

- What is Phonetics?
 - http://www.youtube.com/watch?v=qHEN20RB8UM
 - Phonetics is a branch of linguistics concerned with speech sounds.
 - There are three main branches of phonetics: articulatory, auditory, and acoustic.

- Articulatory phonetics
 - Deals with the production of speech sounds
 - Oldest branch of phonetics
 - well established by the 19th century
- Auditory phonetics
 - Deals with the perception of speech sounds
- Acoustic phonetics
 - Deals with transmission and physical properties of speech sounds
 - Relies on tools like the spectrograph

 X-ray movie of: "Why did Ken set the soggy net on top of his deck?"

http://psyc.queensu.ca/~munhallk/05_why_did_ken.mov

What's the problem here?



"Boy, he must think we're pretty stupid to fall for that again."

- What's the problem here?
 - This guy is falling = The sky is falling?
 - The problem is that there are no spaces between words when we speak.
 - Say the following:

```
cup of tea
do you want to?
did you eat yet?
```

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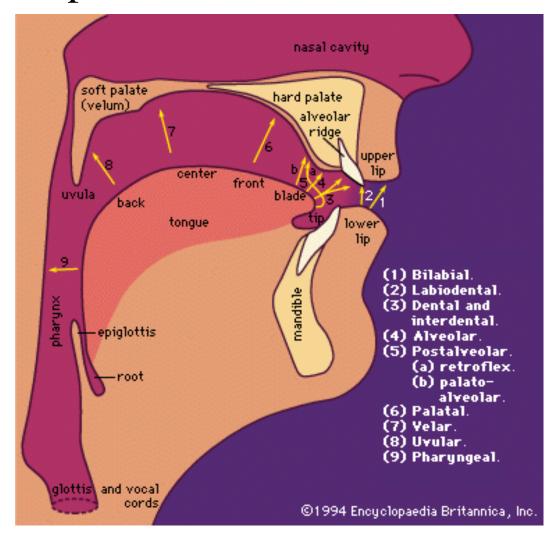
```
cup of tea > cuppa tea
do you want to? > d'you wanna?
did you eat yet? > djeat yet?
```

- For this course, you should be able to:
 - Be able to identify human speech sounds
 - Learn the symbols used for transcribing speech sounds (IPA)
 - Describe and classify sounds according to their articulatory properties

- Speech is transcribed using the International Phonetic Alphabet (IPA)
- This is a standardized set of symbols
- There is a one-to-one correspondence between symbol and sound

- Consonants are described by the place and manner of articulation
- place of articulation
- = what parts of the mouth, throat, etc. are used to produce a sound
- manner of articulation
- = how sounds are produced, how airflow is controlled as it passes through the mouth/nose

• What are the places of articulation?



- What are the manners of articulation?
- voiced: a sound is voiced if production of a sound involves vibration of the vocal cords
- voiceless: no vibration of the vocal cords
- nasal: sounds produced when air is pushed through the nasal cavity
- stop (plosive): airflow is obstructed so that a sound cannot be continued

- What are the manners of articulation?
- fricative (continuent): airflow continues, the sound also continues
- affricate: combination of a stop and a fricative
- liquid: airflow on both sides of the tongue; there are many different kinds of liquids; for the purpose of this class, just remember that sounds written as "I" and "r"are liquids

