



Phonetics I

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Previously on 201



Syntax,
Semantics, Pragmatics,
Morphology, Historical
Linguistics,
Anthropological
Linguistics,
Dialectology, Sociolinguistics

Phonetics and IPA

Pragmatics

- the study of how **context** contributes to meaning or it is the study of **implied meaning**

presuppositions

- background information that is taken for granted or in the **common ground** for an utterance to make sense

conversational implicatures

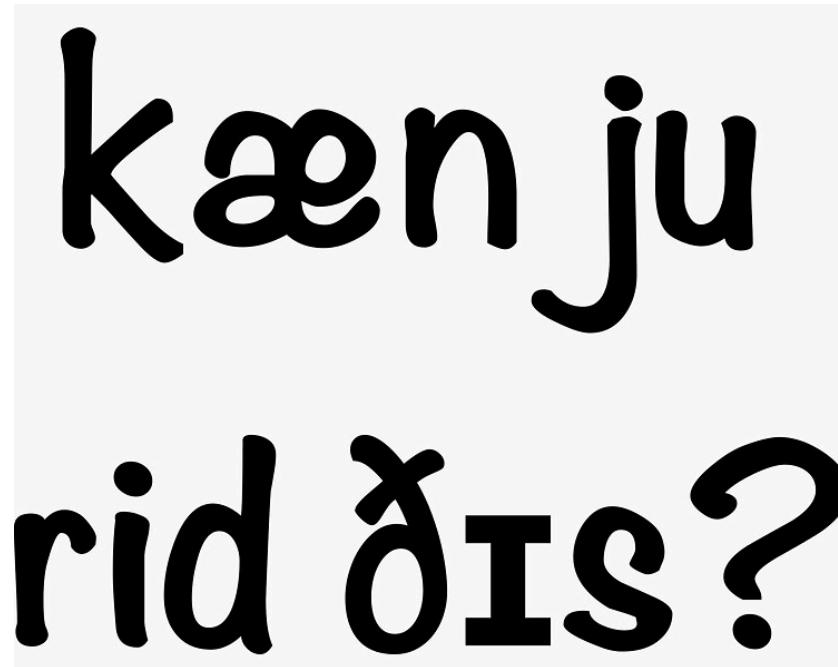
- meaning arises from our understanding of **how people behave** in conversation

Gricean Maxims

- quality, **quantity**, relevance, **manner**

**NEVER EVER
BE FRIGHTENED BY
PHONETICS
AT ALL**

Phonetics and Phonology



Now we're looking at the smallest element of language: **sounds**

Phonetics and Phonology studies the **sounds** of language

- **Phonetics**: study of speech sounds as a physical phenomenon
- **Phonology**: study of how languages organize speech sounds into a system (pattern)

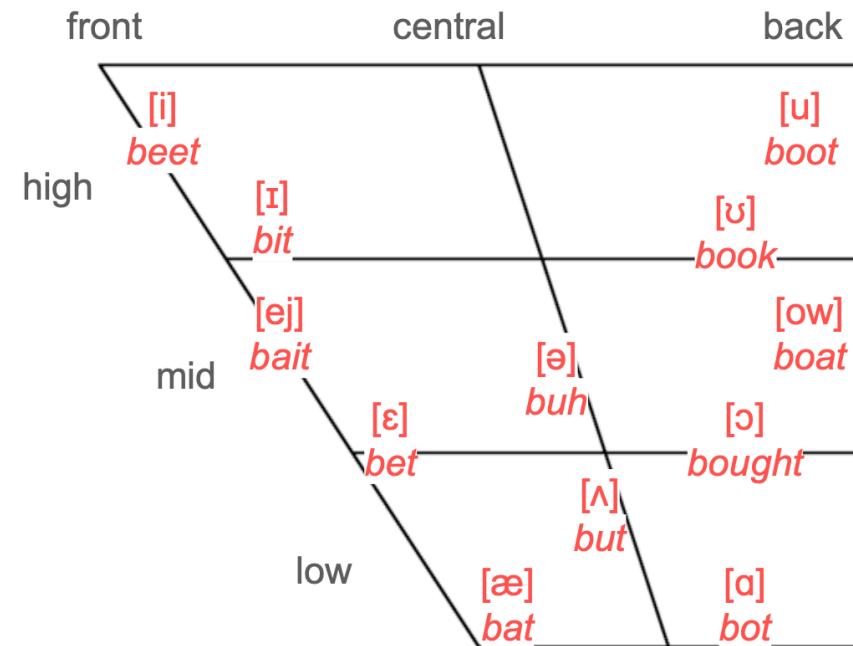
Vowels

vowels vs. consonants vs. glides

- whether airflow is obstructed somewhere
 - **vowels** - no obstruction
 - **consonants** - with obstruction
 - **glides** - somewhere between **vowels** and **consonants**

