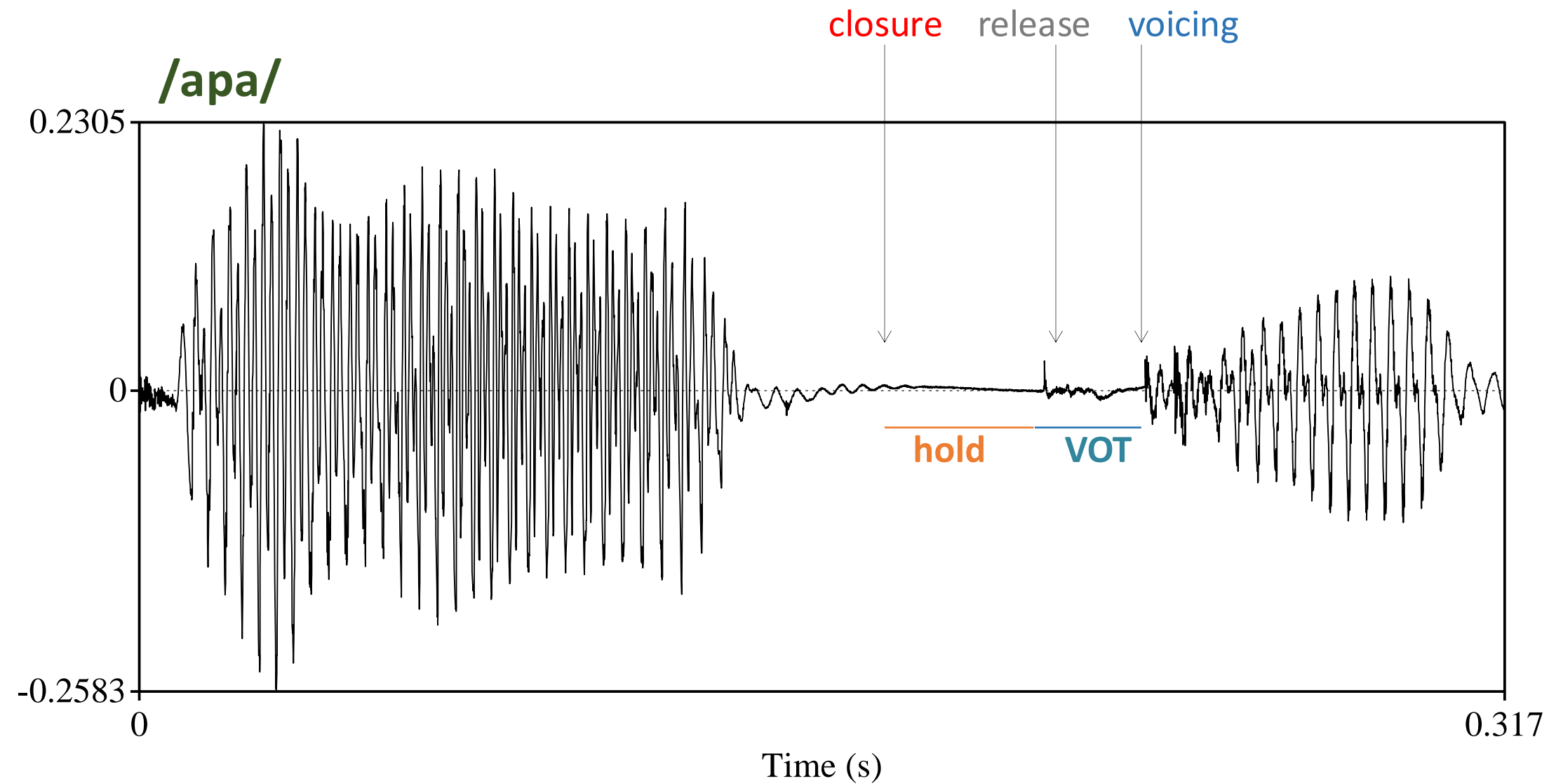
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	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b		t d			ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ	n			ɳ	ɲ	ŋ	ɴ		
Trill	ʙ		r						ʀ		
Tap or Flap		ⱱ	ɾ			ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x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

