

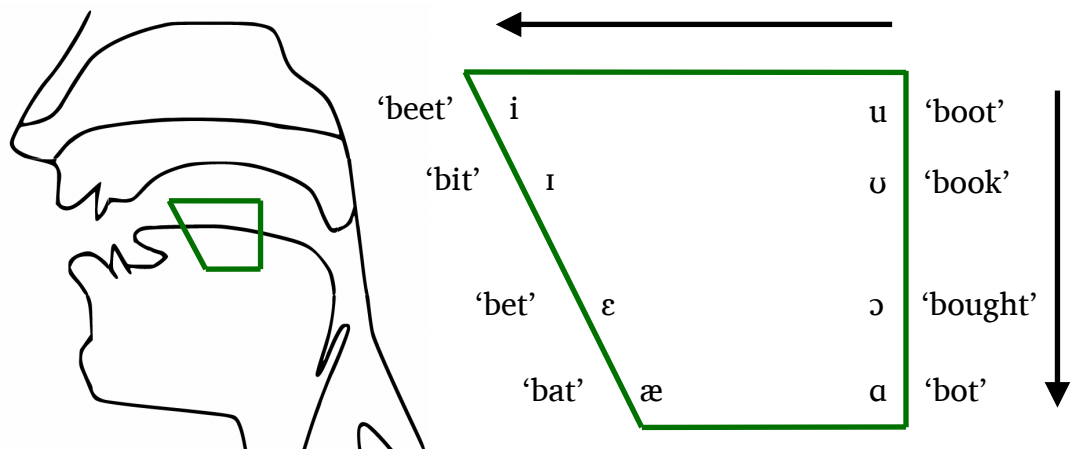
April 15, 2024

LING 217: Phonetics & Phonology

Handout: Spectrograms

- Last time: phonetic & phonological timing
- For next time: Practice: Spectrogram reading
- Today's goals: be able to...
 - ... explain frequency, amplitude, harmonics, formants
 - ... identify formants
 - ... relate formants to a vowel chart

1. Vowel space:



2. Word association: “sound”

3. What are sound waves? What are they made of? ([handy animation](#))

3.1. Closely-spaced waves have higher _____, measured in cycles/second (___).

Perceived as _____. Simultaneous vibration at integer-multiple values are known as _____.

3.2. “Taller” waves have higher _____, measured in ____.

Perceived as _____.

3.3.Waveform: a diagram with _____ on the horizontal axis and
_____ on the vertical axis

3.4. Spectral Slice: a diagram with _____ on the horizontal axis and
_____ on the vertical axis

3.5.Spectrogram: a diagram with _____ on the horizontal axis and
_____ on the vertical axis and
_____ in darker color

4. Demonstration: combining frequencies

5. Acoustic vowel space:

5.1. Height: _____

5.2. Backness: _____

5.3. High vowels: _____

5.4. Low vowels: _____

5.5. Front vowels: _____

5.6. Back vowels: _____