

Unit 4

The syllable margins in the material world

restricting the airflow to produce contoids

Slides for the session of
Phonetics with Listening Practice (British)
held on
le nonidi 19 floréal an CCXXXII
(7 May 2024)

The syllable margins
in the material world

The syllable in the
material world: which
model?

Words of warning and
encouragement

How we make sounds

(Pulmonic) Consonants:
dimensions of
articulation

You can make any
consonant you want

Which English
consonants do you find
difficult?

We are mammals and
have mammalian reflexes

Robert Spence
English Department
Saarland University

[ˈɪŋ.gəlɪf fə.ˈnet.ɪks ˈjuːn.ɪtʰ ˈfəː]

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ˈɪŋ.mɑːɪ ˈstɑɪn.ɜː (ˈɪŋməæ ˈstɑɪnə)]

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[lə nɔ.nɪ.di dis.nœf flɔ.re.əl ã dø.sã.tʁãt.dø]

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[ˈtʃu:z.deɪ ðə 'sev.ŋθ əv 'meɪ 'twent.i.'twent.i.'fɔ:]

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le nonidi 19 floréal an CCXXXII

[ˈtjuːz.deɪ ðə ˈsev.ŋθ əv ˈmeɪ ˈtwɛnt.i.ˈtwɛnt.i.ˈfɔː]
(Tuesday 7 May 2023)

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ɑ:.'tʰɪk.jʊl.ətɪ.i fə.'net.ɪks]
- which is shorthand for either:

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- [ə.'pʌəʊtʃ.ɪŋ 'kʰʊn(t)s.(ə)n(.)ən(t)s |vɑ:ɪ̯(ɪ̯)(.)ə̯ ə.'næt.əm.i ɪ̯ ɪ̯
ɑ:.'tʰɪk.jʊl.ət̪.i fə.'net.ɪks]
- which is shorthand for either:
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- or:

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- or something in-between.

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- Two possible models of the structure of syllables:

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- Two possible models of the structure of syllables:
 - ① **Initial Margin + Nucleus + Final Margin**

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 - ① Initial Margin + Nucleus + Final Margin
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(Nucleus + Coda)

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- At the levels of **phonetics** and **material reality** the simpler model will do:
 - **Initial Margin + Nucleus + Final Margin**
- Phonologically: **vowels** (typically occur at Nucleus) vs **consonants** (typically occur at margins).

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- Phonetically: **vocoids** (unobstructed central airflow through mouth) and **contoids** (all other sounds).
- Nucleus **more sonorant** (=“*sounds*” more) than margins; cf. dt. *Selbstlaute* (vowels), *Mitlaute* (consonants).

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Which English
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difficult?

We are mammals and
have mammalian reflexes

The syllable in the material world: which model?

- Two possible models of the structure of syllables:
 - ① **Initial Margin + Nucleus + Final Margin**
 - ② **Onset + Rhyme**
(Nucleus + Coda)
- In **phonology**, more *interactions* occur between the Nucleus and the Final than between the Initial and the Nucleus.
- At the levels of **phonetics** and **material reality** the simpler model will do:
 - **Initial Margin + Nucleus + Final Margin**
- Phonologically: **vowels** (typically occur at Nucleus) vs **consonants** (typically occur at margins).
- Phonetically: **vocoids** (unobstructed central airflow through mouth) and **contoids** (all other sounds).
- Nucleus **more sonorant** (=“*sounds*” more) than margins; cf. dt. *Selbstlaute* (vowels), *Mitlaute* (consonants).
- / s t r e ŋ θ s /

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- / s t r e ŋ θ s /
- [s̥ t̪ r̩ e ŋ̩ k̩ θ̩ s̩]

Words of warning and encouragement (1)

- Phonetics is the only part of language that interfaces with material reality ...

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 - only humans can speak

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 - Keep your chart handy: http://www.spence.saar.de/phonetics/unit01_20241/D__IPA_Chart/
 - Only learn as many symbols as you need.
 - You probably already produce way more sounds than you're aware of.

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- Why bother to learn to produce all possible consonant sounds?

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Words of warning and encouragement (2)

- Why bother to learn to produce all possible consonant sounds?
 - **Negative stereotypes** that involve (perceived) ethnicity involve (unexamined, misunderstood) sounds: (Chinese; Arabic)

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 - **Third-world Englishes** (retroflex [ɳ ʈ ɖ ʂ ʐ ʄ] in Indian English).

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 - **Third-world Englishes** (retroflex [ɳ ʈ ɖ ʂ ʐ ʄ]) in Indian English).
 - **Non-native beginners** and **speakers with speech defects**: understanding the 'wrong' sounds they're making.

