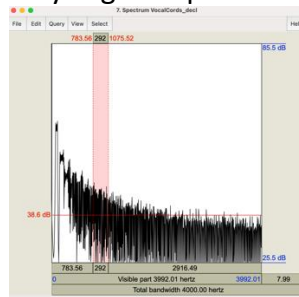


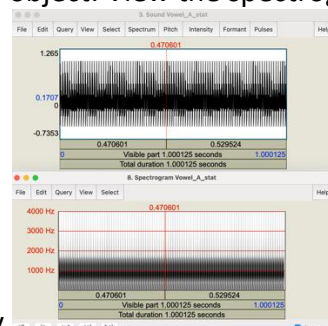
## Ass week 6

1. Download the praat spectrograms collection from BS, open it in Praat. Make spectrums out of vowelcords stat and decl, don't tick the "fast" option given by praat while analysing the spectrum. Listen to the spectrums. For decl, there is a weird



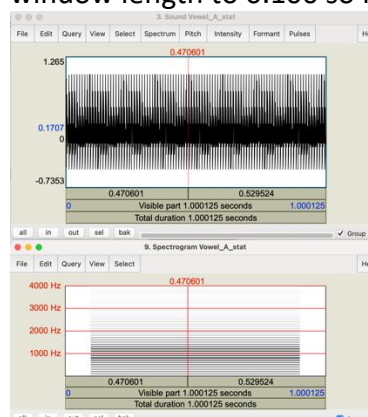
period, my explanation is that this period is holding the transition area, so the sound has been affected from the earlier harmonics.

2. Open the sound vowel\_A\_stat and decl from the file. Analyse the spectrum of both. For the stat, you can see the formant very clearly because the peaks are easily spotted on the spectrum. For the decline sound, the amplified peaks are caused by cavities, the first formant creates a spooky sound, because the transition between the before first formant and after first formant is very fluctuated. Therefore, the cavity transition contains two parts.
3. Select the original sound A stat, make a spectrogram out of it. You will see a window about adjusting the setting. The window length, the more time you take there the more detailed the spectrogram will be, but less accurate it is in time. For now, just keep the default. We don't care about window shape > you will get a new spectrogram object. View the spectrogram, also view the original oscilligram in the



same display. . Make sure tick the group option so they can be operated at the same time.

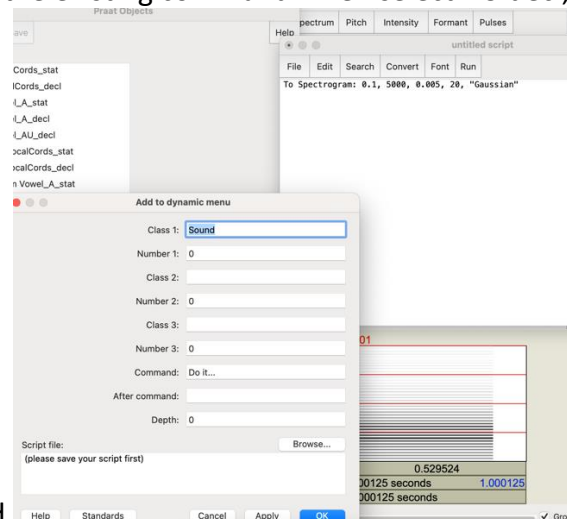
4. Create another spectrogram from the same sound, but this time adjust the setting window length to 0.100 so more signals would be caught, and time steps to 0.005



The next harmonics is weaker, the line is less black, up

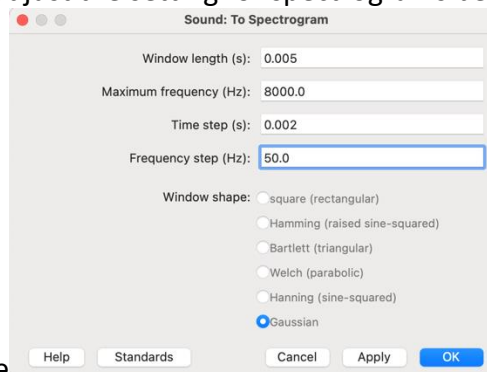
the second formant, you have higher amplitude and harmonics, further to the top, weaker harmonics because higher frequency, lower amplitudes. On the right, not only the fundamental frequency goes down, but also the harmonics. Therefore, the higher the harmonics, the steeper it goes down in time.

