

# Connected speech effects

Phonetics II

# Outline

- Stress-related reduction
  - Weak syllables and weak forms
- Aspects of connected speech
  - Assimilation
  - Elision
  - Linking
- Rhythm ??

# Weakness...

- Weak syllables
  - Those that are unstressed
- Weak words
  - Those that are unstressed
- Compare *for*, *four*, *forget*
  - *I'm waiting for you.*
  - *It's you who I am waiting for.*
  - *I saw four guys. I said I saw four GUYS, not KIDS.*
  - *It's not good to just forgive and forget.*
- Hence, *for* can have both weak and strong version while *four* has to have the strong syllable and *forget* the weak one.

# Weak syllables

- Most commonly contain schwa
  - Spelling correspondences in Roach (83-84)
- [ɪ] and [ʊ] are much less frequent than schwa but still rather common
  - Interesting problem with word-final cases (busy, happy), prefixes (re-, de-), or some suffixes (iate)
- Syllabic consonants
  - [l, n, r, m, ŋ]
  - Difficult to transcribe
  - Codling vs. coddling

# Weak forms

- Only function words
- Five major categories (Roach)
  1. Auxiliary verbs
  2. Pronouns
  3. Articles
  4. Prepositions
  5. Conjunctions
- 1 & 2 are also related to contractions and involve consonantal changes while 3-5 mostly involve vowel changes

# Weak forms table

Category	Spelling	Weak form	Strong form
<b>Determiners</b>	the, a, some	ðə(ɪ), ə(n), səm	ði:, eɪ, æn, sʌm
<b>Prepositions</b>	at, for, to, from, of	ət, fə(ɪ), tə(ʊ), frɒm, əv	æt, fɔ:(ɪ), tu, frɒm, ɒv
<b>Conjunctions</b>	and, but, that	ən(d), bət, ðət	ænd, bʌt, ðæt
<b>Pronouns</b>	you, she, he, we your, him, her, them, us	jə(ʊ), ʃi, (h)i, wi jə(ɪ), (h)ɪm, (h)ə(ɪ), (ð)əm, əs	ju:, ʃi:, (h)i:, wi: jɔ:(ɪ), hɪm, hɜ:(ɪ), ðem, ʌs
<b>Aux. verbs</b>	am, are, is was, were has, have does, do can, could, should would must	əm, ə(ɪ), ɪz wəz, wə(ɪ) (h)əz, (h)əv dəz, də kən, kəd, ʃəd, wəd, məs(t)	æm, ɑ:(ɪ), ɪz wɒz, wɜ:(ɪ) hæz, hæv dʌz, du kæn, kud, ʃʊd, wʊd, mʌst

# Assimilation

- When a sound is affected by a neighboring sound (both across and within words), sometimes also referred to as coarticulation
- Most clearly perceived are changes to consonants
  - Place of articulation
  - Manner of articulation
  - Voicing
- But vowels are affected as well
- Some changes are allophonic and some are phonemic

# Regressive assimilation

- Most common, sometimes called anticipatory
- When a sound is affected by the following sound
- Most natural for alveolars changing their place of articulation to the place of the following consonant
- Nasal place assimilation
  - Nasals adopt the same place of articulation as the following sound,
    - *Ten* ← *people* [m]
    - *In* ← *the* [ŋ]
- In some cases became lexicalized: illogical, immortal, irresponsible, i[ŋ]competent,...



# Assimilation of manner

- Less frequent
- Typically toward less extreme obstruction
  - *Good night [n], that side [s]*
- Sometimes progressively

'in the'

in ðə → ɪnə

'get them'

get ðəm → ɡɛtəm

'read these'

ri:d ði:z → ri:ddi:z

# Assimilation of voicing

- Mostly regressive
  - *He has found* [s],
  - *I like that black dog.*
    - Word-final consonants in Slovak accent
      - [k→g, t→d, k→g, g→k]
    - In English, word-final consonants tend to retain their voicing and word-initial voiced consonants might have less voicing
  - Slovak is interesting in that even vowels trigger voicing assimilation
- Morphological assimilation of voicing (plural, past tense) is progressive
  - cat[s], dog[z], eye[z]
  - like[t], move[d], wait[ɪd]

# Elision

- In casual speech the whole segments may appear to be lost
- Consonants
  - Typically alveolars if middle in CCC clusters
    - *List people, he acts*
    - Loss of consonants in some weak forms
      - *of, him, and*
    - Glottalization: veterinary [ve.ʔn.ə.ɪ], vegetable
- Vowels
  - Weak (schwa) vowels in between obstruents word-initially
    - *Support, particularly, police, connect*
  - Word-finally with a sonorant resulting in a syllabic consonant
    - *nation, national*
  - Weak forms and contractions
- But sometimes the apparent elision can be seen as temporal crowding of gestures
  - *Perfect memory*
    - Evidence that the tongue tip gesture is present despite people not perceiving it

# Linking

- Speech is continuous, so most words are connected to one another with no breaks
- Linking r
  - In non-rhotic dialects like RP, spelled /r/ in word-final coda is pronounced if the following word start with a vowel
    - *for me* vs. *for us*
- Linking w, j
  - Word-final high tense vowels [i] and [u] are linked to a word that start with a vowel through glides
    - *you and me, me and you*
- Intrusive r
  - Word-final and word-initial vowels may be connected with /r/ even if it is not in spelling
    - *Vodka and juice, America and Africa, law and order, Cuba*
- There seems to be a tendency to use consonants to link vowels. Why?

