



SPAU 133

Lecture 6

The Description of Vowels

CONSONANTS (PULMONIC)

	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			ɾ					ʀ		
Tap or Flap				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.

		MANNER	VOICING	PLACE					
				Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar
Obstruent	Stop	Voiceless	p			t		k	ʔ
		Voiced	b			d		g	
	Fricative	Voiceless		f	θ	s	ʃ		h
		Voiced		v	ð	z	ʒ		
	Affricate	Voiceless					tʃ		
		Voiced					dʒ		
Sonorant	Nasal	Voiced	m			n		ŋ	
	Liquid	Lateral	Voiced				l		
		Rhotic	Voiced					r (ɹ)	
	Glide	Voiced	w				j	(w)	

THE INTERNATIONAL PHONETIC ALPHABET (2005)

CONSONANTS (PULMONIC)

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

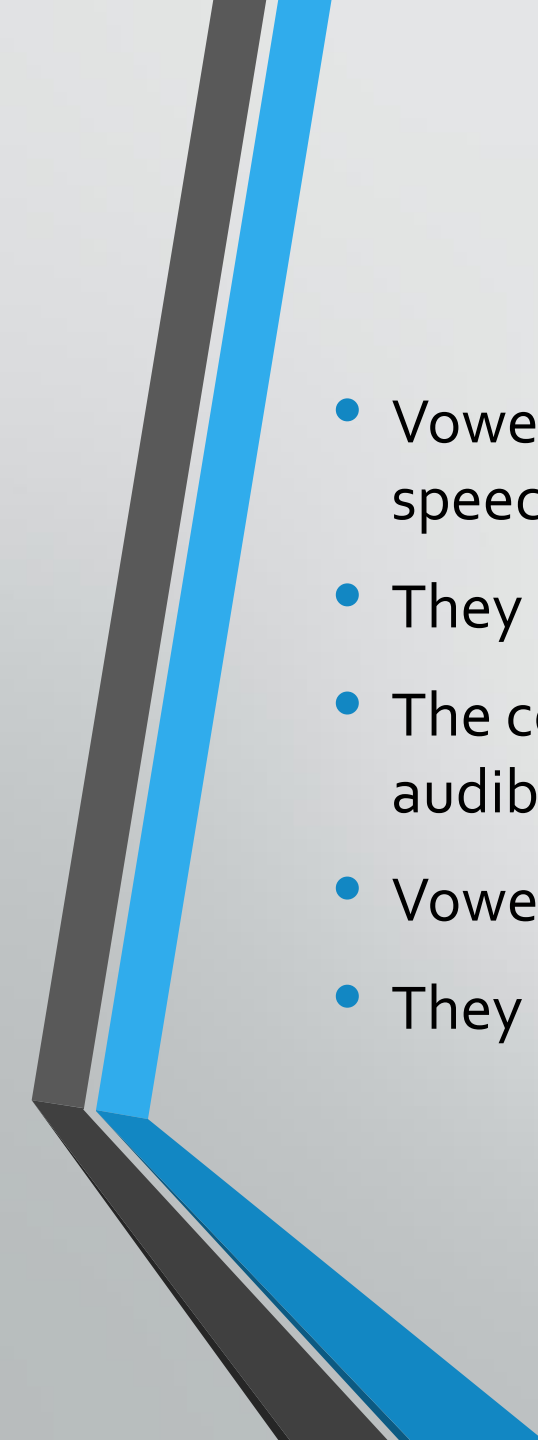
Where symbols appear in pairs, the one to the right represents a modally voiced consonant, except for murmured *h*. Shaded areas denote articulations judged to be impossible. Light grey letters are unofficial extensions of the IPA.