5. New praat script > edit, paste history, then you can see what you've done on praat for the last few steps. Delete everything except the command for adjusting the spectrogram setting. Save the script as "Sound2NB\_Spectrogram.praat" to the same subdirectory as the week 6 materials. Before close the script > file > add it to dynamic menu > name the command as "+ To Spectrogram (NB)" > then you should be able to see a new bottom under all the existing command. Then select AU decl,



run the new command we just created.

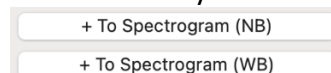
Do the same thing but adjust the setting for spectrograms because we are creating a



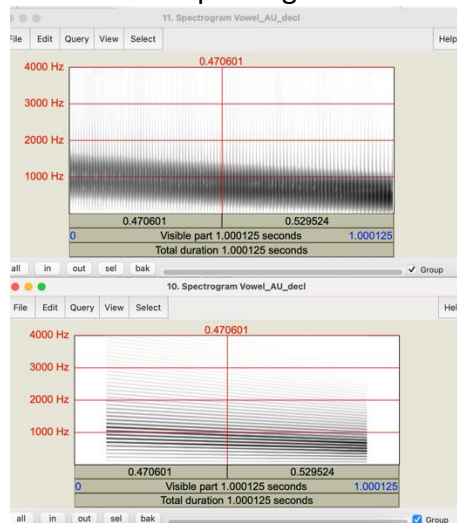
wide band one this time

> new praat script,

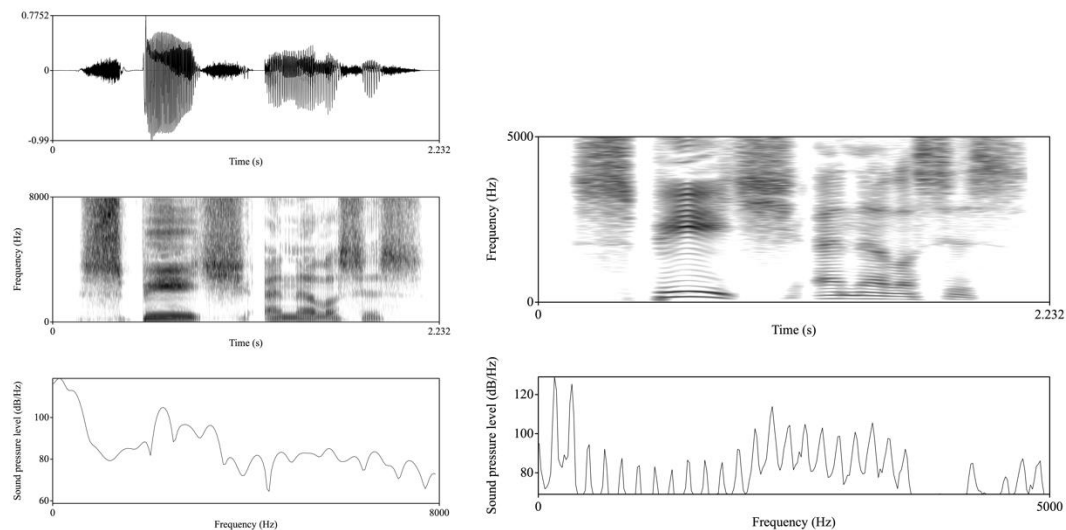
pasting history, only leave the command for setting up the wide band > save it and add it to the dynamic window. In the end you should have two new bottoms



6. Create a spectrogram of AU by using the standard settings. Then compare the narrow band spectrogram with the standard spectrogram.



7. Open the FLAC file from BS, view it > show spectrum and formants > adjust spectrum setting, change the window length from 0.005 to 0.1.
8. Open praat picture window, select an area you want to draw. First draw the oscillogram, then select the sound, use the bottoms we created before “To Spectrogram (WB)” > you should be able to see a new spectrogram generated in the list > draw it. Select another picture area, analyze “to spectrum (slice), time second 0.65”, stick with the default setting > draw the new spectrum on the list.
9. Do the same thing for NB
10. Save the pictures



11. Open a new praat script, pasting the history. Delete irrelevant part before “read the file” (if applicable) > you will see two runScript code, you need to manually add “Sound2WB\_Spectrogram”, “Sound2NB\_Spectrogram”. Otherwise praat won’t read the script > save the script > run the script again in praat to check if it works