

# Pronunciation of English

[prənˈɪnsiːʃən əv ɪŋɡlɪʃ]

- Standard English spelling does not identify pronunciations clearly or reliably
- Sound change progresses naturally, while orthography does not

What is “ghoti?”

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“gh” = [f] as in “laugh”

“o” = [ɪ] as in “women”

“ti” = [ʃ] as in “nation”

\* credited to William Ollier (1855), George Bernard Shaw, or an anonymous spelling reformer. – [www.wikipedia.org](http://www.wikipedia.org)

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----> [fɪʃ] ----> “fish”

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## Vowels

- English has an unusually rich and complex vowel system, and a great deal of variation in vowel pronunciation across dialects

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  - heart, hear, heard
  - woven, oven
  - daughter, laughter
  - desirable, admirable
  - done, lone, gone
  - moss, gross
  - nature, stature, mature

# Vowels

How to represent the vowel sounds of English?

1) “Lexical sets”

2) IPA

3) Quantitative measurements (e.g. “formants”)

# Vowels

## “Lexical sets”

- A list of vowel categories or equivalence classes, each represented by a set of words whose vowels are all pronounced alike.
- For each vowel category, a single word is used as a convenient way to name the class.
- Note: this doesn't tell us how the words in each vowel class are pronounced -- and of course the pronunciation varies across dialects.



# Vowels

## “Lexical sets”

Number	Name	Other Examples	Number	Name	Other Examples
1	KIT	ship, rib, dim	13	THOUGHT	Waugh, hawk, broad
2	DRESS	step, ebb, hem	14	GOAT	soap, robe, home
3	TRAP	bad, cab, ham	15	GOOSE	loop, mood, boom
4	LOT	stop, odd, Tom	16	PRICE	ripe, tribe, time
5	STRUT	cup, rub, hum	17	CHOICE	boy, void, coin
6	FOOT	bush, look, good	18	MOUTH	pouch, loud, noun
7	BATH	staff, clasp, dance	19	NEAR	beer, weird, fierce
8	CLOTH	cough, long, gone	20	SQUARE	care, air, wear
9	NURSE	curb, turn, work	21	START	far, sharp, farm
10	FLEECE	reap, seed, seize	22	NORTH	for, York, storm
11	FACE	late, babe, name	23	FORCE	ore, floor, coarse
12	PALM	bra, Brahms, blah	24	CURE	boor, tour, gourd

From J. C. Wells's 'Accents of English' (1982)

# Vowels

## “Lexical sets”

- Any particular choice of sets is likely to make some distinctions that are unnecessary for a given dialect, and also to fail to make some other useful distinctions.
  - For example, very few American dialects distinguish the TRAP and BATH sets -- though many British dialects do.
  - The NORTH and FORCE sets have merged for most speakers on both sides of the Atlantic, though a few dialects still distinguish them at least in part. You can see if they have merged for you by asking whether "for" and "four" are pronounced the same, or "horse" and "hoarse".

# Vowels

How to represent the vowel sounds of English?

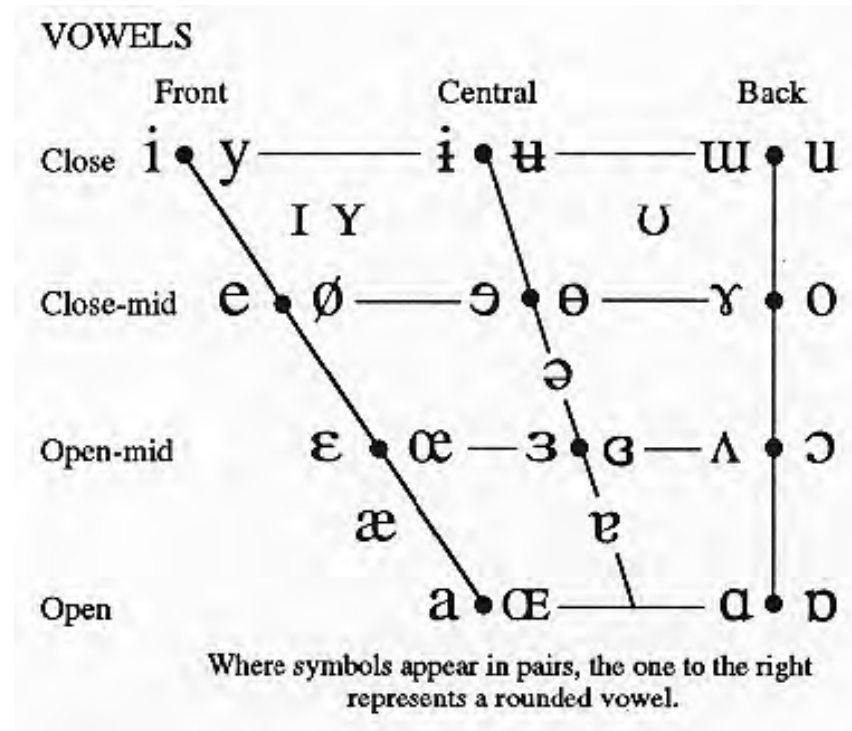
1) “Lexical sets”

2) IPA (International Phonetic Alphabet)

3) Quantitative measurements (e.g. “formants”)

# Vowels

## IPA



The IPA vowel chart represents a sort of three-dimensional space:

- \* degree of opening of the vocal tract runs from top to bottom;
- \* fronter vs. backer position of the tongue runs from left to right;
- \* spread vs. rounded lips is indicated by pairs of symbols at a given place in the chart.