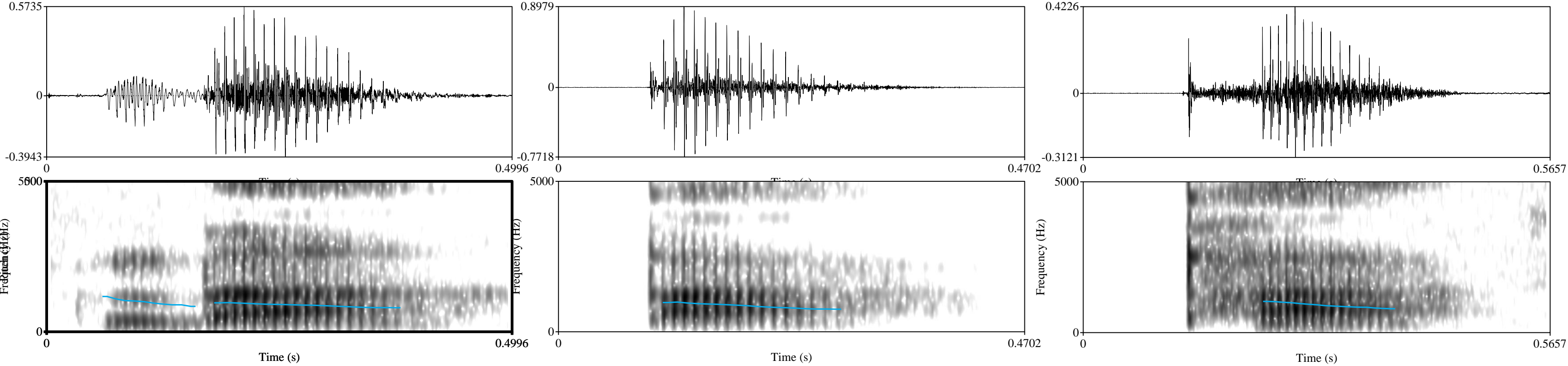
Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

Acoustics of stops | Voice Onset Time (VOT)

