PSOLA Manipulation in Praat Cheatsheet

- waveform
- melodic panel
- duration panel
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melodic manipulations

1. Remove all the pitch points by selecting them and clicking *Pitch – Remove pitch point(s)*.

2. Place a new point into each syllable by clicking around the midpoint of the vowels and clicking **Ctrl+T**. Use the grey dots (original placement) as a guide.

   Note: Vowels are typically the periodic portions (the waveform shape keeps repeating) with the highest amplitude.
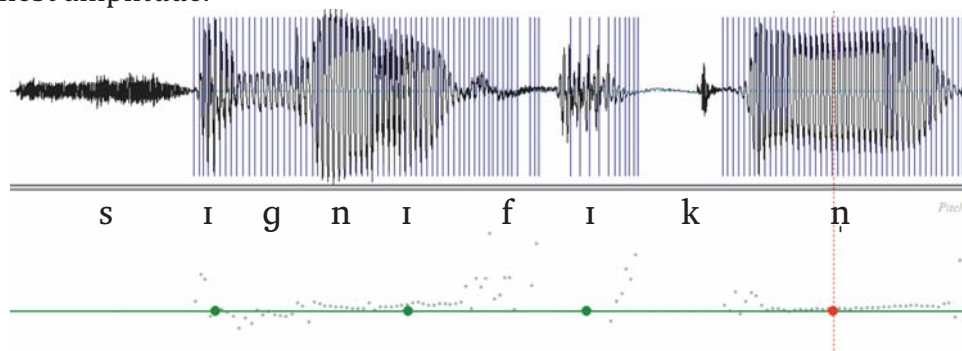
3. Drag each point to the desired pitch level. You can drag points along the vertical axis (frequency) but also change their position in time. Of course, a point can be removed, as described in step 1.

   Tip 1: Start from the major melodic movements (nuclear tones), and continue with smaller melodic excursions within each prosodic phrase.

   Tip 2: Repeat the phrase in your mind to realize what kind of melodic shape you want to create. When you've made a change, compare the result with your own voice.
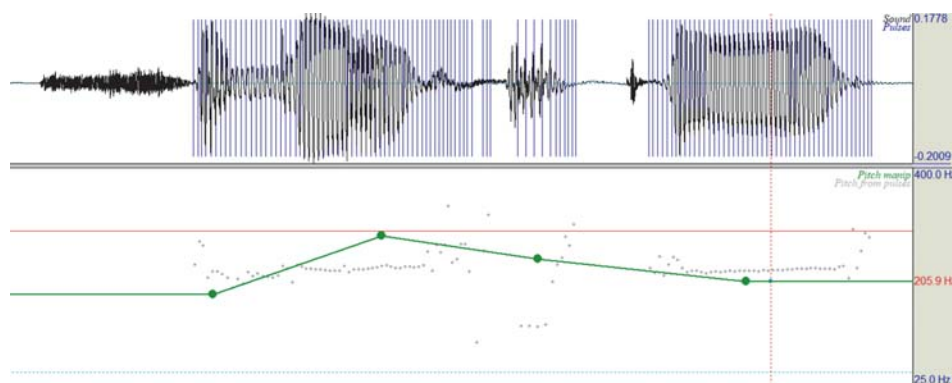
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1. Keep in mind that the duration panel shows relative duration. The original duration is therefore 1.0. To lengthen, we place points above 1, to shorten, below 1.

2. If you want to change the duration of only few sounds, you can proceed to step 4.

3. For more numerous changes within one manipulation file, it is best to first create anchors, to fix the relative duration of 1.0. We do that by approximately locating the boundaries of vowels (the sounds we will most likely be changing) and placing a duration point there.

   Tip: While placing duration points, do not click into the duration panel itself! Once you do, Praat will remember the duration value you clicked, and not the 1.0 you need.
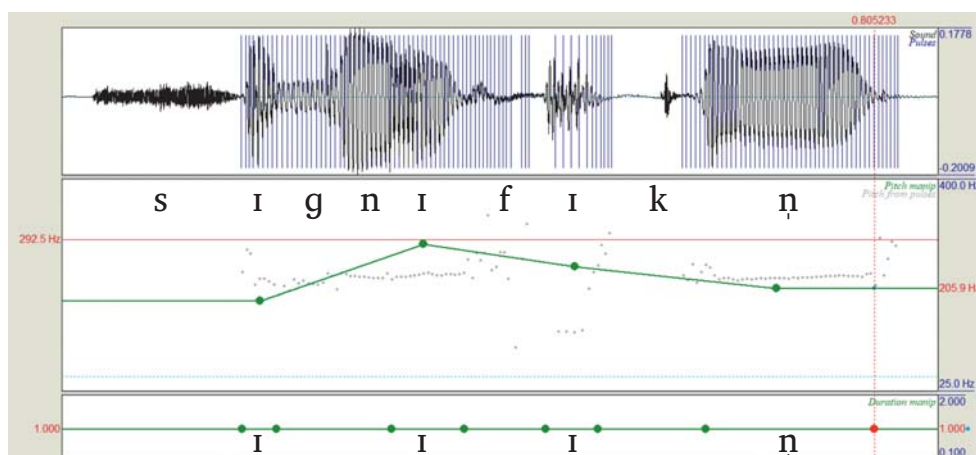
4. Next, start creating duration "dents". Place the cursor within the limits set by the anchor (behind its beginning and just before its end) and press **Ctrl+D**.
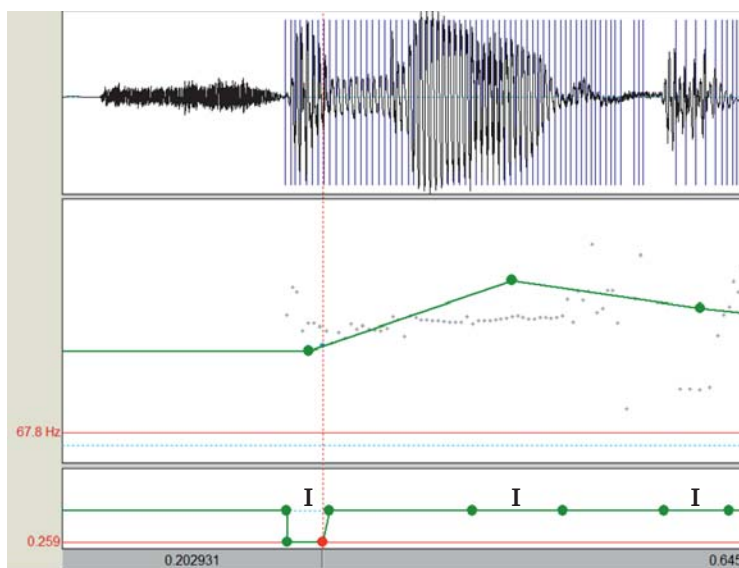
It is clear that the manipulations will depend on the speaker's L1, but let's assume that you're manipulating a speaker of a syllable-based language towards native-like English.

a. Stressed syllables (vowels) may need to be more prominent – higher and longer.
b. Unstressed syllables may need to be prosodically "suppressed" – shortened and lower.
c. Syllables ending in a voiceless (fortis) consonant cannot be shortened too much, because they are shortened in English (compare *I like this face* and *I like this phase*).
d. You can simulate a final phonologically voiced consonant (as in *phase*) by lengthening the preceding vowel and shortening the consonant, as shown in the last video.
e. We typically slow down at the end of a phrase – and this universal phrase-final deceleration is easy to create.