# Combination of processes

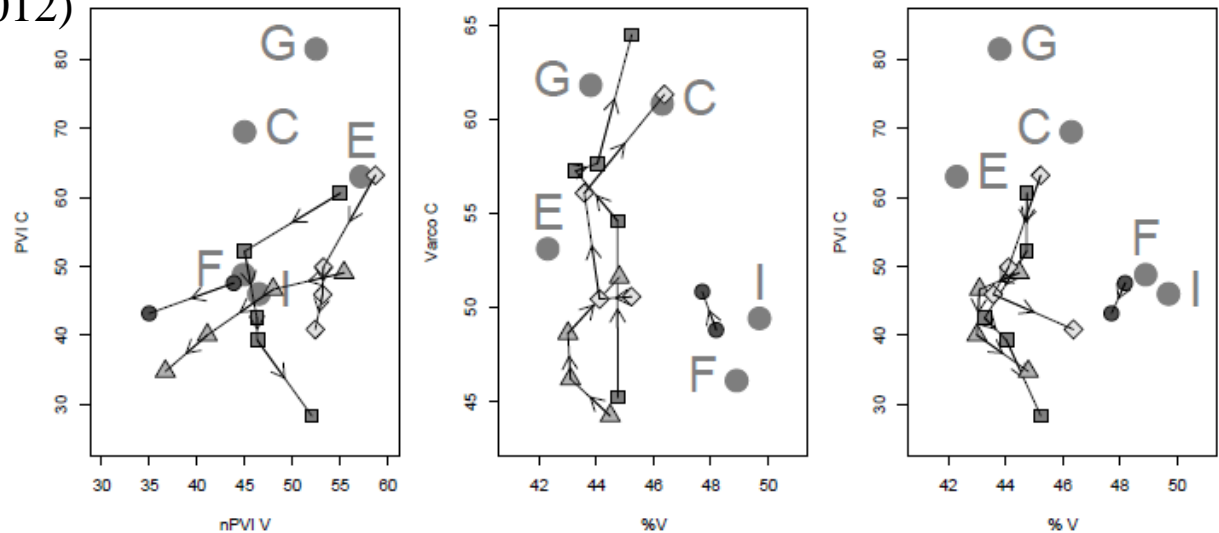
- What happened?
  - Broken key and promises
    - ‘bɹəʊkən ki: ənd ‘pɹɒmɪsɪz
    - ‘bɹəʊkɪ ki: jəm ‘pɹɒmɪsɪz
  - Paint brushes are in the tools
    - ...

# Rhythm

- One of the most difficult prosodic characteristics to describe
- Traditional stress-time vs. syllable time division remains controversial
  - Stress time = roughly equal time between stress syllables irrespective of how many syllables there are
  - Syllable time = roughly equal time for each syllable
  - Humpty Dumpty

# Rhythm (cont'd)

- Recent research: rhythmic measures use V(ocalic) and C(onsonantal) intervals
  - Plain variability, e.g. %V,
  - (normalized) pair-wise variability index (nPVI)
  - (normalized) standard deviations (VarCo)
  - BUT: they reflect phonotactic structure, test material, tempo,...
  - Benus & Simko (2012)



- Differences among languages are more perceptual expectations rather than observable productions

# Rhythm (cont'd)

- Metrical structure (in theory)
  - Foot = stress syllable plus all unstressed syllables up to the next stressed one
  - strong-weak units → metrical grid

											s	IP					
				s							s	ip					
s		w	s		s			s		w	w	s	PrWd				
[s	w]	[s	w]	[sw	w]	[s		w]	[s	w	w]	[sw]	[s]	Ft			
σ	σ	σ	σ	σ	σ	σ	σ		σ	σ	σ	σ	σ	σ	σ	σ	SYL

My pronunciation includes the traces of Japanese



# Rhythm (cont'd)

- What about
  - My pronunciation includes Japanese traces
  - Avoid stress clash (adjacent stress syllables) by exchanging primary and secondary stresses
- The greatest challenge for L2 English speakers is to develop a feel for rhythm important in perception and production of English
  - Contrast between prosodically prominent and non-prominent syllables/words