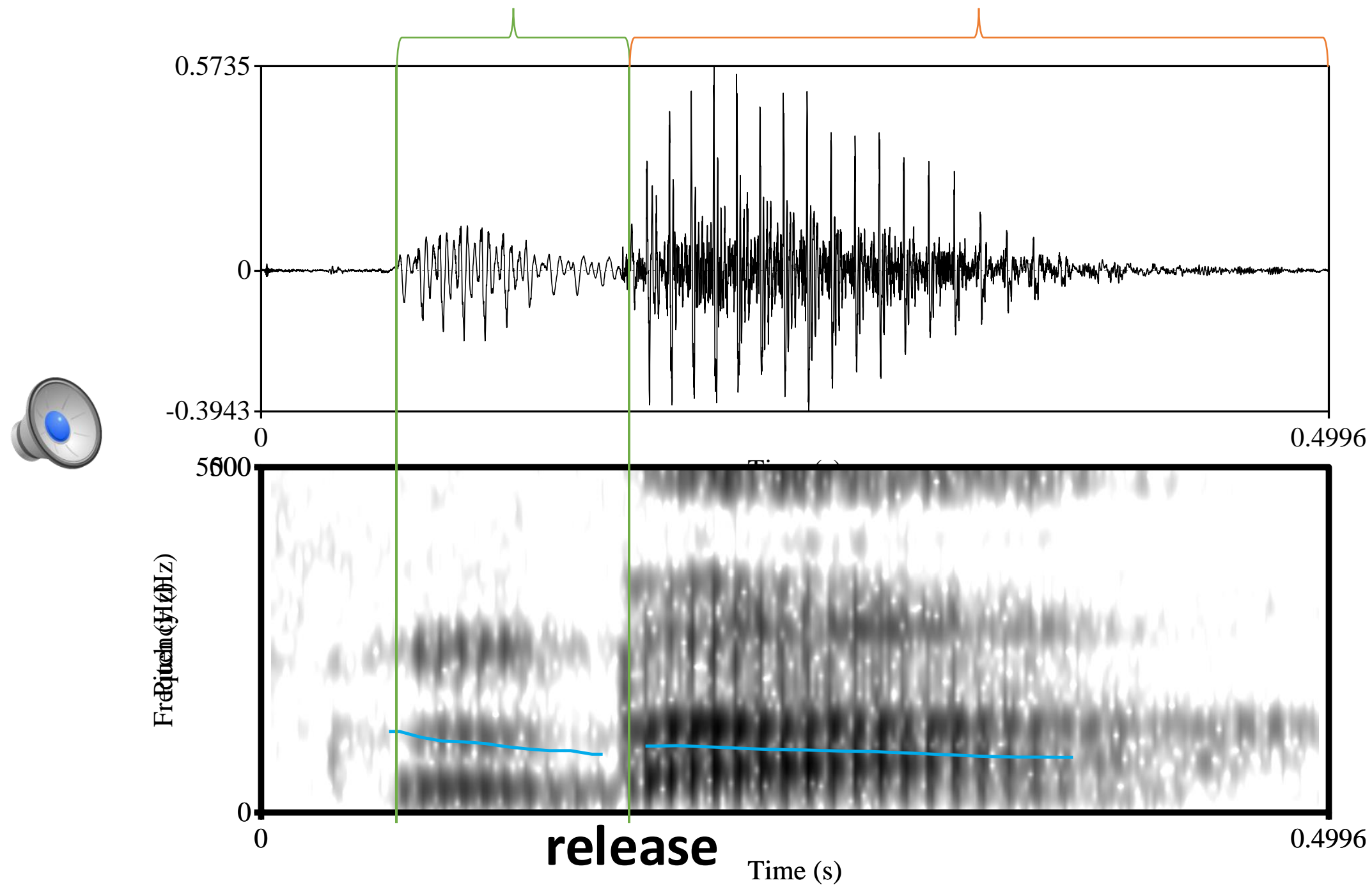
- Stop production has three stages: closing, closed, release



