Week 2 assignment

Before class on Friday, Sept. 4:

- Read the following article, available from the UT Library Catalog:

  Hillenbrand, James M. (2003). American English: Southern Michigan. *Journal of the International Phonetic Association* 33 (1). 121–126.

  (On the UT Library website, select *Journal* and type in *Journal of the International Phonetic Association*.
  Select *On-line > Cambridge University Press Journals Complete*.
  Select *2000's > 2003 – Volume 33 > Issue 1*.
  The article is the second to last item in that issue. Download the *PDF* and the *Supplementary Materials* (the soundfiles).)

- Listen to the associated soundfiles in the folders for *Consonants* and *Vowels*.

- If you haven't done it already, download Praat, a free downloadable acoustic analysis software package. You can download the acoustic analysis program PRAAT for free from http://www.fon.hum.uva.nl/praat/. A link is also on the Useful Links page on the course website. PRAAT is available for Macintosh, Windows, or Linux.

- Download the zip file *week2.zip* from the course website. Unpacking this file will yield the script *formants.txt*, and the folder *Soundfiles*.

In class on Friday, Sept. 4: An exercise in formant measurement

(1) Open PRAAT. Double-click on the icon with a pink mouth over an ear. Two windows will open up: *Praat objects* and *Praat picture*.

(2) Import the 12 soundfiles from the latter into Praat. These soundfiles are recordings of 12 words of Southern Michigan English: *bad, bayed, bed, bid, bide, bird, bode, booed, bough, bought, boy, bud*.

(3) Select the file *bud*, and *Annotate > To TextGrid*.

(4) In *All tier names*, replace the words with **1**. In *Which of these are point tiers?* make sure the box is empty. Click *OK*.

(5) Using *Shift* or *Command*, select *Sound bad* together with *TextGrid bad*, and click *View & Edit*. Now there is an annotation tier named "1" below the spectrogram window.

(6) Put the cursor at the vowel onset, and add a boundary to the annotation. The vowel onset is at the release of the /b/, i.e. the end of the closure interval and the onset of the noise spike. Go

to *Boundary* and select *Add on tier 1*. Once the tier is selected (indicated by yellow), you can just hit Enter/Return at a cursor location and a boundary will be added on that tier.

(7) Add another boundary at the end of the vowel. The end of the vowel is at the offset of F2.

(8) Between the two boundaries, type the word in the soundfile (in this case, *bud*).

(9) Go to *File* and select *Save TextGrid as text file…*. Save the file to the folder *Soundfiles* where you got the soundfiles.

(10) Remove the *Sound bud* and *TextGrid bud* files by selecting them both and clicking on the *Remove* button at the bottom of *Praat Objects*.

(11) Go through steps (3)-(10) with the other soundfiles, until each one has a corresponding TextGrid file. These should all be in the *Soundfiles* folder with the corresponding soundfiles, and there should be no other files in that folder beside those 24 wav and TextGrid files.

(12) Go to the word *Praat* at the top of the screen (above the *Praat Objects* window) and select *Open Praat script…*.

(13) Select the textfile *formants.txt*, from *week2.zip*.

(14) In the script window, select *Run*.

(15) In the box labeled *Directory*, paste in the complete address for the folder *Soundfiles*, then click *OK*. In a Mac, you can do this by dragging the icon for that folder into the directory box.

(16) The measurements will go to a textfile called *results.txt*, located next to the script *formants.txt* on your computer.

(17) You can open the textfile in Excel, or whatever you use for spreadsheets.

By 6 PM on Friday, Sept. 4, submit the following through Canvas:

- The results file *results.txt* from the in-class exercise. This should include measurements for all 12 items in the sample.
- An answer to the following question: How does the accent described in the Hillenbrand paper differ from the accent described last week in Handout #1?