vowel articulation

- tongue **height**
 - high, mid, low
- tongue **backness**
 - front, central, back
- lip **roundness**
 - rounded, unrounded
- tense and lax (**lax**: relaxed tongue))



Other Vowel Features



nasalization: articulated by lowering the velum/soft palate, so that air flows through both the **nasal** and **oral** cavity

- English
æt 'at' vs. æ̃nt 'ant'

length: long vowels **contrast** with short vowels

- Mongolian
[tsa'ssun] 'snow' vs. [tsaa'ssun] 'paper'
- since adding or removing the **length feature** changes the meaning completely, we say that length is **contrastive** in mongolian

pitch: tonal languages **contrast** pitch

- **Mandarin Chinese**
ma⁵⁵ ma³⁵ ma²¹⁴ ma⁵¹
'mom' 'numb' 'horse' 'scold'

Identify the Vowel

In this **MRI** (Magnetic Resonance Imaging), the speaker is saying **5** vowels:

- [i] as in bee
- [e] as in bay
- [a] as in baa
- [o] as in bow
- [u] as in boo



1. What is the tongue **height** in each image?
2. What is the tongue **backness** in each image?
3. How are lips (**roundness**) acting in each image?
4. What **vowel** is being said in each image?



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[a]



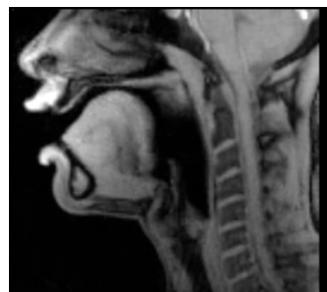
[u]



[e]



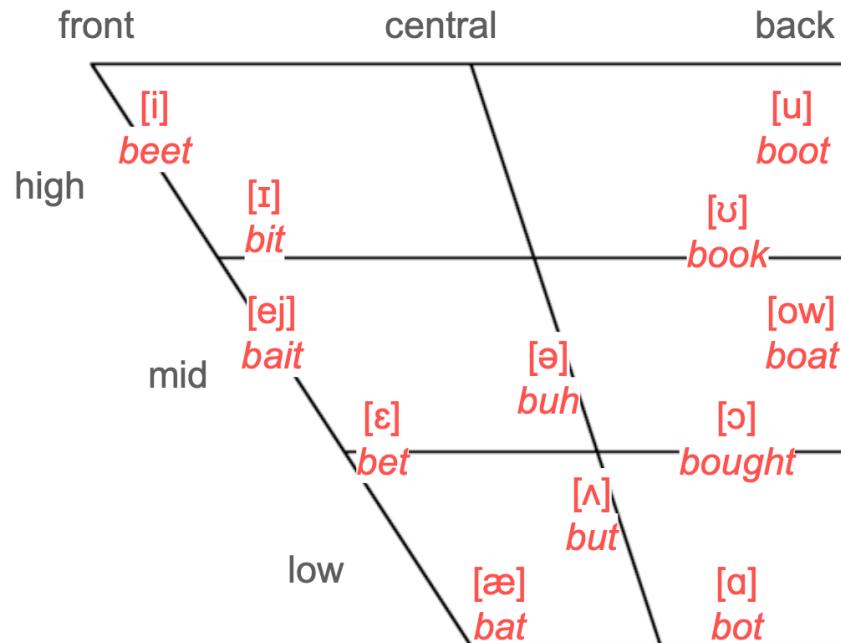
[o]



[i]