## Vowels

# IPA-Lexical Sets correspondence

(...for the varieties of British and American speech that we might hear from a news reader in a national broadcast)

	British	American	Keyword		British	American	Keyword
1	ɪ	ɪ	KIT	13	ɔɪ	ɔ	THOUGHT
2	ɛ	ɛ	DRESS	14	əʊ	oʊ	GOAT
3	æ	æ	TRAP	15	uɪ	u	GOOSE
4	ɒ	ɐ	LOT	16	ɹaɪ	ɹaɪ	PRICE
5	ʌ	ʌ	STRUT	17	ɔɪ	ɔɪ	CHOICE
6	ʊ	ʊ	FOOT	18	ɹaʊ	ɹaʊ	MOUTH
7	ɑɪ	æ	BATH	19	ɪə	ɪr	NEAR
8	ɒ	ɔ	CLOTH	20	ɛə	ɛr	SQUARE
9	ɜɪ	ɜr or ɝ	NURSE	21	ɑɪ	ɹaɪ	START
10	iɪ	i	FLEECE	22	ɔɪ	ɔr	NORTH
11	eɪ	eɪ	FACE	23	ɔɪ	ɔr	FORCE
12	ɑɪ	ɐ	PALM	24	ʊə	ʊr	CURE

Note: - a long vowel is denoted by ɪ

- a sequence of two vowels denotes a diphthong

# Vowels

How we will use the IPA for English in class (and on your homework!):

1) a instead of ə

2) r instead of ɹ

# Vowels

How we will use the IPA for English in class (and on your homework!):

1) a instead of ə

The IPA assigns the normal printed a character to a low front vowel which is hardly ever found, and assigns the upside-down a (or "turned a ") character to the very common open central vowel, such as the vowel in American English "pot". It will be a lot easier to read and write IPA descriptions of English if we just take the regular lower-case a to be the American "pot" vowel.

2) r instead of ɹ

The IPA assigns the upside-down r character ("turned r") to the particular kind of "bunched-tongue r" used by most speakers of American English, while reserving the ordinary r for the "trilled r" as found in Spanish (and many other languages). Since the trilled r is not found in American English, it's again easier to read and write if we use the standard r symbol.

# Vowels

## IPA-Lexical Sets correspondence for “standard” American vowels

	IPA	Name	IPA	Name	
1	ɪ	KIT	14	oʊ	GOAT
2	ɛ	DRESS	15	u	GOOSE
3 & 7	æ	TRAP & BATH	16	aɪ	PRICE
4 & 12	a	LOT & PALM	17	ɔɪ	CHOICE
5	ʌ	STRUT	18	aʊ	MOUTH
6	ʊ	FOOT	19	ɪr	NEAR
8 & 13	ɔ	CLOTH & THOUGHT	20	ɛr	SQUARE
9	ɜr or ɝ	NURSE	21	ar	START
10	i	FLEECE	22 & 23	ɔr	NORTH & FORCE
11	eɪ	FACE	24	ʊr	CURE



## Vowels

### A special note on schwa [ə]

- The vowel symbol named "schwa" is generally used in transcribing English to represent an unstressed and reduced vowel, as in the last syllable of data, the first syllable of connect, or the middle syllable of calico.
- The actual quality of this vowel is variable, depending on context, rate of speech and speaker -- it can be anywhere from [ʌ] to [ɪ]. Rather than trying to fix the exact quality of such vowels, which are usually brief and not very clear perceptually, we'll use schwa for all of them.
- We'll also avoid using schwa for stressed, full vowels.

# Consonants

## IPA consonant chart

THE INTERNATIONAL PHONETIC ALPHABET (revised to 1993)

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.

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IPA consonant chart - English consonants only  
(relevant to English dictionary-style pronunciations)

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Tap or Flap					ɾ						
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Lateral fricative											
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- The palatal approximant “yod” [j] is essentially the consonant spelled ‘y’ in English, as in “yield” or “yes”.

# Consonants

You should also know about...

- The labio-velar approximant [w], as in "will" or "wallaby"  
(due to a peculiarity of IPA classification, it does not appear in the main consonant table)

# Consonants

You should also know about...

•"affricates," such as the initial sounds in "chunk" or "jest", which are formed by combining a stop and a fricative. For English, there are two cases:

1. the voiceless palatal affricate (like the start of "chip") which in IPA is written [tʃ]

2. the voiced palatal affricate (like the start of "jut") which in IPA is written [dʒ]

# Consonants

You should also know about...

- glottal stop [ʔ], as in “button” or “mountain” (for some speakers)

# Stress

You should also know about...

- Stress marking:

Stress is marked before the affected syllable; primary stress is marked by a raised vertical line, while secondary stress is marked by a lowered vertical line. Thus "California" is written [ˌkæləˈfɔrnjə]

## Enjoy your Monday

- Homework 3 will be due Wednesday, Oct. 5.
- See the end of today's lecture notes online for instructions on using IPA in digital documents