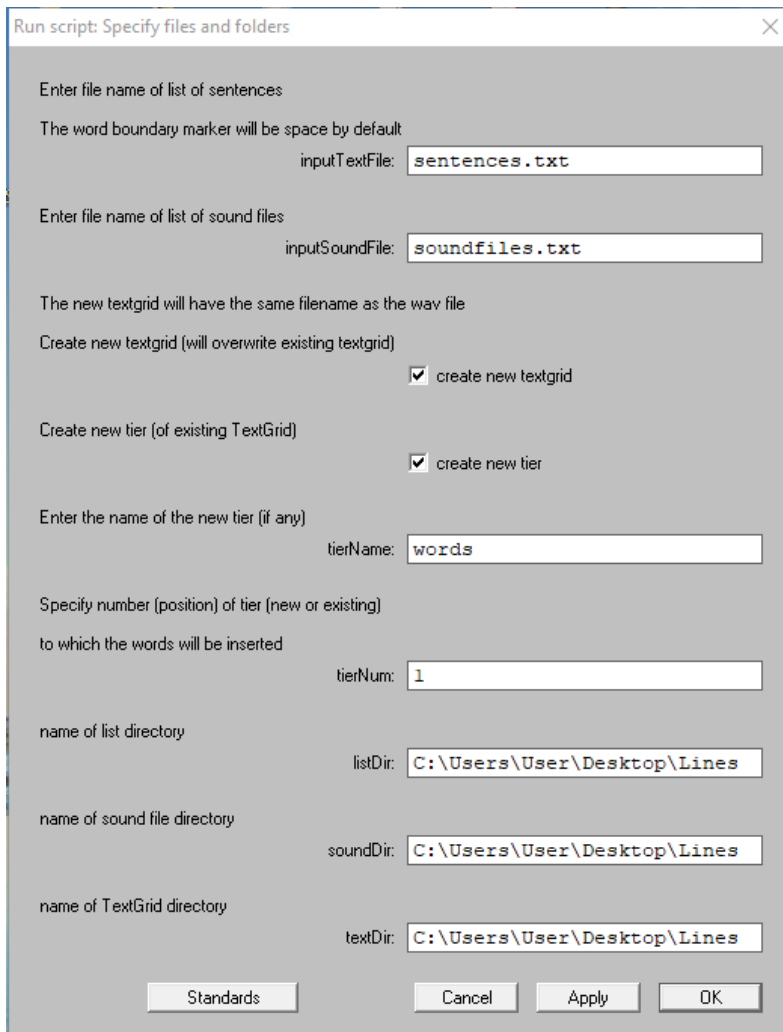


## Praat Tutorial – Manual Annotation

1. Visit <https://www.fon.hum.uva.nl/praat/>.
2. Download and install Praat for the operating system you are using (Windows, Mac).
  - a. Check the version of your system by typing in “system information” in *search windows*.
  - b. Download and unzip the folder with Praat. Make sure to download the latest version of Praat.
3. Download all you need for this demo here.
4. Open Praat and click on Praat >> Open Script. Load the *Annotation Script*, and a new window will pop up.
5. Click on Run, and the following window will pop up.



Run script: Specify files and folders

Enter file name of list of sentences  
The word boundary marker will be space by default  
inputTextFile:

Enter file name of list of sound files  
inputSoundFile:

The new textgrid will have the same filename as the wav file  
Create new textgrid (will overwrite existing textgrid)  
 create new textgrid

Create new tier (of existing TextGrid)  
 create new tier

Enter the name of the new tier (if any)  
tierName:

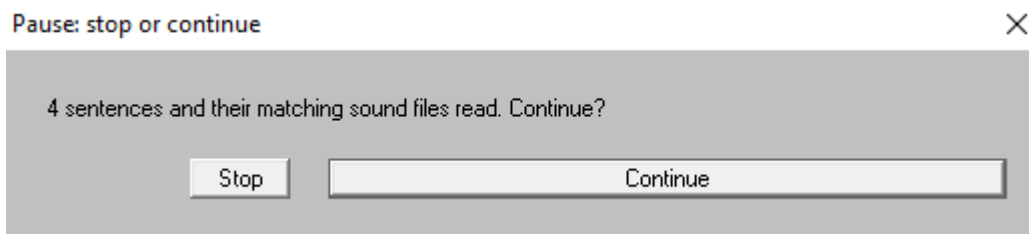
Specify number (position) of tier (new or existing)  
to which the words will be inserted  
tierNum:

name of list directory  
listDir:

