Prosodic Features

1. Physical parameters of speech sounds

The production of speech sounds involves

- some amount of energy
- present at some frequency (vocal fold vibration)
- for some period of time

These three parameters are perceived by humans as

- loudness
- pitch
  - the faster the vocal folds vibrate, the higher the pitch
    - shorter vocal folds vibrate faster
  - children & women: smaller larynx & shorter vocal folds
    higher pitched voices than men, in general

- duration (length)

These three parameters define three linguistic categories

- stress
- tone
- length

3. Prosodic features

- suprasegmental features
  - over and above features inherent in individual speech sounds
    (voicing, place & manner of articulation)
- prosodic (from poetry) – refers to the metric structure of verse
4. Linguistic function of the three parameters

- **Intonation** - shaping intonation contours of phrases and sentences
  - questions in English
    You gave the book to Mary? 📚 a rising pitch
  - making words in a sentence prominent
    (by raising the pitch, making them longer, and making them louder)
    You gave MARY 📚 the book!

- **Number of phones** (sounds segments) in a language
  increasing the number of phones in a language, thus making more units available to phonological systems
  - some languages contrast between **long** vs. **short** vowels and consonants
    long and short vowels in: Hungarian, Croatian, Serbian, Czech, long and short consonants in: Italian, Russian, Japanese
  - in some languages vowels are pronounced with various tones (tone languages)
    high, low, mid 📚 high, low, mid 📚
    high, low, mid 📚 high, low, mid 📚

  Chinese - most prominent example of a tone language
  in Mandarin [ma] pronounced with
  - a **high flat tone** → mother
  - a tone rising from **low** to **high** → hemp
  - a tone falling from high to low → scold
  - a tone falling from high to low and then rising from low to high → horse
• Stress
  ▪ **stressed** (stronger and louder) vowels vs. **unstressed** (weaker and quieter) vowels

  ▪ in every word one syllable is the loudest → **stressed syllable**

    ready utter willing English

  ▪ **fixed** – assigned to a particular syllable in words
    □ first syllable in Czech
    □ last but one (penultimate) syllable in Polish & Swahili
    □ last syllable in French

  ▪ **variable** – assigned to different syllables in words
    □ English has variable stress

      'WRlter be'CAUSE

    □ longer English words → various levels of stress

      primary → disap’POINTing
      secondary → ,Disap’POINTing

    □ stress in English can be **contrastive** →

      **changing the stressed syllable** of an English word
      can **change its meaning**

      'contrast vs. cont'rant
      'proceeds vs. pro'ceeds
      'project vs. 'project
      a 'black 'board vs. a 'black,board

  ▪ **unstressed vowels**
    schwa [ə] → ,Disap’POINTing