# Computer Speech technologies

G. Moroz

21 March, 2019

# Wolfgang Ritter [von Kempelen 1791: 76]

first attempts

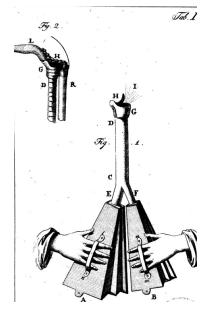
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# Wolfgang Ritter [von Kempelen 1791: 107]

first attempts

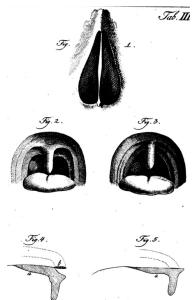
vocoder

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Reference



презентация доступна: tinyurl.com/y4fuuxt5

# Wolfgang Ritter [von Kempelen 1791: 110]

first attempts

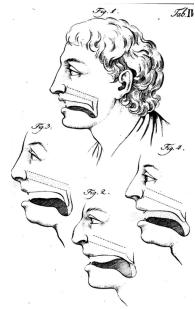
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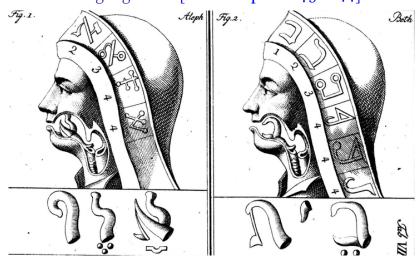
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### Wolfgang Ritter [von Kempelen 1791: 144]

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### W. R. von Kempelen: chess-playing "automaton"

first attempts

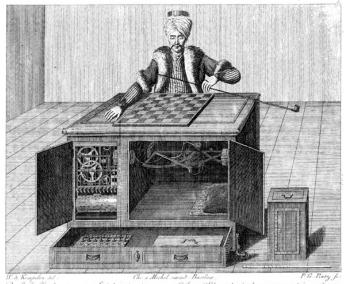
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# Development of vowel production theory

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- Christian Gottlieb von Kratzenstein
- W. Willis
- Sir Charles Wheatstone
- Hermann von Helmholtz
- L. Hermann
- Alexander Melville Bell and Alexander Graham Bell

#### Vocoder

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• In 1928 Bell Labs engineer Homer Dudley invented vocoder. [Dudley 1940: 508].

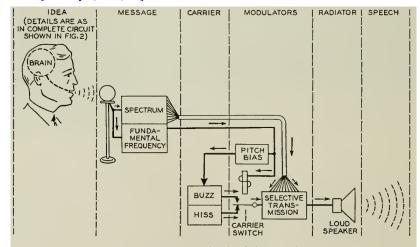


Fig. 7—Schematic circuit of the vocoder.

#### Vocoder

• In 1928 Bell Labs engineer Homer Dudley invented vocoder. [Dudley 1940: 509].

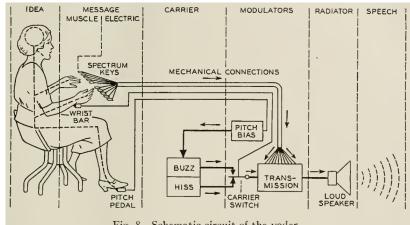


Fig. 8—Schematic circuit of the voder.

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### Important inventions

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important inventions

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• Linear predicting coding (LPC)

- Mel-frequency cepstrum (MFC)
- Wavelets

### Wavelet: from Martti Vainio presentation 2017

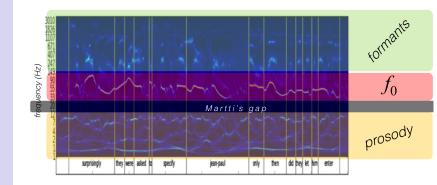
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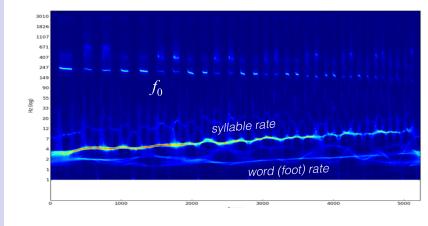
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### Wavelet: from Martti Vainio presentation 2017

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References

# Thank you!

Please, don't hesitate to write me agricolamz@gmail.com

#### Reference

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References

Dudley, Homer (1940). The carrier nature of speech. *Bell System Technical Journal* 19(4), 495–515.

von Kempelen, Wolfgang (1791). Mechanismus der menschlichen Sprache. Degen.