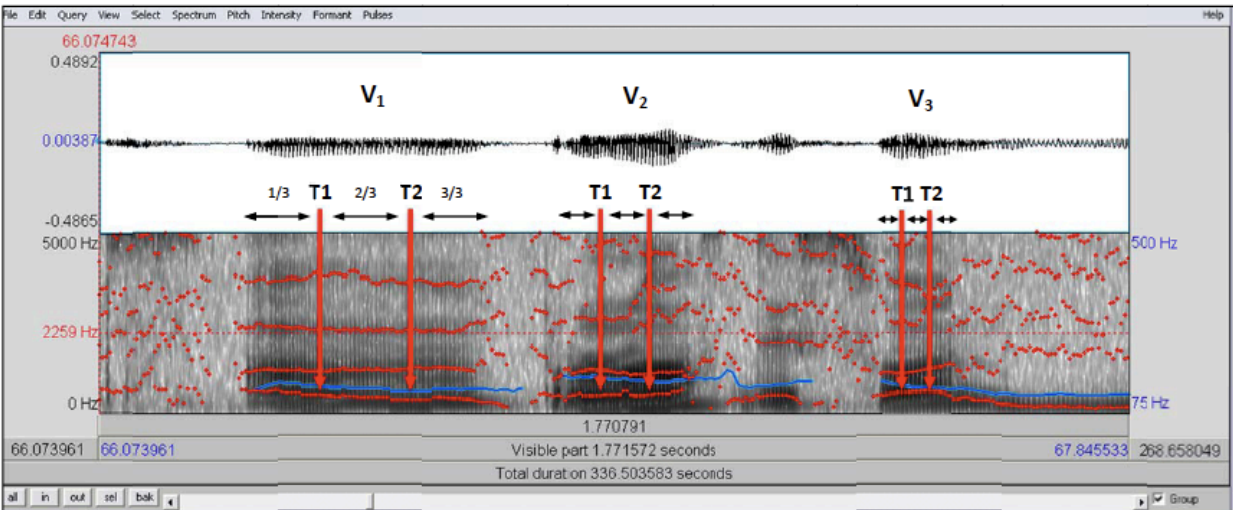


## Formant Measurements in Praat

1. Open the sound file in Praat (Read → Read from file...)
2. Click on the sound file, which should be displayed in the Object Window. Then click 'edit' on the right to pop open the waveform and spectrogram of your sound file.
3. Now, select the portion(s) of the vowel you want to examine and measure.
4. For each vowel, you will measure two temporal points (T1 and T2) – the first temporal point (T1) will mark the first third of the vowel and the second temporal point (T2) will mark the second third of the vowel. Refer to the figure below.

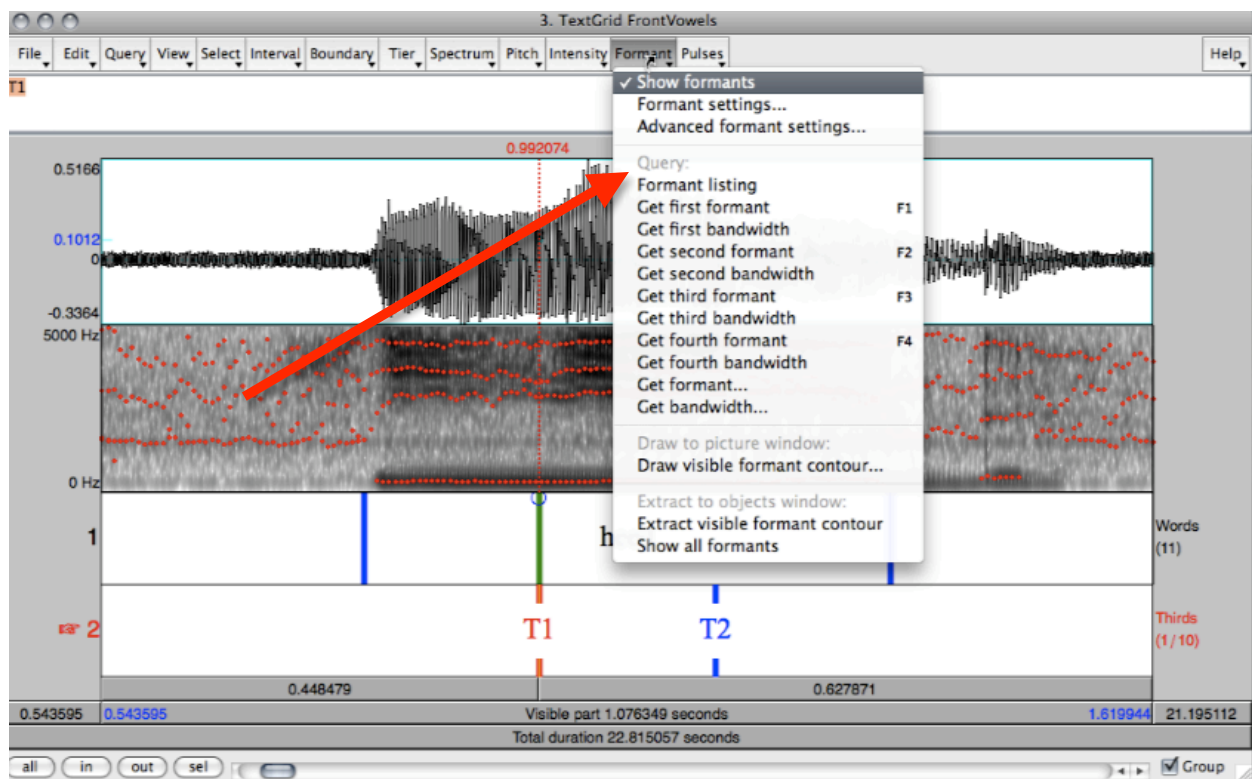
Tip: You need to consider the entire duration of the vowel when getting the one-third and two-thirds points, i.e., the distance from T1 and T2 should be different for each vowel. This is made obvious with the three vowels below:  $V_3$  is shorter in duration than  $V_2$ , which is shorter in duration than  $V_1$ .



