Vowels

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27 May, 2017

Source-Filter Model of Speech Production
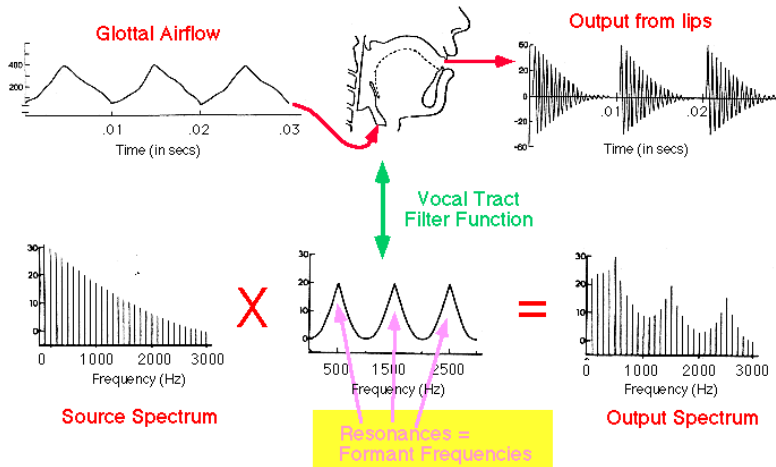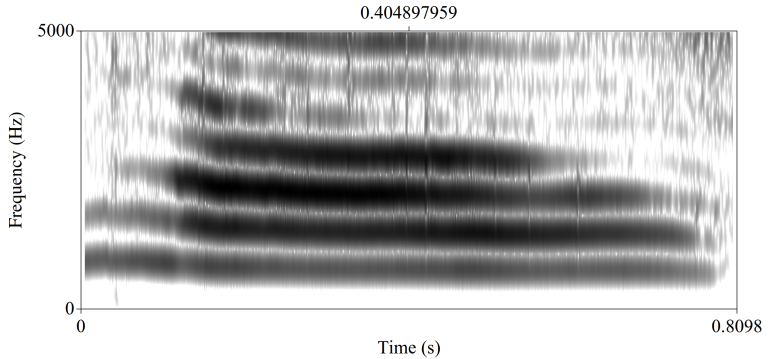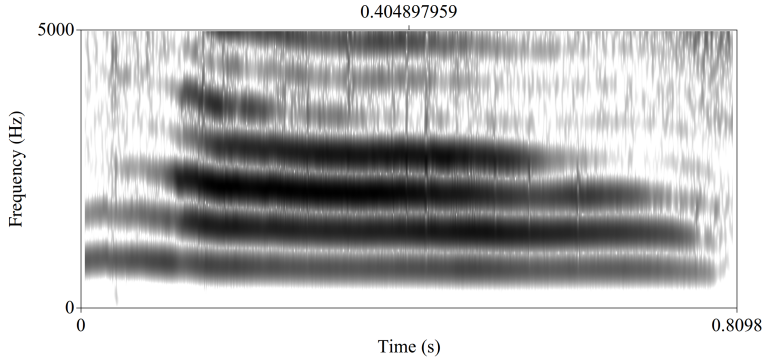
The output energy (at the mouth) for a given frequency is equal to the amplitude the source harmonic, multiplied by the magnitude of the filter function for that the frequency.
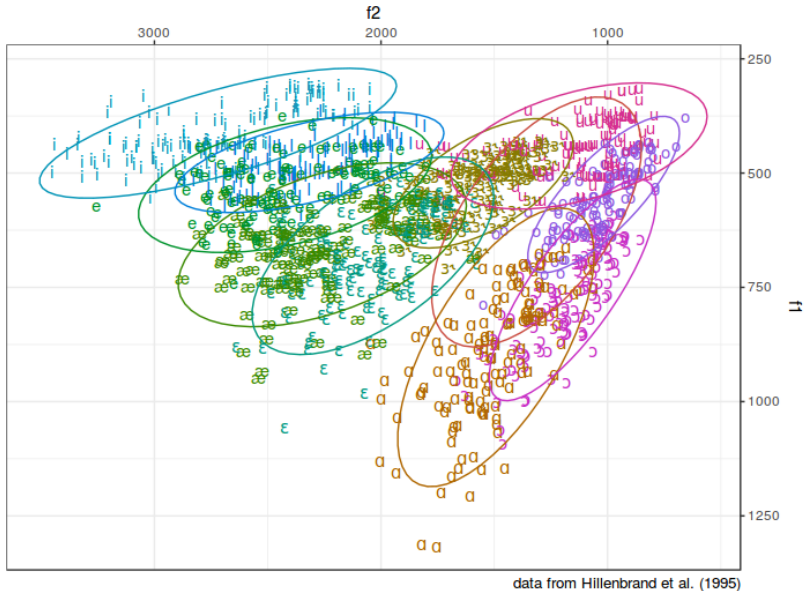
???

