

Speech Recognition with Matlab[®]

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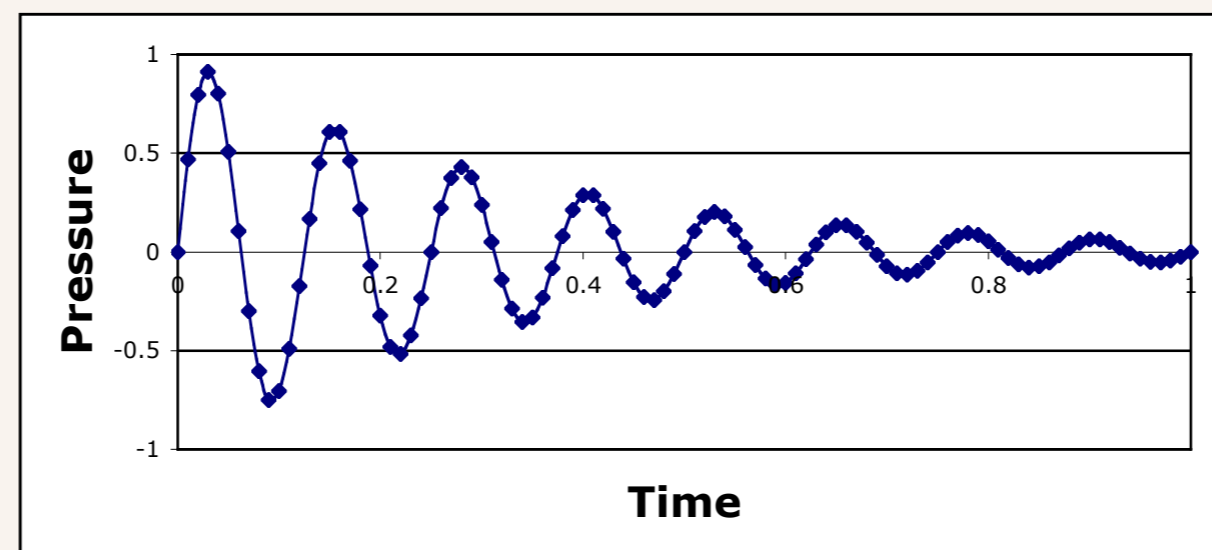
ECE DEPARTMENT