Identify the Vowel

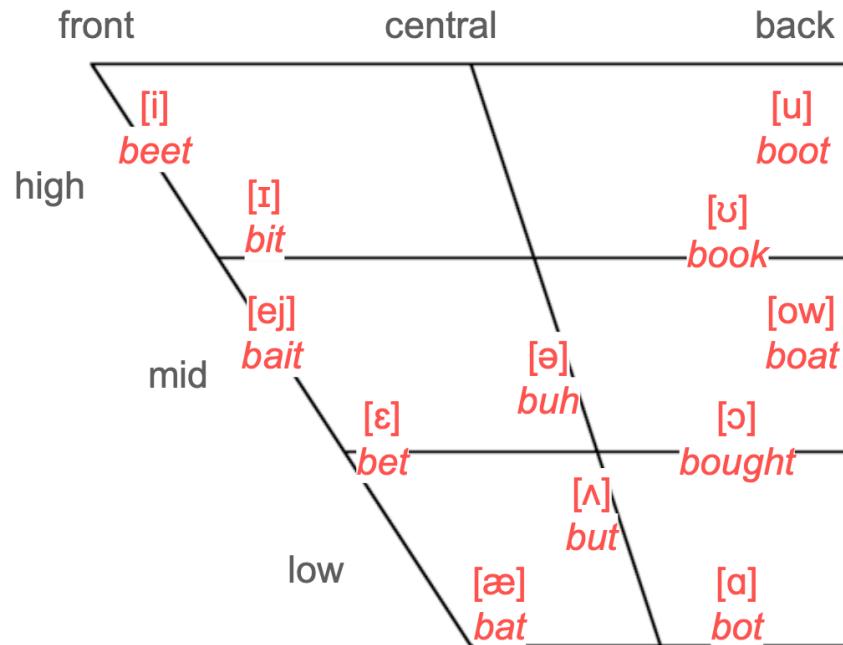
(1) identify which **vowels** are in the following words,
 (2) give the **IPA** symbol for them, and (3) define
 them using the big three **features**



1. cat
2. kit
3. red
4. reed
5. pot
6. boot
7. cut
8. should
9. fork

Identify the Vowel

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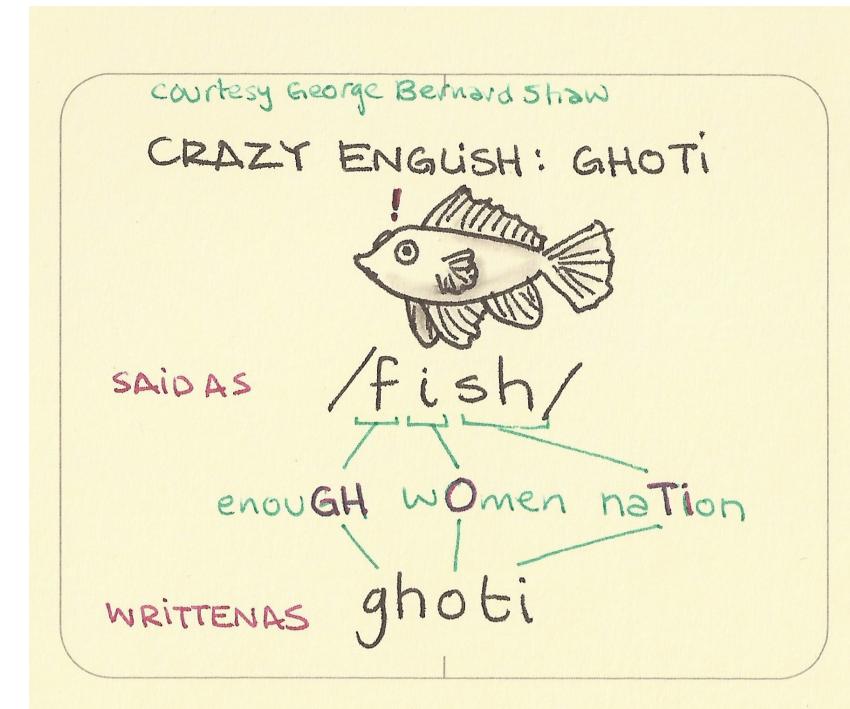


1. cat **æ** [-high, +low, -back, -round]
2. kit **i** [+high, -low, -back, -round]
3. red **ɛ** [-high, -low, -back, -round]
4. reed **i** [+high, -low, -back, -round]
5. pot **a** [-high, +low, +back, -round]
6. boot **u** [+high, -low, +back, +round]
7. cut **ʌ** [-high, +low, +back, -round]
8. should **ʊ** [+high, -low, +back, +round]
9. fork **ɔ** [-high, -low, +back, +round]

