6.542J, 24.966J, HST.712J LABORATORY ON THE PHYSIOLOGY, ACOUSTICS, AND PERCEPTION OF SPEECH
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Lab 9 *10/11/01*

Intonation Labeling and Factors Affecting Duration

A. Intonation Labelling

In this lab you will become familiar with a transcription system for labelling prosody called ToBI (for Tones and Break Indices) and use a simplified version of it to label Pitch Accents and Boundary Tones in a number of utterances.

1) Read the Selkirk (1984) summary of Pierrehumbert's (1980) grammar of intonation

2) Read Appendix A of the online TOBI-TRAINING manual; the file is in /usr/users/prosody/TOBI-TRAINING and is called the labelling-guide.

3) Work through the examples in the online TOBI-TRAINING manual in sections 1.2-1.5, and the <money> and <name1> examples in section 2.3

4) Label the pitch accents (H* or L*) and the phrase tones/ boundary tones (H-H%, L-L%, H-L% or L-H%) for the following utterances:

    /usr/users/prosody/laura/jusczyk/EXP1/lcorn.16k

        utts 3-10

Which ones have the same contour phonologically, but differ in their range?

    /usr/users/labc/prosody1199

        hhmaineAB1
        hhmaineBC1

        esmaineAB1
        esmaineBC1

Do different speakers realize these utterances in different ways?

B. Factors affecting duration

A number of different factors influence the duration of segments, including intrinsic duration and surrounding phonological context. In this lab you will analyse the effect of vowel tenseness (e.g. the contrast between /i/ and /I/) and the effect of the voicing value of a following stop consonant on the duration of the vowel. If you wish, you can also investigate whether reiterant speech captures either of these effects.

In labc you will find a directory prosody10_01, which contains utterances from two speakers, **bc** and **rk**, of sentences containing the following word sets:

fat fad fade
cup cub coop
pick pig peak
men main mate
tuck tug take

Each file contains three utterances of the frame sentence *Say the big word X again*, where X is one of these 15 target words. (There are also three reiterant versions of the sentence.) Measure the duration of the vowel in the target word for each of the 3 utterances in each file. (Note that speaker **bc**'s utterance of *Say the big word peak again* is missing.)

The tense vowels in *fade, coop, peak, main* and *take* are claimed to be intrinsically longer than the lax vowels in *fad, cup, pick, men* and *tuck*. Do both speakers show this difference? If there are cases where they do not, is there a potential explanation? For example, are there unexpected boundaries which might induce preboundary lengthening? What kind of evidence would you look for to determine the presence of a boundary after the target word?

The voiced final consonants in *fad, cub, pig, main* and *tug* are claimed to lengthen the preceding tautosyllabic vowel in comparison to the voiceless final consonants in *fat, cup, pick, mate* and *tuck*. Do both speakers show this difference? If not, is there an explanation?

What kinds of methodological difficulties did you encounter in estimating the duration of the vowels?

Optional: If time permits, measure the corresponding vowels in the reiterant versions of some of the utterances. Do they capture the patterns you observed for the normal speech?