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:
    - MANNER OF ARTICULATION: features that describe *how* the phone is made in the vocal tract (pharynx, oral cavity, and nasal cavity).
    - 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:
    - They are produced with a complete closure or narrowing of the vocal tract.
    - 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.
    - GENERAL place of articulation features tell you whether the lips, tip of tongue, body of tongue, or epiglottis is active.
    - 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.
    - More specific place of articulation features are written in normal text and have white, round bullets.

- **LABIAL*:* [+labial] consonants are produced with the lips.**
    - Bilabial: Produced with the two lips touching.
        - [p, b, m] have the PoA features [+labial, +bilabial]
    - Labiovelar: Produced with the lips rounded but not touching.
        - [w, ʍ] have the PoA features [+labial, +labiovelar]
    - 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.**
    - Dental: Produced with the tip of the tongue touching the front teeth.
        - [θ, ð] have the PoA features [+coronal, +dental]
    - 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]
    - Post-alveolar: Produced with the tip or blade of the tongue touching behind the alveolar ridge.
        - [tʃ, dʒ, ʃ, ʒ] have the PoA features [+coronal, +post-alveolar]
    - 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.**
    - Palatal: Produced with the body of the tongue touching the (hard) palate.
        - [j] has the PoA features [+dorsal, +palatal]
    - Velar: Produced with the body of the tongue touching the velum (soft palate).
        - [k, g, ŋ] have the PoA features [+dorsal, +velar]
- **GLOTTAL: [+glottal] consonants are produced with the epiglottis. The tongue isn't active.**
    - 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, ð, d, n, z, l, dʒ, ʒ, r. j, g, ŋ] have the MoA feature [+voice]
- **[-voiced] consonants are produced without the vocal folds vibrating.**
    - [p, ʍ, f, θ, t, s, tʃ, ʃ, k, 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, ŋ] have the MoA feature [+nasal].
- **[-nasal] consonants are produced while air is blocking from entering the nasal passages.**
    - [p, b, w, ʍ, f, v, θ, ð, t, d, s, z, l, tʃ, dʒ, ʃ, ʒ, r, j, k, g, 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, ʍ, f, v, θ, ð, 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, tʃ, dʒ, k, g, ŋ, 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, ʍ, 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, ð, t, d, n, s, z, tʃ, dʒ, ʃ, ʒ, k, g, ŋ, ʔ, h] have the MoA feature [-approximant].

Stridency

- Consonants can be [+strident] or [-strident].
- [**+strident] consonants have a "hissing" sound to them.**
    - [s, z, tʃ, 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, ð, t, d, n, l, r, j, k, g, ŋ, 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, ŋ, l, ʃ, ʒ, r, j] have the MoA feature [+sonorant].
- **[-sonorant] consonants lack a "singable" or "ringing" quality.**
    - [p, b, ʍ, f, v, θ, ð, t, d, s, z, tʃ, dʒ, k, g, ʔ] have the MoA feature [-sonorant].