Sounds vs. Spellings

- **spelling** (orthography) has a problem: one sound doesn't always equal one letter

- two letters, one sound
 - **th** and **ng** in **thing**
- one letter, two sounds
 - **x** in **tax**
- one letter, no sound
 - **k**, **g**, and **h** in **knight**
- one sound, many spellings
 - **rush**, **notion**, **ocean**, **niche**, **issue**, **schlep**, **fuchsia**
- one spelling, many sounds
 - **through** ≠ **plough** ≠ **ought** ≠ **rough** ≠ **cough** ≠ **though**



Sounds vs. Spellings



- no language has a writing system that can **perfectly** represent its speech sounds
- pronunciation **changes over time**; writing doesn't always reflect these changes
knight, time
- pronunciation **varies by place and social group**; writing doesn't usually reflect this
schedule, cot/caught
- **loanwords** (words borrowed from another language) often have spellings that reflect the pronunciation in the source language, not target language
zucchini, psychology
- this becomes a problem when we want to talk precisely about **phonetics**, and we want to accurately represent the **pronunciation**

an easy cryptographic game

A: I	N: XIV	IX XVI I
B: II	O: XV	
C: III	P: XVI	XVIII XXI XII XIX
D: IV	Q: XVII	
E: V	R: XVIII	XXI XIX
F: VI	S: XIX	
G: VII	T: XX	
H: VIII	U: XXI	
I: IX	V: XXII	
J: X	W: XXIII	
K: XI	X: XXIV	
L: XII	Y: XXV	
M: XIII	Z: XXVI	

an easy cryptographic game

A: I	N: XIV	IX XVI I
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I: IX	V: XXII	
J: X	W: XXIII	
K: XI	X: XXIV	
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M: XIII	Z: XXVI	

IPA
RULES
US

'IPA rules us.' (not U-S)

International Phonetic Alphabet (IPA)



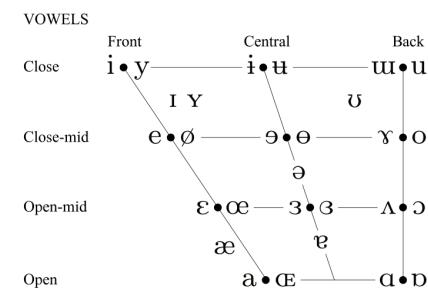
International Phonetic Alphabet (IPA)

[ɪər'næʃənəl fə'nɛrič 'ælfə'bɛt]

- to **accurately** represent speech sounds, we use the **International Phonetic Alphabet (IPA)**
 - one symbol = one sound
 - same symbols for **all** spoken languages – all languages use some **subset** of these symbols (plus additional symbols on the full IPA chart)
 - many IPA symbols represent roughly the same sounds as the corresponding English letter
 - [p, t, k, b, d, g, f, v, s, z, h, m, n, l]
 - some IPA symbols do not
 - IPA [j] = English y, yes [jɛs]
 - [c, q, x] & most vowels ≠ English letters

CONSONANTS (PULMONIC)											©①② 2020 2020 IPA	
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal	
Plosive	p b			t d		t̪ d̪	c ɟ	k g	q ɢ			?
Nasal	m	n̪j		n		n̪	n̪j	n̪j	N			
Trill	B			r					R			
Tap or Flap		v̄		f		ɾ						
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	s̪ z̪	ç j	x y	χ ʁ	ħ ʕ	h f̪	
Lateral fricative			ɬ	ɺ								
Approximant		v̄		ɹ		ɻ	j	ɻ	ɭ			
Lateral approximant				l̪		l̪	y	l̪				