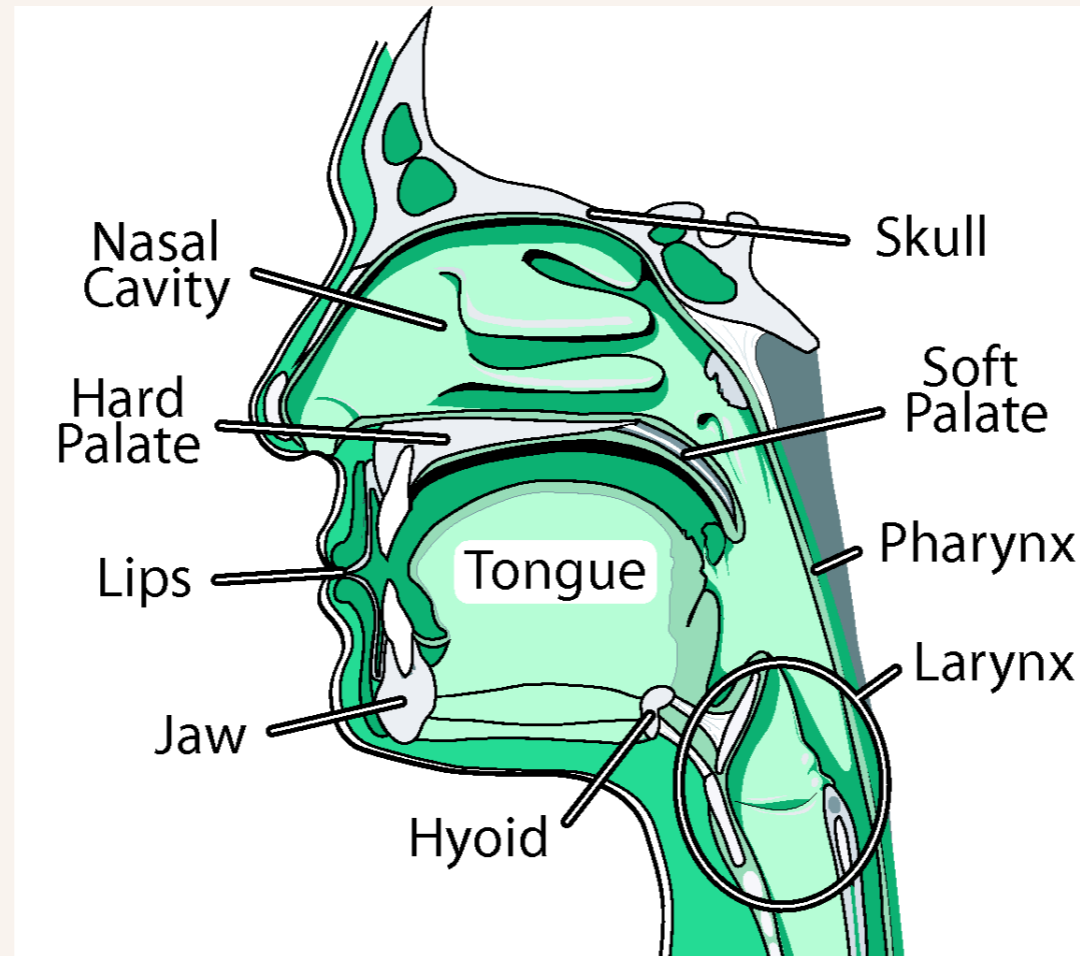
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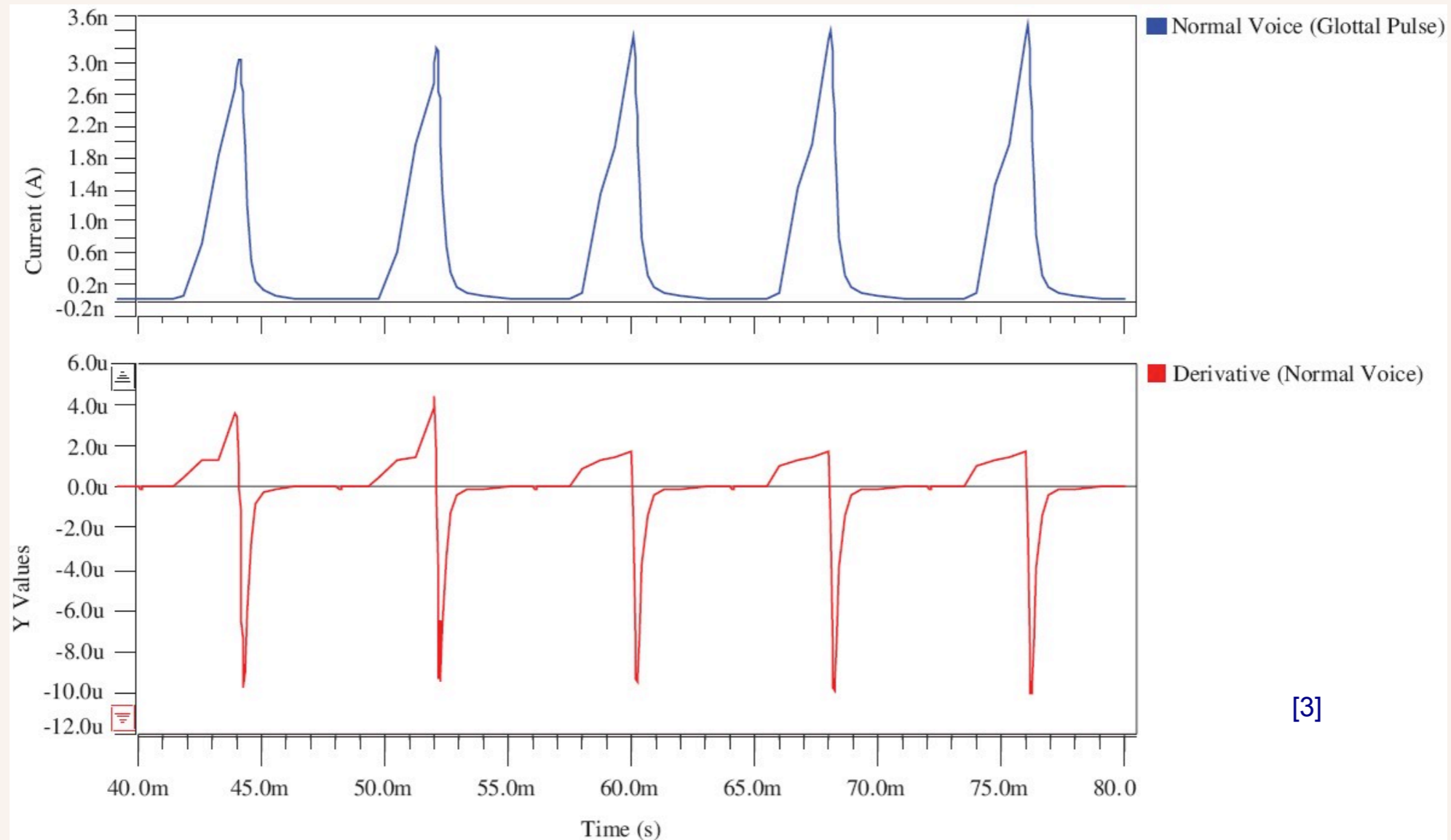
[1]