The human vocal tract (after Catford)

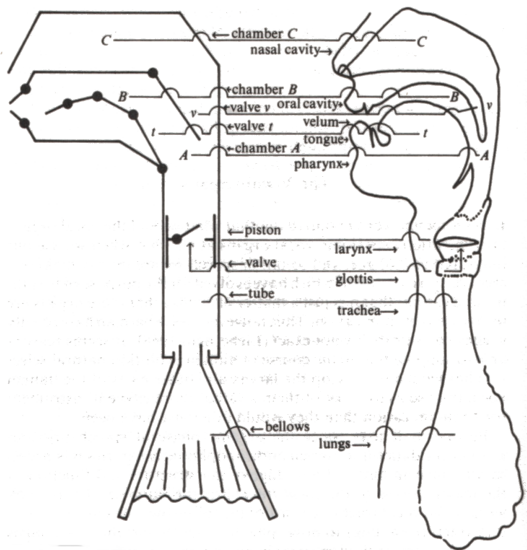


Figure: The vocal tract as a machine

(J.C. Catford, *Fundamental Problems of Phonetics*, Bloomington: Indiana University Press, 1977)

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(Pulmonic) Consonants: dimensions of articulation

- Consonants (contoids) can be looked at in terms of their articulation, their acoustics, or their auditory perception

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- Their articulation can be described in terms of:

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 - voiceless [stimmlos] or voiced [stimmhaft]
 - PLACE of articulation (the “horizontal” dimension) specifying upper (passive) and (if necessary, also:) **lower (active) articulators**

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Which English
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difficult?

We are mammals and
have mammalian reflexes

(Pulmonic) Consonants: dimensions of articulation

- Consonants (contoids) can be looked at in terms of their articulation, their acoustics, or their auditory perception
- Their articulation can be described in terms of:
 - AIRFLOW (for the moment, we assume ‘pulmonic’)
 - VOICING
 - voiceless [stimmlos] or voiced [stimmhaft]
 - PLACE of articulation (the “horizontal” dimension) specifying upper (passive) and (if necessary, also:) **lower (active) articulators**
 - bilabial, **labio**dental, dental, alveolar, postalveolar, **retroflex**, palatal, velar, uvular, pharyngeal, glottal

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 - more delicately: **apico-/apical**-alveolar, **lamino-/laminal**-alveolar, **(antero)dorsal**-palatal, **(postero)dorsal**-velar, etc.

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 - MANNER of articulation (the “vertical”) dimension
 - plosive, nasal, trill, tap or flap, fricative, lateral fricative, approximant, lateral approximant (make sure you understand what each of these terms means; note Eckert and Barry’s way of classifying these into “obstruents” and “sonorants” [E&B: 36–39]; and don’t forget to add affricate = plosive+fricative)

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- Check out: Glossika Phonics
<https://www.youtube.com/channel/UCFu0FZ0wFoHK2deKfLdaLGA>
(for the diagrams; some of the pronunciations are strange...)

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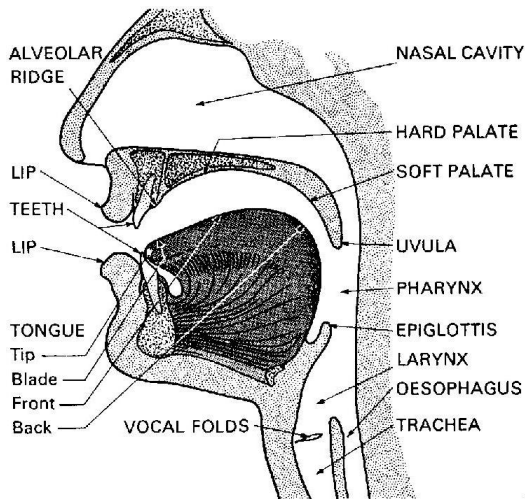
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THE INTERNATIONAL PHONETIC ALPHABET (revised to 2005)

CONSONANTS (PULMONIC)

© 2005 IPA

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			ʀ					ʀ		
Tap or Flap		ⱱ		ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

You can make any consonant you want

- Can you make the following sounds?