0.404897959

Cat meow

0.404897959

Vowel chart

data from Hillenbrand et al. (1995)

Vowel editor

Praat objects > New > Sound > Create sound from VowelEditor...

How to analyse vowels?

- · record sounds
- · annotate sounds
- · make an exploratory analysis
- · extract duration and formant information from your data
- · create the plot

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Formants in Praat

Source-Filter
Model

Vowel analysis
exploratory analysis
extract data
plotting

R packages
vowels
phonTools

Praat Analyser > Formant > Show Formants

F1   select the nearest first formant value or mean value for selection

F2   select the nearest second formant value or mean value for selection

F3   select the nearest third formant value or mean value for selection

Formants in Praat

Praat Analyser > Formant > Formant Settings...

During analysis you should set Maximum Formant value so as to distinguish [i], [a] and [u].

How to analyse vowels?
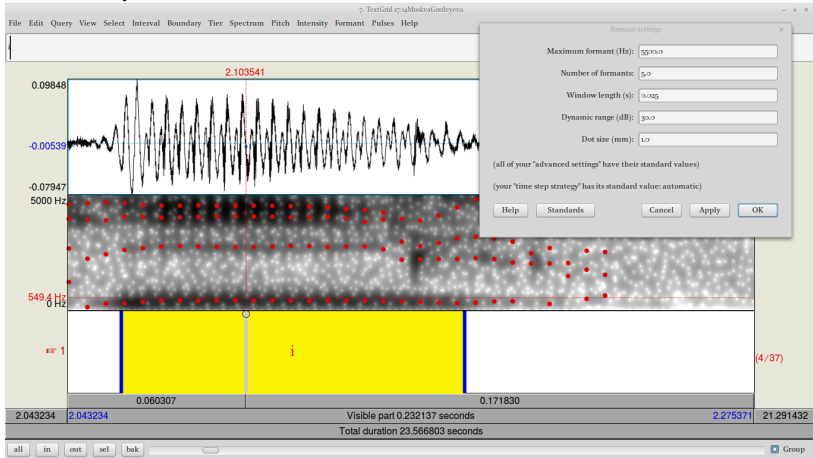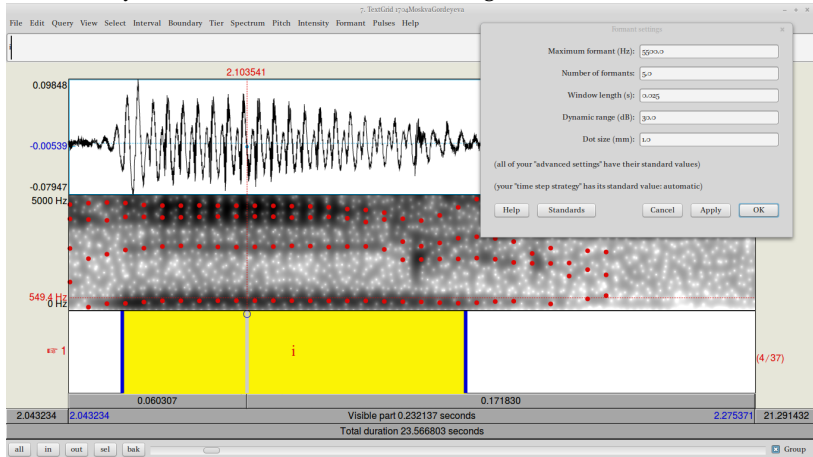
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✓ annotate sounds

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· extract duration and formant information from your data

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Praat scripting

Praat have its own scripting language. You can read about it:
Praat Objects > Help > Scripting tutorial
There are a lot of Praat scripts here.

Praat scripting: extracting duration

· Open Praat Objects

· Open some TextGrid

· Praat Objects > Praat > New Praat script

· Copy script from here to the new window

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✓ create the plot

vowels

- Version: 1.2-1

- Date: 2014-11-14

- Author: Tyler Kendall and Erik R. Thomas, [Kendall and Thomas 2014]

phonTools

- Version: 0.2-2.1
- Date: 2015-07-30
- Author: Santiago Barreda, [Barreda 2015]

Thank you!

Please, don't hesitate to write me

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Reference

Barreda, S. (2015). phonTools: Functions for phonetics in R. R package version 0.2-2.1.

Kendall, T. and E. R. Thomas (2014). vowels: Vowel Manipulation, Normalization, and Plotting. R package version 1.2-1.