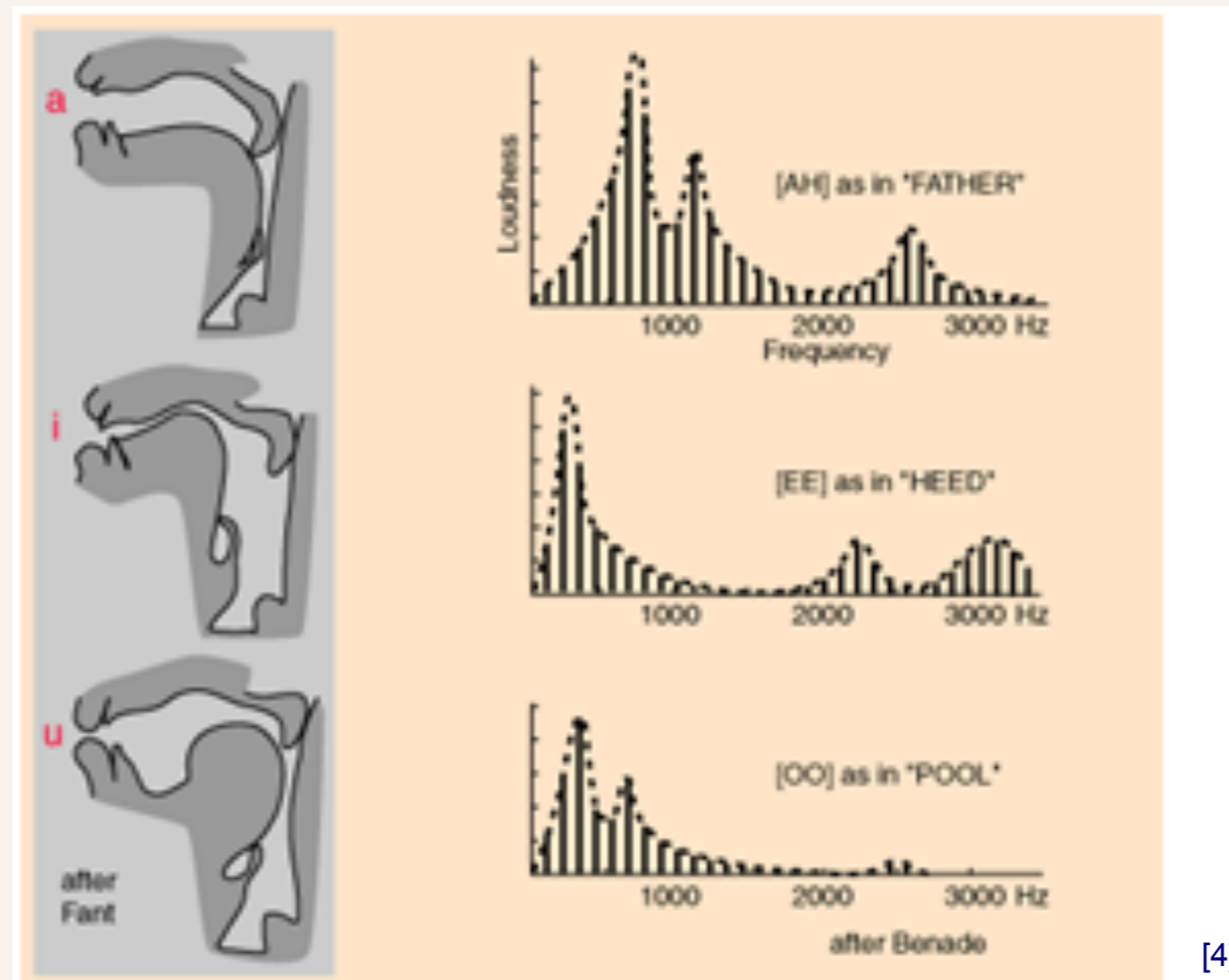
[2]