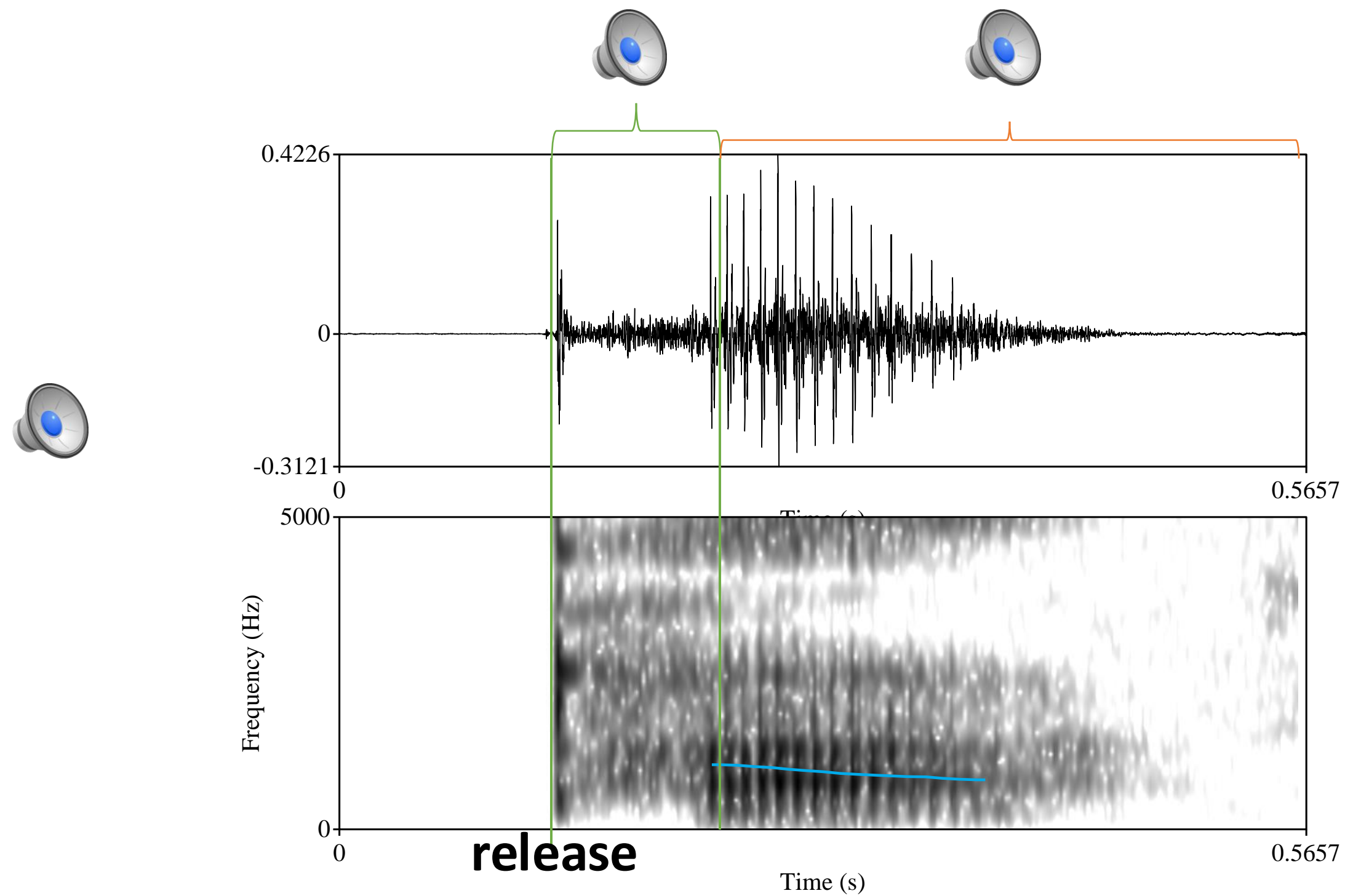
Acoustics of consonants | VOT Types



Acoustics of consonants | VOT measure



Acoustics of consonants | VOT measure



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Nasal	m	ɱ	n			ɳ	ɲ	ŋ	ɴ		
Trill	ʙ		r						ʀ		
Tap or Flap		ⱱ	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			

Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

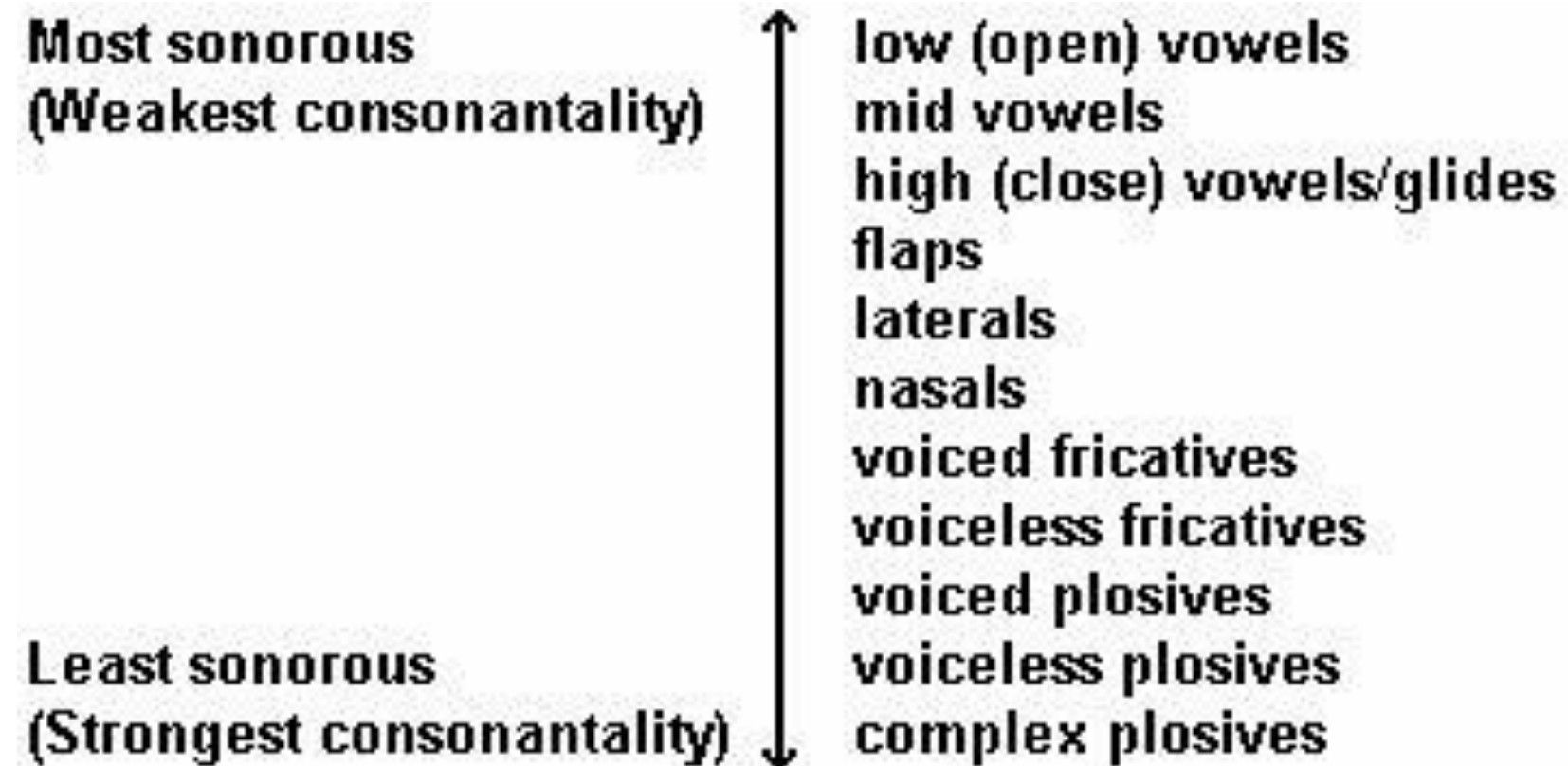
Manner of articulation

- How consonants differ by the control of airflow
- Assessing the degree of stricture
- Three degree of strictures:
 - Closure
 - Narrowing
 - Approximation

Obstruents and Sonorants

- **Obstruents:** Involves *closure* and *narrowing*
- **Sonorants:** *Approximation*
- **Sonorants:**
 - Continuous airstream
 - Higher in sonority
 - No pressure rise
 - Mostly voiced
- **Obstruents:**
 - Strictured
 - Cannot form nucleus
 - Lower in **sonority hierarchy**
 - May be devoiced

Sonority Hierarchy



Manner of Articulation

e.g.

Plosive	Stops air then releases with burst	[p]
Fricative	Small passage for air creating friction	[s]
Affricate	Plosive + Fricative	[tʃ]
Trill	Repeats the articulation several times	[r]
Tap	Light touch of the active articulator	[ɾ]
Lateral	Air passes by the sides of the tongue	[l]
Approximant	minimal contact	[ɹ]