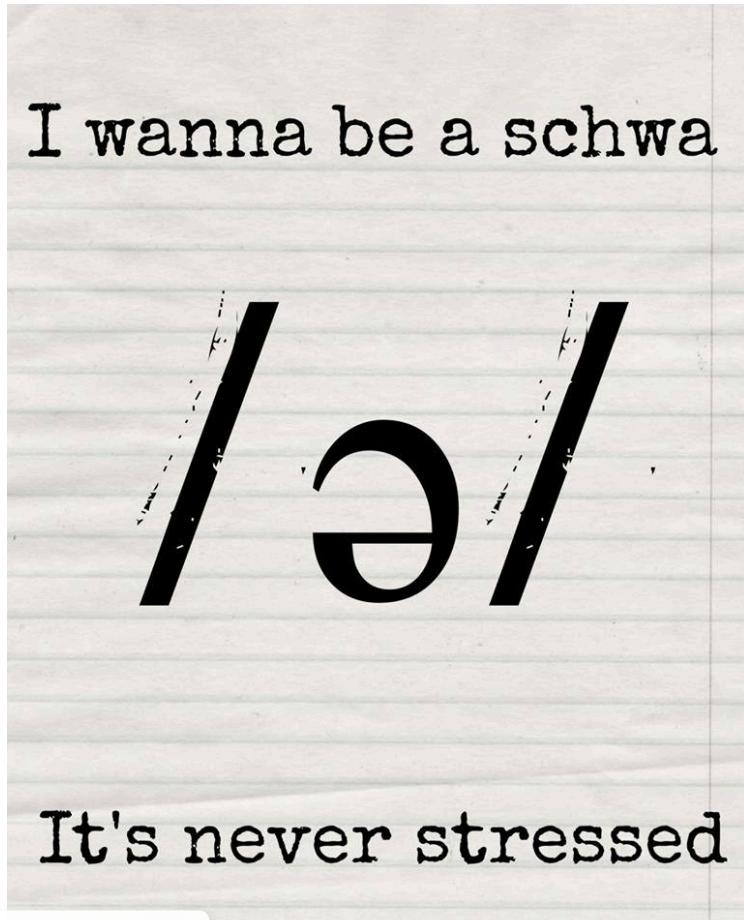
Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.



International Phonetic Alphabet (IPA)

[ɪ.nər'næʃənəl fə'nɛri� 'ælfə'bɛt]

IPA is used for **phonetic transcription** – writing the exact sounds of a speech sample



some **conventions**

- phonetic transcriptions are put between **square brackets** [bə.'næ.nə]
- spelling (orthography) is written in **italics** or **angle brackets**: *banana*,
- **all** sounds and **only** sounds are written:
 - no silent letters
phone ['fown]; **through** ['θru]
 - write out actually pronounced sounds
next ['nekst], **exam** [əg.'zæm]
- a dot (.) indicates **syllable divisions**:
pronunciation [prə.nʌn.si.'ej.sən]
- **primary** and **secondary** stress are indicated with ' and , before the stressed syllable

Practice: IPA to English

What **English words** do the following **phonetic transcriptions** represent?

1. [kæ.lən.dr]

2. [bɪŋ.ɪŋ]

3. [tɛl.ə.vɪʒ.n]

4. [ðiz]

5. [θɪŋk]

6. [ʃæk]

7. [nʌ.θɪŋ]

Common IPA Symbols for English

[i] bee	[θ] <u>think</u>	[p] <u>pay</u>
[ɪ] kit	[ð] <u>that</u>	[t] <u>take</u>
[eɪ] face	[ʃ] <u>ship</u>	[k] <u>can</u>
[ɛ] p <u>e</u> t	[ʒ] <u>measure</u>	[b] <u>about</u>
[æ] a <u>sh</u>	[tʃ] <u>chop</u>	[d] <u>ado</u>
[ʌ] c <u>up</u>	[dʒ] <u>bridge</u>	[g] <u>agree</u>
[ə] a <u>bout</u>	[ɹ] <u>red</u>	[f] <u>feel</u>
[ɑ] l <u>ot</u>	[ŋ] <u>sing</u>	[v] <u>very</u>
[ɔ] t <u>hought</u>	[j] <u>yes</u>	[s] <u>so</u>
[oʊ] g <u>oat</u>		[z] <u>zoo</u>
[ʊ] f <u>oot</u>		[h] <u>hot</u>
[u] g <u>oose</u>		[m] <u>meet</u>
		[n] <u>nice</u>
		[l] <u>less</u>

Practice: English to IPA

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[eɪ] face	[ʃ] <u>ship</u>	[k] <u>can</u>
[ɛ] pet	[ʒ] <u>measure</u>	[b] <u>about</u>
[æ] ash	[tʃ] <u>chop</u>	[d] <u>ado</u>
[ʌ] cup	[dʒ] <u>bridge</u>	[g] <u>agree</u>
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[ɑ] <u>lot</u>	[ŋ] <u>sing</u>	[v] <u>very</u>
[ɔ] <u>thought</u>	[j] <u>yes</u>	[s] <u>so</u>
[oʊ] <u>goat</u>		[z] <u>zoo</u>
[ʊ] <u>foot</u>		[h] <u>hot</u>
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Represent the following **English words** each with a **phonetic transcription**.