- Pipe organ
- Driven by puffs of air

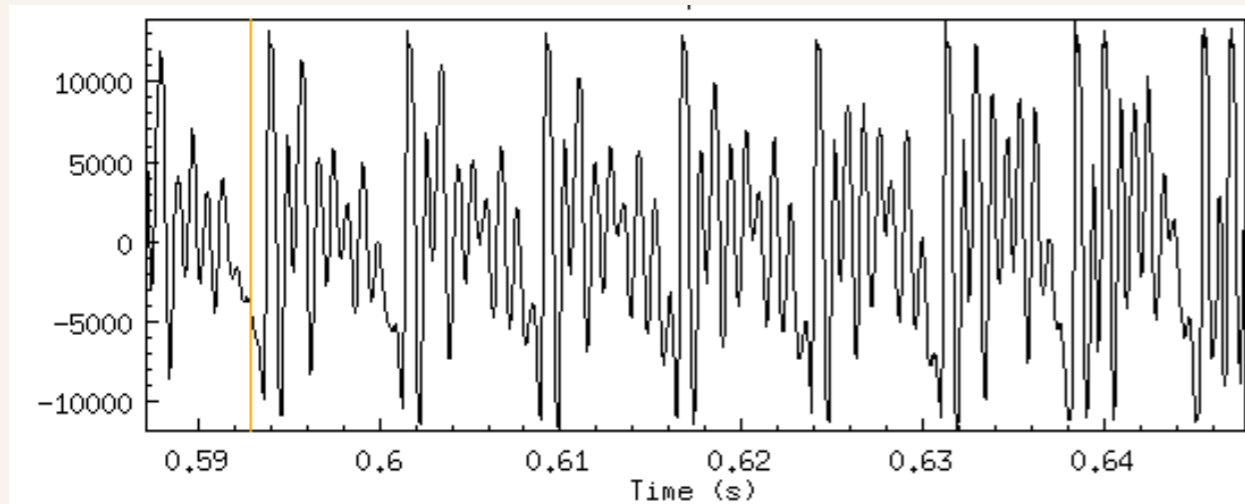


[3]

