

bilabial

# Places and manners of articulation Part 1

Rogers chapters 10 and 11

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IPA chart plosives

Dental and alveolar

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See plosive row in Main IPA Table  
Rogers Appendix

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Old friends p b t d k g ?

**Note also**

Dental v. alveolar: [t̪ , d̪] v. [t, d]

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Retroflex

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See lateral fricative row in Main IPA Table  
Rogers Appendix

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Velar

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Palatal

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Uvular (rough)

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See lateral fricative row in Main IPA Table  
Rogers Appendix

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 See IPA Diacritics Table  
 Rogers Appendix  
 (Many are related to place of articulation)

Place related diacritics shaded

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 See fricative row in Main IPA Table and Other Symbols  
 IPA Table in Rogers Appendix

## Advanced and retracted

- Front and back varieties of [k] [k k̠]
- To insist on ‘interdental’ fricatives [θ̠ ð̠]
- Go *too* far and change place
  - Not much difference between a retracted [k̠] and an advanced [q]

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Labiodental fricative

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Alveolar fricative

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Dental fricative

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Post alveolar

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Alveo palatal

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17

Palatal

Graphic unavailable

19

Retroflex

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18

Velar

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20

Uvular

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21

Epiglottal

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23

Pharyngeal

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Physiological measures

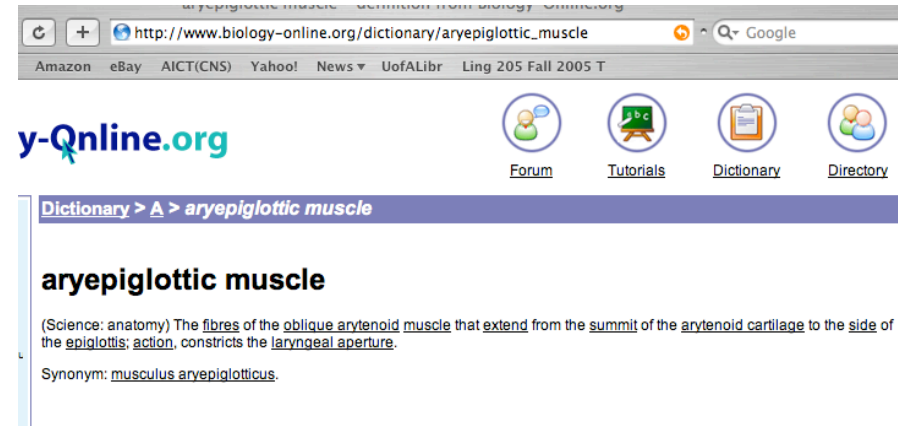
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# Pharyngeal/epiglottal/glottal

- There is some controversy about consonants made lower down in the vocal tract
- Research by J. Esling (U. Victoria) suggests a complex ‘laryngeal’ articulator
  - Glottis, epiglottis, aryepiglottal muscles, pharynx, root of tongue
    - Can produce a variety of obstruent and trill-like gestures (dramatic videos prove it!)

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Esling:

place: aryepiglottic folds

voiceless fricative	[ħ]	Vless pharyngeal fric.
voiced approximant	[ʕ]	Vd. Pharyngela fric
voiceless trill	[ʙ]	Vless epiglottal fric
voiced trill	[ʕ]	Vd. Epiglottal stop

Official IPA:

Sibilants:

– higher frequency and greater acoustic energy

– [s, z, ʃ, ʒ, ʂ, ʐ, ʑ, ʒ]

– What do these have in common in terms of articulation and airflow?

Non-sibilants:

– lower frequency and less acoustic energy

– [p, β, f, v, θ, ð, ç, ʝ, x, ɣ, χ, ʁ, ħ, ʕ]

– Do any of these have anything in common with sibilants in terms of articulation and airflow?

<http://web.uvic.ca/ling/research/phonetics/lands.htm>

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Slit v. groove fricative (Artist's conception)

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Electropalatography

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Sibilants ? : Faster airflow, more turbulence

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## Reality check on tongue shapes

- Some real physiological measures of tongue shape
- Oldest: Palatography (cocoa powder + olive oil on palate, take photo after)
- Update: electropalatograph
- Ultrasound

Ultrasound s S

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Try the site [speech.umaryland.edu](http://speech.umaryland.edu)

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**Affricates** •Key factor stop + homorganic fricative

[tʃ, dʒ]      [tʃ̥, dʒ̥]      [tʃ̥, dʒ̥]

[ts, dz]      [ts̥, dz̥]      [ts̥, dz̥]

[pʰ, pʰf]      [pʰ̥, pʰ̥f]

not affricates:

[pʰ, bʰ]      [pʰ̥, bʰ̥]

•Homorganic : (approximately) same place of artic .