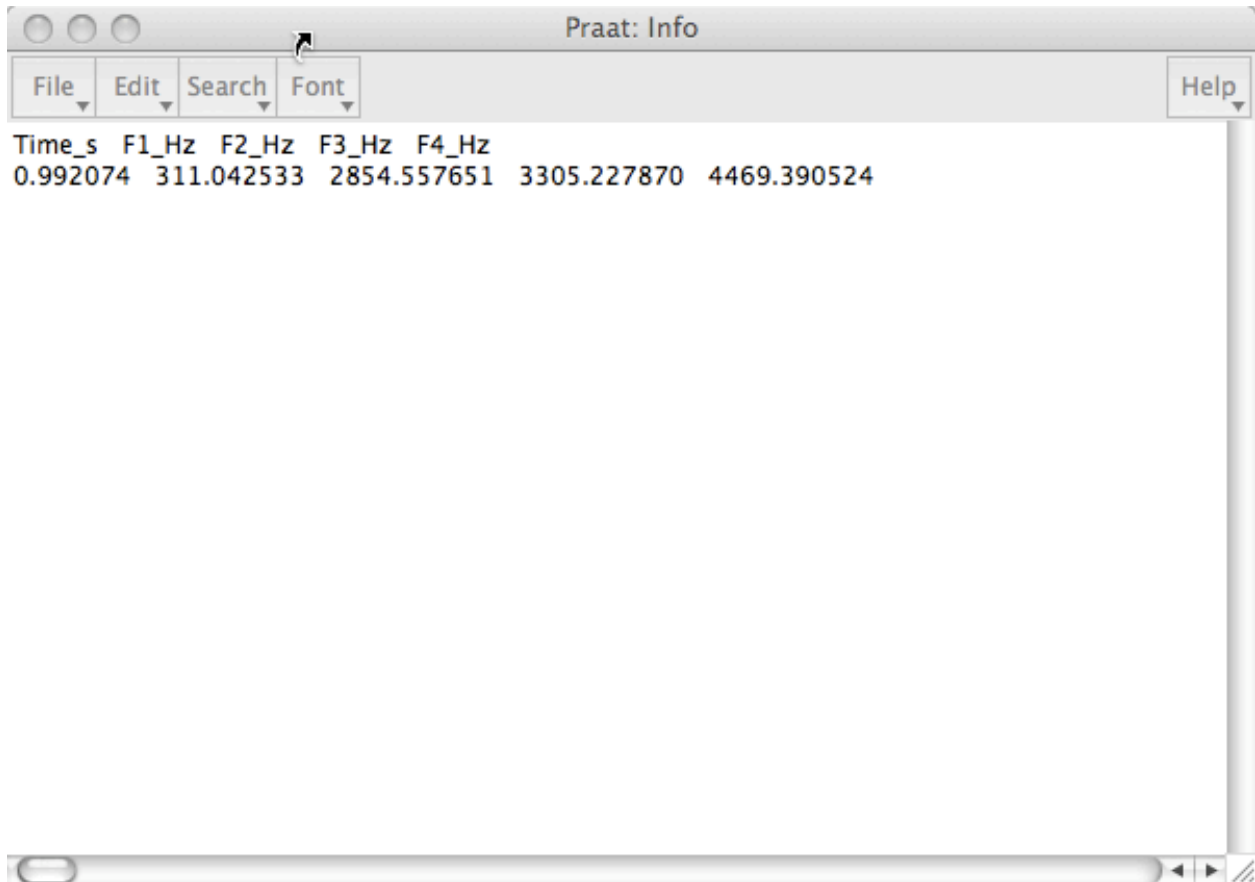
5. Determine where T1 (or T2) is by selecting (on the spectrogram/waveform) with your cursor the exact point you wish to take the measurement (one-third mark or two-thirds mark). You can calculate this by hand:

- a. One-third mark = Time of the beginning of the vowel + (Total duration of vowel \* 1/3)
- b. Two-thirds mark = Time of the beginning of the vowel + (Total duration of vowel \* 2/3)

6. When you've placed the cursor on the point you wish to take the measurement, select 'Formant' → 'Formant listing'.



7. A window will pop up listing the temporal time stamp, the F1, F2, F3, and F4 measurements. You can copy and paste your time stamp and F1 and F2 measurements into Excel (or some other data handling software).



8. Do steps 5, 6, and 7 for T1 and T2.