- Rate = voice pitch
- Shape varies slightly

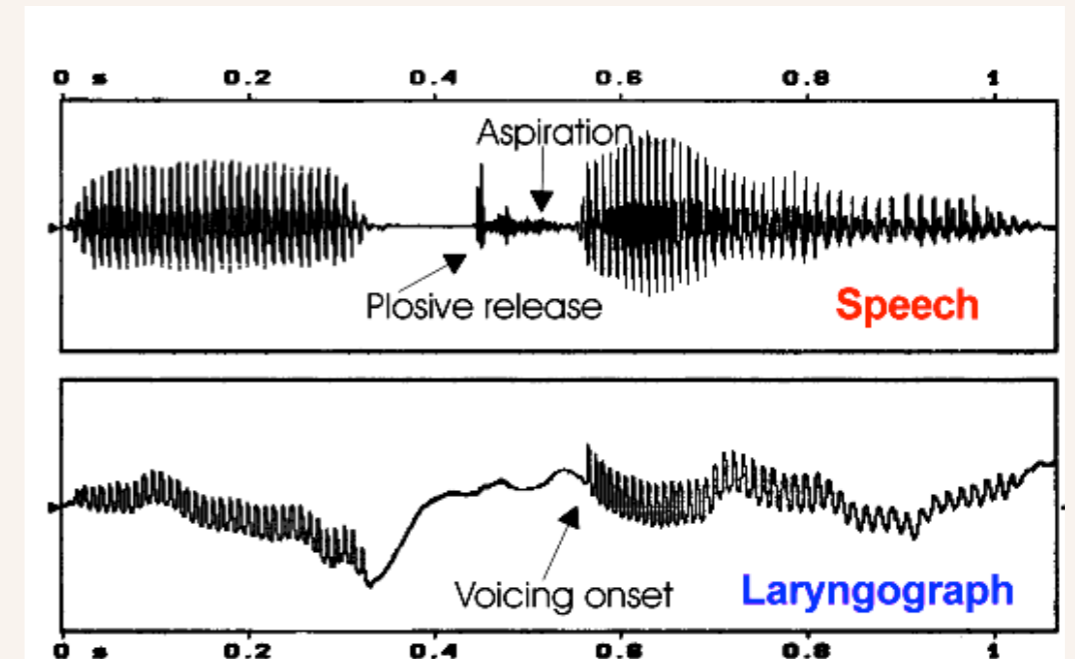


- Frequency response
- Vowel = musical chord



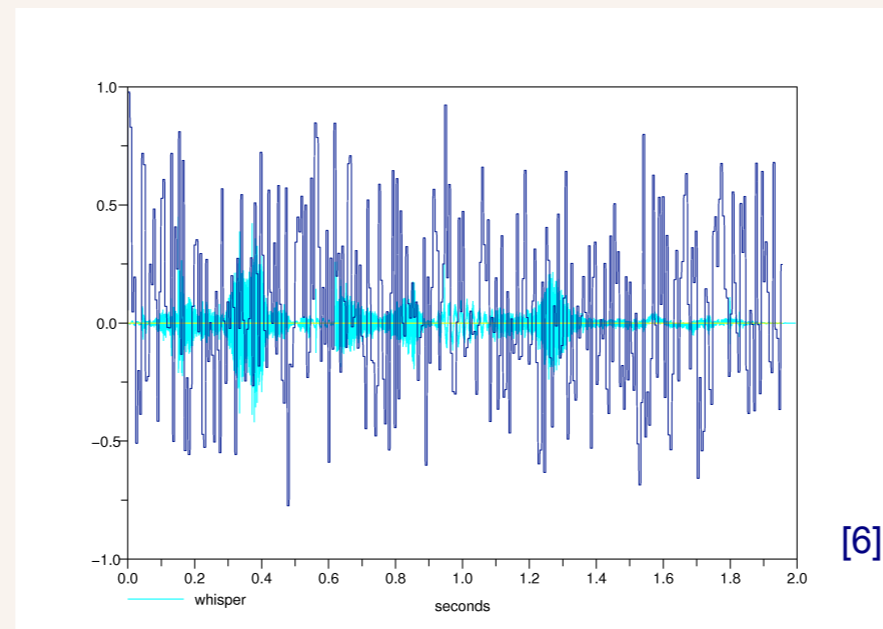
[5]

- Vowel repetitive



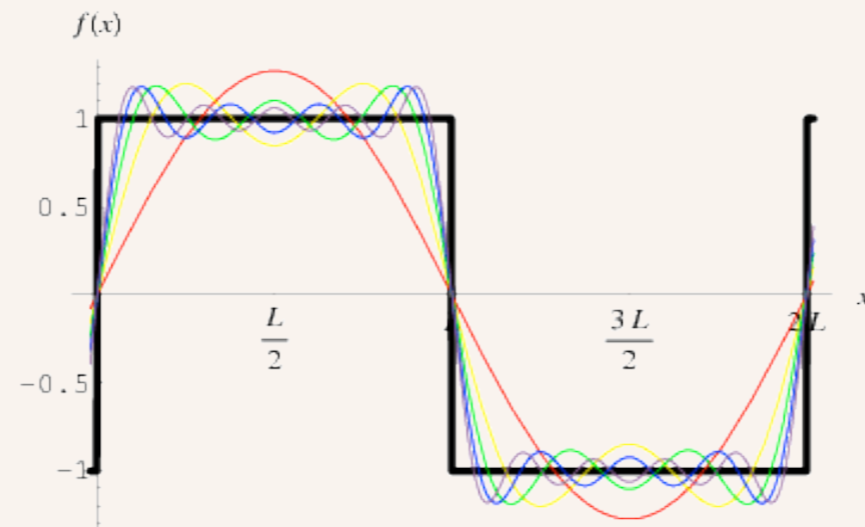
[7]