 IPA charts – sounds are organized by place and manner of articulation

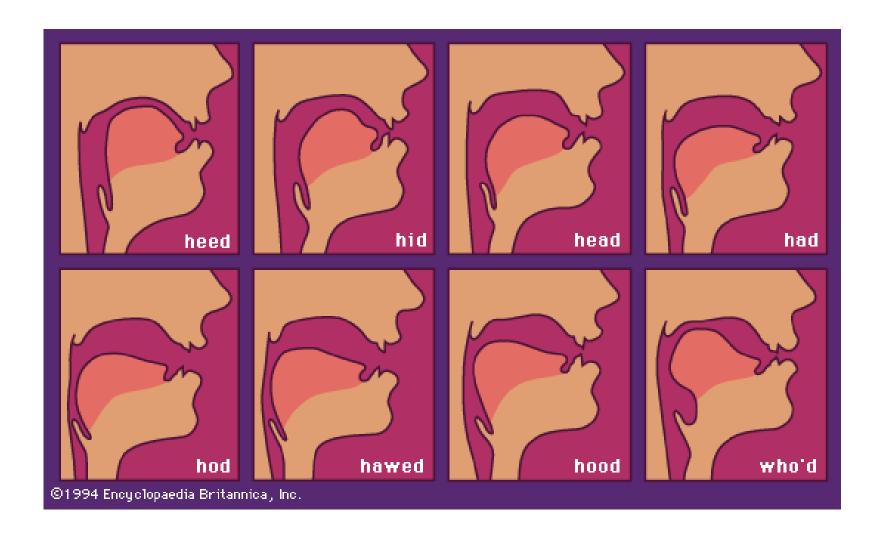
THE INTERNATIONAL PHONETIC ALPHABET (2005)

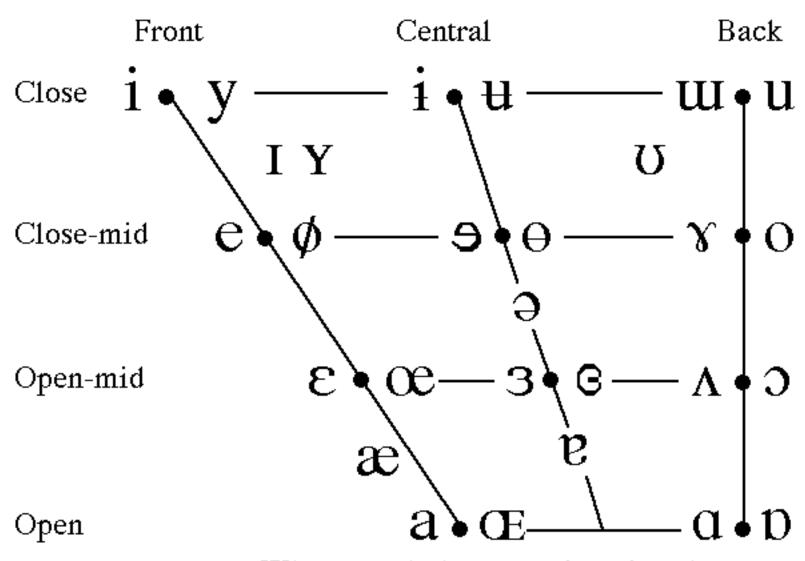
CONSONANTS (PULMONIC)

| | Bilabial | Labio- dental | Dental | I /\ IX/AAIAYI | Post- alveolar | Retroflex | Palatal | Velar | Uvular | Pharyngeal | Epi- glottal | Glottal |
|----------------------|----------|------------------|--------|----------------|-------------------|-----------|---------|-------|--------|------------|-----------------|---------|
| Nasal | m | ŋ | n | | | η | ŋ | ŋ | N | | | |
| Plosive | рb | qp db | t d | | | t d | C J | k g | q G | | 2 | ? |
| Fricative | φβ | fv | θð | s z | ∫ 3 | ş z | çj | ху | χR | ħ c | Н С | h h |
| Approximant | | υ | | J | | ન | j | щ | Б | 1 | ¥ | 11 11 |
| Trill | В | | | r | | | | | R | | Я | |
| Tap, Flap | | V | | ſ | | r | | | | | | |
| Lateral fricative | | | | łЬ | | 1 | X | Ł | | | | |
| Lateral approximant | | | | 1 | | l | λ | L | | | | |
| Lateral flap | | | | J | | 1 | | | | | | |

Where symbols appear in pairs, the one to the right represents a modally voiced consonant, except for murmured h. Shaded areas denote articulations judged to be impossible. Light grey letters are unofficial extensions of the IPA.

- Vowels: sound made when the vocal tract is open
- Vowels are described by vowel height and tongue position





Where symbols appear in pairs, the one to the right represents a rounded vowel.

Practice saying sounds, how and where do you say them