CONSONANTS (NON-PULMONIC)

Anterior click releases (require posterior stops)	Voiced implosives	Ejectives
⊙ Bilabial fricated	ɓ Bilabial	ʼ <i>Examples:</i>
Laminal alveolar fricated ("dental")	ɗ Dental or alveolar	pʼ Bilabial
! Apical (post)alveolar abrupt ("retroflex")	ɟ Palatal	tʼ Dental or alveolar
‡ Laminal postalveolar abrupt ("palatal")	ɡ Velar	kʼ Velar
Lateral alveolar fricated ("lateral")	ɠ Uvular	sʼ Alveolar fricative

CONSONANTS (CO-ARTICULATED)

- ɱ Voiceless labialized velar approximant
 - ʋ Voiced labialized velar approximant
 - ɰ Voiced labialized palatal approximant
 - ç Voiceless palatalized postalveolar (alveolo-palatal) fricative
 - ʝ Voiced palatalized postalveolar (alveolo-palatal) fricative
 - ħ Simultaneous x and ʕ (disputed)
- kp̚ ts̚ Affricates and double articulations may be joined by a tie bar

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- Vowels are the most sonorant (intense) and the most audible sounds in speech.
 - They often function as the syllable nuclei.
 - The consonants surrounding them often depend on them for their audibility.
 - Vowels do NOT have a place or manner of articulation.
 - They are almost always voiced.

There are four main ways in which speakers can change the shape of the vocal tract and thus change vowel quality:

- raising or lowering the body of the tongue
- advancing or retracting the body of the tongue
- **rounding** or not rounding the lips
- making these movements with tense or lax gestures

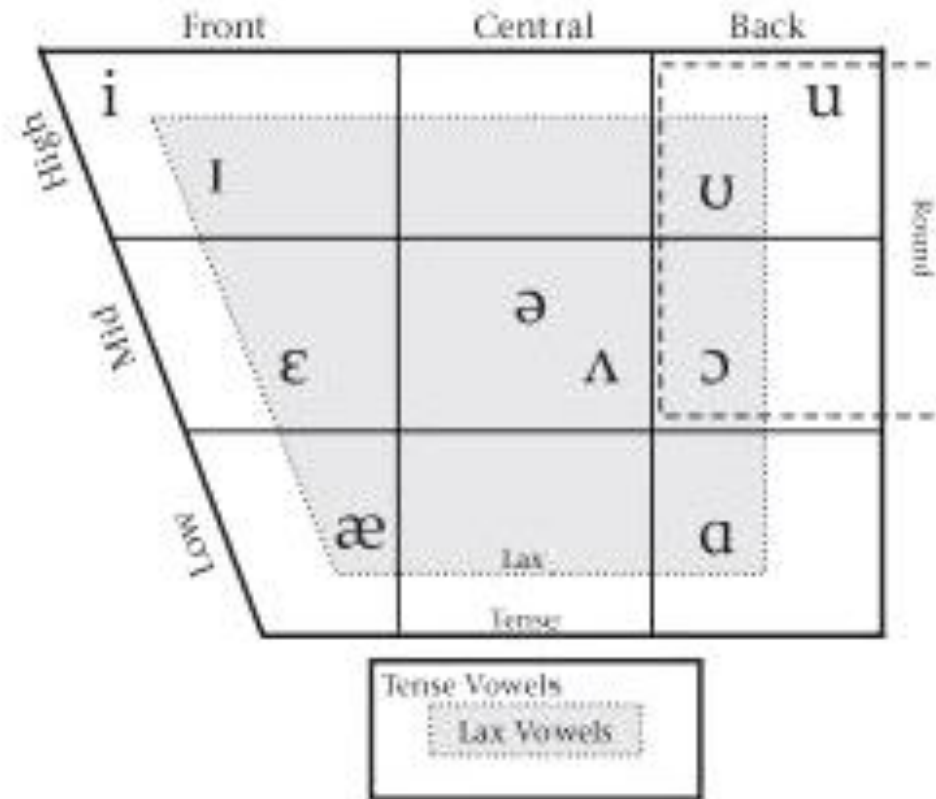
Types of Vowels

- Monophthongs
- Diphthongs

We describe vowels in terms of

- Tongue Height
- Tongue Advancement
- Lip Rounding
- Tenseness

(1) The vowels (monophthongs) of English





(2) The vowel chart in a sagittal section of the vocal tract, for the articulation of [i], [u], and [a].