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You can make any consonant you want

- Can you make the following sounds?
 - a voiceless velar fricative

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You can make any consonant you want

- Can you make the following sounds?
 - a voiceless velar fricative
 - a voiceless uvular fricative

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- Can you make the following sounds?
 - a voiceless velar fricative
 - a voiceless uvular fricative
 - a voiceless uvular plosive

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- Can you make the following sounds?
 - a voiceless velar fricative
 - a voiceless uvular fricative
 - a voiceless uvular plosive
 - a voiced velar nasal

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- Can you make the following sounds?
 - a voiceless velar fricative
 - a voiceless uvular fricative
 - a voiceless uvular plosive
 - a voiced velar nasal
 - a voiced bilabial fricative

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- Can you make the following sounds?
 - a voiceless velar fricative
 - a voiceless uvular fricative
 - a voiceless uvular plosive
 - a voiced velar nasal
 - a voiced bilabial fricative
 - a voiced palatal approximant

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- Can you make the following sounds?
 - a voiceless velar fricative
 - a voiceless uvular fricative
 - a voiceless uvular plosive
 - a voiced velar nasal
 - a voiced bilabial fricative
 - a voiced palatal approximant
 - a voiced labiodental approximant

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- Use voicing as well as place and manner of articulation to describe the consonant sounds indicated by the framed graphemes or by the framed IPA symbols:

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- Use voicing as well as place and manner of articulation to describe the consonant sounds indicated by the framed graphemes or by the framed IPA symbols:

- < th is na ti on has enou gh f i sh to feed itself >

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- Use voicing as well as place and manner of articulation to describe the consonant sounds indicated by the framed graphemes or by the framed IPA symbols:

- < this nation has enough fish to feed itself >

- [In meməi əv ɔ:l wɪmɪn ɹeɪpt In ɔ:l wɔ:z]

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- < this nation has enough fish to feed itself >

- [ɪn meməɪ əv ɔ:l wɪmɪn ɹeɪpt ɪn ɔ:l wɔ:z]

- Read Eckert and Barry pp 36–39 on manner of articulation and on the voiceless/voiced opposition

http:

[//spence.saar.de/phonetics/unit04_20241/B__Handout/](http://spence.saar.de/phonetics/unit04_20241/B__Handout/)

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- < this nation has enough fish to feed itself >

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- We'll follow Eckert and Barry in talking about **fortis** consonants (stronger, like **[p]**) and **lenis** consonants (weaker, like **[b]**)

Which English consonants do *you* find difficult?

p		t		k	
b		d		g	
			tʃ		
			dʒ		
	f	θ	s	ʃ	h
	v	ð	z	ʒ	
m		n		r	ŋ
		l			
w					j

pit		to		cod	
bit		do		god	
			chin		
			gin		
	fin	thin	sin	shin	hit
	van	the	zoo	vision	
man		not			sing
		lay		ray	
wet					yet

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What is this baby hominid doing?



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We are mammals and
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- One of the first things a mammal does ...

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- One of the first things a mammal does ...
- ... after trying out its lungs ...

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We are mammals and have mammalian reflexes

- One of the first things a mammal does ...
- ... after trying out its lungs ...
- ... is ...

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We are mammals and
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We are mammals and have mammalian reflexes

- One of the first things a mammal does ...
- ... after trying out its lungs ...
- ... is ...
- ... to suck!

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- One of the first things a mammal does ...
- ... after trying out its lungs ...
- ... is ...
- ... to suck!
- (If it doesn't, it dies.)

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- ... is ...
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- (If it doesn't, it dies.)
- What does your mouth do when you suck?

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- ... is ...
- ... to suck!
- (If it doesn't, it dies.)
- What does your mouth do when you suck?
- There are two basic 'postures' — / u / and / i /

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- ... to suck!
- (If it doesn't, it dies.)
- What does your mouth do when you suck?
- There are two basic 'postures' — / u / and / i /
- For / u / the oral cavity is long and thin, the lips are rounded, the back of the tongue is up, and the front of the tongue is down

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- ... is ...
- ... to suck!
- (If it doesn't, it dies.)
- What does your mouth do when you suck?
- There are two basic 'postures' — / u / and / i /
- For / u / the oral cavity is long and thin, the lips are rounded, the back of the tongue is up, and the front of the tongue is down
- For / i / the oral cavity is short and wide, the lips are spread, the front of the tongue is up, and the back of the tongue is down

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- ... is ...
- ... to suck!
- (If it doesn't, it dies.)
- What does your mouth do when you suck?
- There are two basic 'postures' — / u / and / i /
- For / u / the oral cavity is long and thin, the lips are rounded, the back of the tongue is up, and the front of the tongue is down
- For / i / the oral cavity is short and wide, the lips are spread, the front of the tongue is up, and the back of the tongue is down
- 'Neither / u / nor / i /' is / ə /.

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- ... after trying out its lungs ...
- ... is ...
- ... to suck!
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- There are two basic 'postures' — / u / and / i /
- For / u / the oral cavity is long and thin, the lips are rounded, the back of the tongue is up, and the front of the tongue is down
- For / i / the oral cavity is short and wide, the lips are spread, the front of the tongue is up, and the back of the tongue is down
- 'Neither / u / nor / i /' is / ə /.
- What is 'both / u / and / i /'?

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