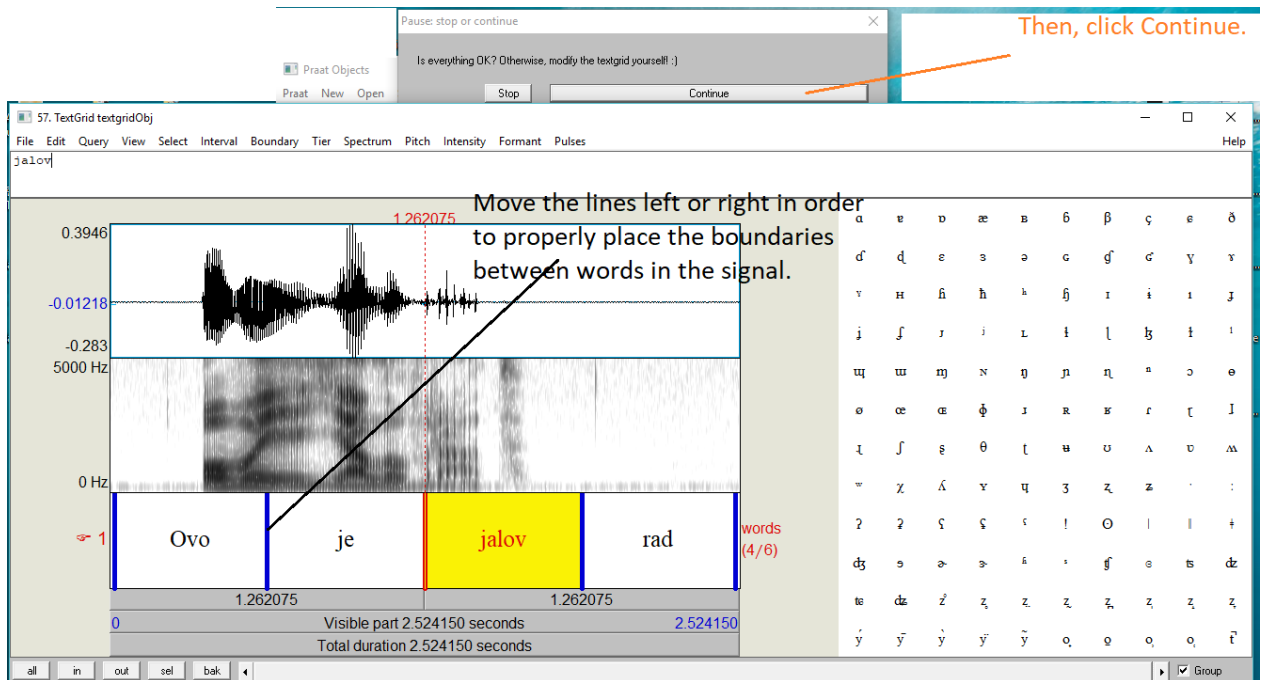
name of sound file directory  
soundDir:

name of TextGrid directory  
textDir:

6. Now, follow these steps:
  - a. In the *inputTextFile* section, you will write: *Sentences.txt*. This text file is in the zipped folder you downloaded at the start of this tutorial. This text file should include the text of the experiment, that is, the text you required your participants to read.
  - b. In the *inputSoundFile* section, you will write: *Sounds.txt*. This text file contains the names of the recorded sentences. Make sure to use the extension *.wav*, as in, for example, *Recording1.wav*.
  - c. You will then check the two following options – create new textgrid and create new tier.
  - d. It is up to you to choose the name of the tier depending on what you want to annotate. If you want to divide the sentence into words, write down *words*. If you want to divide the sentence into phones, write down *phones*. If you need phrases, you will write down *phrases*. The process is a bit different depending on what you will need.
  - e. The tier number should be 1. If you have already added a tier and you already have a TextGrid, and if you want to add another one, just make a tier - number 2.
  - f. The next three options require you to choose the directory in which you have the text files and sound files. To avoid complications, you can use the same directory for all the files.
7. When you click *Ok*, a new smaller window will pop up asking you to continue or stop the script. The window also indicates how many sentences and matching sound files it found in the specified directory.



8. You will click on *Continue*, and a new pop-up window will appear telling you that the new textgrid will be made. If you agree, click on *Continue*.
9. The two new pop-up windows will appear. In the window with the textgrid, you can adjust the boundaries between the words/phones/phrases by moving the blue lines to the left or right. When finished, you can click *Continue* in a smaller pop-up window.



10. If you want to make another tier such as a tier with the phones or tones in it, run the code again, but open up a different text file this time.

**You have annotated the text – you are happy - YAY !**

11. Now, let's say you want to find out the duration of each vowel. Open Praat and load the script: *VowelDurationScript*.
12. Make sure to set the directory by using the slashes instead of backslashes like this:  
`directory$ = "C:/Users/User/Desktop/Lines/"`
13. Everything that this script calculates will be saved in a new file called *results.txt*.
14. If we want to get a duration of each vowel, we will define a regular expression *vowels\$* as `vowels$ = "[aeiouɪæ]"` to obtain the duration of the vowels in the text. If there are more vowels you need to calculate duration for, then, you can just insert them in the square brackets. If you want to measure the duration of a specific vowel, make sure to mark it specifically in the TextGrid first, and then copy that to the script.
15. Make sure to define the phoneTier, too. If your phone tier is the second, you will write down *phoneTier = 2*.
16. You are ready to run the script. Run the script, and read the results from the *results.txt* file in the same directory where all your files are.

**You have calculated the duration – you are happy - YAY !**

17. Visit <http://www.praatvocaltoolkit.com/download-installation.html> and download the plugin. Follow the instructions on the website in order to install this plug-in.
18. Click on the sound file you wish to extract the vowels from.
19. Click on *Process >> Extract Vowels*. Make sure to check *Create New TextGrid*.
20. You have extracted all the vowels and you have their textgrids.
21. You can repeat the same process with the function *Extract Pitch*.
22. You can also extract pitch by using the *PitchExtractionScript* file.
23. This script can only extract pitch from each individual sound file, one at the time. Still, it is a very precise way of extracting pitch.
24. Make sure to change the format of the sound file in the script. If it is .wav, write .wav, if it is .aiff, write in .aiff, etc.

**You have extracted vowels and pitch – you are happy - YAY !**

25. That's all!