- Plosive explosive



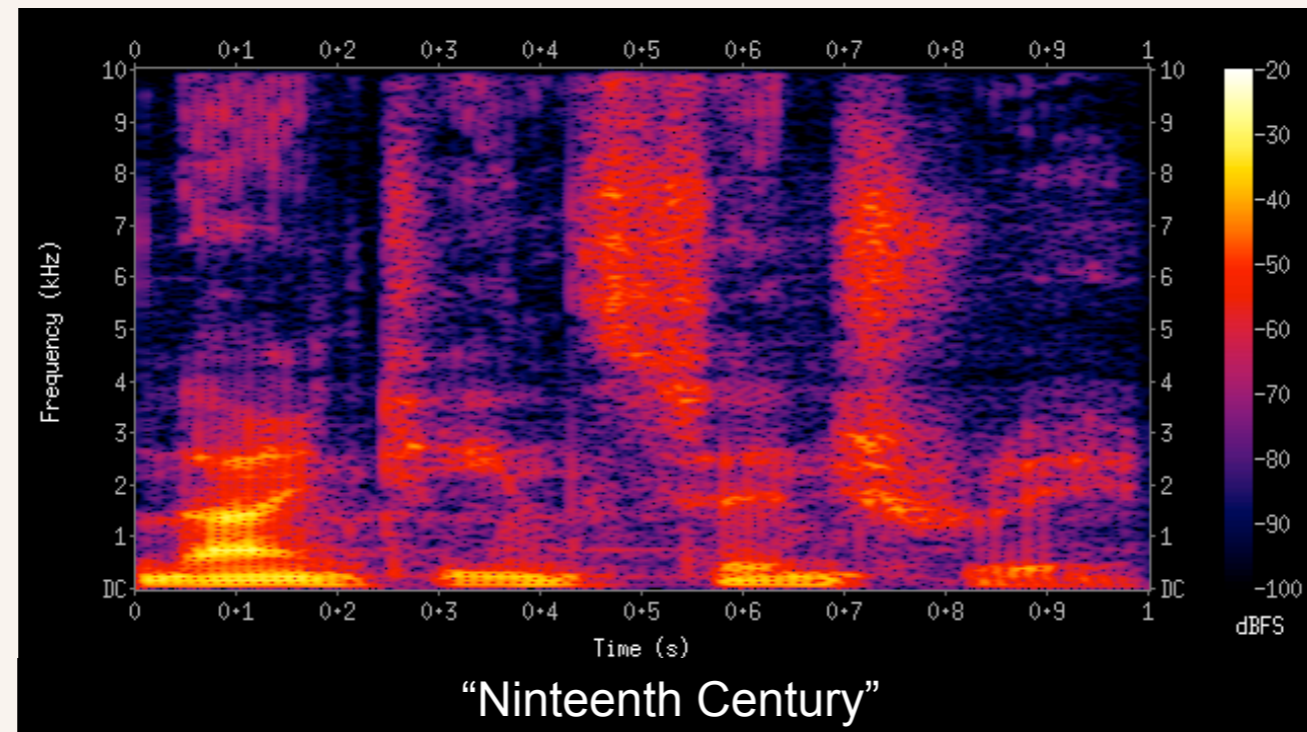
[6]

- Fricatives noisy



[8]

- Waveform = Sum of Sinusoids



[9]

- Speech: FFT of short Frames

- [1] <http://www.nmha.org/go/bell>
- [2] <http://www.vocalclinic.net/>
- [3] <http://www.jr.ietejournals.org/article.asp?issn=0377-2063;year=2011;volume=57;issue=4;spage=363;epage=371;aualast=Raj>
- [4] http://people.ece.cornell.edu/land/courses/ece4760/FinalProjects/s2011/wd65_yz526/wd65_and_yz526/highlevel.html
- [5] <http://web.science.mq.edu.au/~cassidy/comp449/html/comp449.html>
- [6] <http://folk.uio.no/ristoh/aspiration/analysis.html>
- [7] <http://www.phon.ucl.ac.uk/home/johnm/siphtra/plostut2/plostut2-5.htm>
- [8] <http://mathworld.wolfram.com/FourierSeriesSquareWave.html>
- [9] https://kiwi.ecn.purdue.edu/rhea/index.php/Speech_Spectrogram

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