LING 2100

**Complex Waves**

* Combinations of simple waves

**Harmonics in Linguistics**

* Fundamental Frequency
  + Complex wave
  + The sound of your vocal fold vibrating
  + Distinctive to your voice

**How to View these?**

* Spectrograms
* Waveforms

**Harmonics in Vowels**

* Formants: resonance frequencies of the vocal tract
* “Peaks” of loudness in vowels
* Typically 3 important formants per vowel

**The Formants**

* F1: inversely correlated with height
* F2: directly correlated with backness
* F3: roughly directed correlated with roundness
  + Not as reliable due to backness/roundness similarity
  + Also less clear generally

**Typical vowel plot: F1-F2**

* F1: Vertical axis (height)
* F2: horizontal axis (backness)

**Other Distinctive Features of Sound**

* Voiced sounds “voice bar” at bottom (F0)
* Stops: closure (blank space) followed by a release burst
  + Voiceless stops: aspiration
* Fricatives: Noisy burst at high frequencies
* Nasals: formants at 250/2500/3250
* Liquids: short, light formants
* Glides: vowels but shorter

Class Questions

**High, Mid, and Low Vowels**

* Is the space between your tongue and the roof of your mouth

**Tense vs Lax**

* Lax vowels are more central and slightly shorter,
* Tense vowels are the cardinal vowels (a, e, i, o u) and are usually longer

Labiodental vs Interdental

* Labiodental = tongue teeth
* Interdental = teeth lip

**What’s on the Test?**

* Given name, must write symbol
* Given symbol, must write the name (3 part)
* IPA to English
* English to IPA
  + Cat = [kaet]
* Mostly Multiple Choice and Short Answer