A Quick Introduction to Features for Consonants

• We can describe any PHONE (speech sound) in terms of FEATURES. There are two major types of features:
  o MANNER OF ARTICULATION: features that describe how the phone is made in the vocal tract (pharynx, oral cavity, and nasal cavity).
  o PLACE OF ARTICULATION: features that describe where the phone is made in the oral cavity, using which part of the tongue

• This handout deals only with features relevant to consonants. Consonants can be described as a set by two characteristics:
  o They are produced with a complete closure or narrowing of the vocal tract.
  o They are less sonorous than vowels are. (i.e., they have less of a “singing” quality to them).

Place of Articulation (PoA)

• We will identify (i) GENERAL and (ii) more specific place of articulation (PoA) feature for consonants.

  o GENERAL place of articulation features tell you whether the lips, tip of tongue, body of tongue, or epiglottis is active.

  o More detailed place of articulation features typically tell you what part of the mouth the tongue is touching.

• GENERAL place of articulation features are written with ALL-CAPs below and have black, round bullets.
  o More specific place of articulation features are written in normal text and have white, round bullets.

• LABIAL: [+labial] consonants are produced with the lips.

  o Bilabial: Produced with the two lips touching.
    ▪ [p, b, m] have the PoA features [+labial, +bilabial]

  o Labiovelar: Produced with the lips rounded but not touching.
    ▪ [w, ʍ] have the PoA features [+labial, +labiovelar]

  o Labiodental: Produced with the lips touching the front teeth.
    ▪ [f, v] have the PoA features [+labial, +labiodental]
• **CORONAL:** [+coronal] consonants are produced using the tip or blade of the tongue.
  
  o Dental: Produced with the tip of the tongue touching the front teeth.
    ▪ [θ, ð] have the PoA features [+coronal, +dental]
  
  o Alveolar: Produced with the tip or blade of the tongue touching the alveolar ridge.
    ▪ [t, d, n, s, z, l] have the PoA features [+coronal, +alveolar]
  
  o Post-alveolar: Produced with the tip or blade of the tongue touching behind the alveolar ridge.
    ▪ [tʃ, ʃ, ʒ, θ, ɹ, η, θ] have the PoA features [+coronal, +post-alveolar]
  
  o Retroflex: Produced with the tip of the tongue curled backwards.
    ▪ [r] has the [+coronal, +retroflex]

• **DORSAL:** [+dorsal] consonants are produced with the body (fat part) of the tongue.
  
  o Palatal: Produced with the body of the tongue touching the (hard) palate.
    ▪ [j] has the PoA features [+dorsal, +palatal]
  
  o Velar: Produced with the body of the tongue touching the velum (soft palate).
    ▪ [k, ɡ, η] have the PoA features [+dorsal, +velar]

• **GLOTTAL:** [+glottal] consonants are produced with the epiglottis. The tongue isn’t active.
  
  o There is no more specific place of articulation for these sounds.
    ▪ [ʔ, h] have the feature [+glottal]

**Manner of Articulation (MoA)**

**Voicing**
• Consonants can be [+voiced] or [-voiced].
  
  • [+voiced] consonants are produced while the vocal folds are vibrating.
    ▪ [b, m, w, v, θ, d, n, z, l, dʒ, ʒ, r, j, g, η] have the MoA feature [+voice]
  
  • [-voiced] consonants are produced without the vocal folds vibrating.
    ▪ [p, m, f, θ, t, s, tʃ, ʃ, k, η, ʔ, h] have the MoA feature [-voice]

**Nasality**
• Consonants can be [+nasal] or [-nasal].
  
  • [+nasal] consonants are produced with air flowing through the nasal passages.
    ▪ [m, n, η] have the MoA feature [+nasal].
  
  • [-nasal] consonants are produced while air is blocking from entering the nasal passages.
    ▪ [p, b, w, m, f, v, θ, d, t, d, s, z, l, tʃ, dʒ, ʒ, r, j, k, g, η, ʔ, h] have the MoA feature [-nasal]
**Continuancy**

- Consonants can be [+continuant] or [-continuant].
  - [+continuant] consonants are produced with air flowing continuously through the mouth.
    - [w, m, f, v, θ, ʁ, s, z, l, ʃ, ʒ, r, j, h] have the MoA feature [+continuant]
  - [-continuant] consonants are produced with a complete closure of the vocal tract (either in the oral cavity or at the glottis).
    - [p, b, m, t, d, n, ʃ, dʒ, k, g, η, ʔ] have the MoA feature [-continuant].

**Approximant**

- Consonants can be [+approximant] or [-approximant].
  - [+approximant] consonants are produced with parts of the vocal tract being closer to each other than you would find for vowels, but not close enough to each to create turbulent airflow.
    - [w, m, l, r, j] have the MoA feature [+approximant]
  - [-approximant] consonants are produced with parts of the vocal tract being close enough to create turbulent airflow.
    - [p, b, m, w, ʍ, f, v, θ, ʁ, t, d, n, s, z, ʃ, dʒ, ʃ, ʒ, k, g, η, ʔ, h] have the MoA feature [-approximant].

**Stridency**

- Consonants can be [+strident] or [-strident].
  - [+strident] consonants have a “hissing” sound to them.
    - [s, z, ʃ, dʒ, ʃ, ʒ] have the MoA feature [+strident]
  - [-strident] consonants don’t have a “hissing” sound to them.
    - [p, b, m, w, ʍ, f, v, θ, ʁ, t, d, n, l, r, j, k, g, η, ʔ, h] have the MoA feature [-strident].

**Sonorance**

- Consonants can be [+sonorant] or [-sonorant].
  - [+sonorant] consonants have a “singable” or “ringing” quality.
    - [w, m, n, η, l, ʃ, ʒ, r, j] have the MoA feature [+sonorant].
  - [-sonorant] consonants lack a “singable” or “ringing” quality.
    - [p, b, m, f, v, θ, δ, t, d, s, z, ʃ, dʒ, k, g, ʔ] have the MoA feature [-sonorant].