1. camera
2. cotton
3. decision
4. length
5. weather
6. judge
7. visionary

Practice: IPA to English (Complex)

What **English words** do the following **phonetic transcriptions** represent?

1. ['el.bow]
2. [vaj.ə'lɪn]
3. ['aɪ.lənd]
4. ['pi.pl]
5. [jɪ.ər]
6. ['dejn.dʒə.rəs]
7. [jʌŋ]

Common IPA Symbols for English

[i] <u>bee</u>	[θ] <u>think</u>	[p] <u>pay</u>
[ɪ] <u>kit</u>	[ð] <u>that</u>	[t] <u>take</u>
[eɪ] <u>face</u>	[ʃ] <u>ship</u>	[k] <u>can</u>
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		[l] <u>less</u>

Practice: IPA to English (Complex)

What **English words** do the following **phonetic transcriptions** represent?

1. ['el.bow] **elbow**

2. [vaj.ə'lɪn] **violin**

3. ['aɪ.lənd] **island**

4. ['pi.pl] **people**

5. [jɪ.ər] **year**

6. ['dejn.dʒə.rəs] **year**

7. [jʌŋ] **young**

Common IPA Symbols for English

[i] <u>bee</u>	[θ] <u>think</u>	[p] <u>pay</u>
[ɪ] <u>kit</u>	[ð] <u>that</u>	[t] <u>take</u>
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Practice: IPA to English (Complex)

What **English words** do the following **phonetic transcriptions** represent?

1. [bʌ.tər.flaj]

2. ['ʌŋ.kl]

3. ['rʌ.bər]

4. [rajt]

5. ['eə.pɔ:t]

6. ['o.gəst]

7. [gə.'rɪ.lə]

Common IPA Symbols for English

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[u] <u>goose</u>		[m] <u>meet</u>
		[n] <u>nice</u>
		[l] <u>less</u>

Practice: IPA to English (Complex)

What **English words** do the following **phonetic transcriptions** represent?

1. ['bʌ.tər.flaj] **butterfly**

2. ['ʌŋ.kl] **uncle**

3. ['rʌ.bər] **rubber**

4. [raɪt] **right**

5. ['eə.pɔ:t] **airport**

6. ['o.gəst] **August**

7. [gə.'rɪ.lə] **gorilla**

8. [məs.ki.tow] **mosquito**

Common IPA Symbols for English

[i] <u>bee</u>	[θ] <u>think</u>	[p] <u>pay</u>
[ɪ] <u>kit</u>	[ð] <u>that</u>	[t] <u>take</u>
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Common IPA Symbols for American English

Vowels

[i] bee

[ɪ] kit

[eɪ] face

[ɛ] pet

[æ] ash

[ʌ] cup

[ə] about

[ɑ] lot

[ɔ] thought

[oʊ] goat

[ʊ] foot

[u] goose

Glides &Diphthongs

[j] yes

[w] we

[aw] cow

[oj] boy

[aj] lie

Plosives &Flaps

[p] spin

[t] stay

[k] skip

[p^h] pit[t^h] tin[k^h] cat

[b] about

[d] adore

[g] ago

[ɾ] butter

[?] button

Fricatives &Affricates

[f] few

[v] view

[θ] think

[ð] that

[s] sink

[z] zoo

[ʃ] ship

[ʒ] measure

[h] hit

[tʃ] chop

[dʒ] bridge

Nasals &Liquids

[m] my

[n] now

[ŋ] sing

[l] lot

[ɹ] ball

[r] red

Syllabicconsonants

[l] bottle

[n] button

[ɹ] better

Homework VI is due this Sunday (**Nov 9th**)

NO new homework next week, a new homework will be posted **end of next Sunday**

reading materials: continue reading

Phonetics in O'Grady et al.'s *Contemporary Linguistics: An Introduction*

This is Schwa.

Schwa is not stressed.

Schwa is cool.

Be like Schwa.



Slides created via the R package **xaringan**.