

**Sounds of Language:  
“Phonetics”  
Consonants**

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Sounds that we don't study

snoring, whispering, whistling, etc

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Sounds and Letters  
are NOT the same thing!

3 sounds and three letters: “rat”  
6 letters but two sounds: “though”

Cf “rough” “bough” (to be discussed later in  
class on Writing Systems .)

Sounds are enclosed in square brackets [...].

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This is why we need the “IPA”

The International Phonetic Alphabet

In the IPA, each sound has one and only one  
symbol corresponding to it.  
e.g. the “f” like sound in “rough” is [f] in the  
IPA, just like the same sound in “tough” or  
“if” or “fish”.

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The words are confusing

Unfortunately, the same word is used for  
the type of **letter**, “consonants”  
and the type of **sound** “consonant”.

And also for “vowels” the **letters**  
and “vowels” the **sounds**.

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The IPA

Another example:

“th” in English spelling corresponds to two  
different sounds:  
“this” versus “thistle”

These two sounds correspond to **different** IPA  
symbols. See below

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## Languages and Sounds: Languages Select From a Universal Pool of Possible Sounds

Languages may select some similar sets.  
English and Spanish both have [ð]:

ENGLISH:	[ðæt]	“that”
SPANISH:	[boða]	“wedding”

Languages may utilize different sets of sounds from a universal pool.

German has the sound [x], but English DOES NOT.  
“Bach” [x]

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## Phonetics Studies Sounds in Individual Languages As Well As Sounds in ALL Languages

Acoustic phonetics

Auditory (perceptual) phonetics

Articulatory phonetics: this is what we will  
focus on here.

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## Articulatory Phonetics

Speech sounds are produced by modifying  
airstream.

All English speech sounds are produced by  
forcing a stream of air out of the lungs.

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## Sounds that we do study

<http://www.phon.ox.ac.uk/~jcoleman/phonation.htm>

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## Organs of Speech The Vocal Tract

See figures 1, 2 and 4:

pp. 49-51, *Language files 9*.

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## The Description of Consonantal Sounds

Consonantal sounds are produced with some  
“constriction” i.e. significant narrowing in  
the vocal tract

Vowel sounds have no constriction

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## Description of Consonants

Is the sound voiced or voiceless?

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## Description of Consonants

Is the sound voiced or voiceless?

Where is the airstream constricted? (Place of articulation)

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## Description of Consonants

Is the sound voiced or voiceless?

Where is the airstream constricted? (Place of articulation)

How is the airstream constricted? (Manner of articulation)

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## Voicing

To produce a “voiced” sounds, the vocal folds vibrate as air passes through them

If vocal folds are open, there is no vibration, and the sound is “voiceless”

[s], [f] voiceless

[z], [v] voiced

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## Place of Articulation

There are 7 places of articulation that are relevant for understanding the consonantal sounds of English.

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## The 7 Places of Articulation

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## bilabial:

1. two lips [p, b, m]
2. labiodental:  
lower lip against upper teeth [f, v]
3. Interdental:  
tongue tip between upper and lower teeth  
[ð, θ] thin, then.

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## The 7 Places of Articulation

4. alveolar:  
tongue blade against alveolar ridge  
[t, d, s, z...]
5. palatal:  
tongue front against hard palate  
[ç, ɲ, ʝ, ʎ] shine, measure, chin, jump

[Note: "hat" on "j" is upside down!]

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## The Last Two

6. velar:  
tongue back against soft palate (velum)  
[k, g, ŋ]
7. glottal: the larynx, space between vocal folds  
[h]

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## Do I have to remember all of this?

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## Do I have to remember all of this?

No, but you have to **understand** it.

Then you will be able to make good use of the charts etc. in the text book. You will be allowed to bring the text book to both exams.

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## The Manners of Articulation:

1. Oral versus Nasal: depends on the state of the VELUM.

Normal breathing: lowered velum.  
(Also cigarette smoke through the nose.)

Air escapes through the mouth (oral),  
or air escapes through the nose (nasal).

Default is oral during speech.

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## The Manners of Articulation

2. Stop:  
Complete obstruction (closure) of the airstream.  
[p, b, t, d, k, g]  
Also glottal stop instead of word final [t̚] in “bit”  
In some dialects (pronunciation of “butter”)

Stops can be oral or nasal:  
Nasal stops: [m, n, ŋ].

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## The Manners of Articulation

3. Fricative:  
Near complete obstruction.  
Air forced through articulators, with turbulence (causes “shushing” noise in some cases).  
[f, v, s, z, θ, ð]
4. Affricate:  
A brief stop followed by release into a fricative:  
[tʃ, tʃ̥]  
(Again, causes a “shushing” noise)

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## The Manners of Articulation

5. Lateral (liquid):  
Obstruction at the center of the mouth, free passage at the sides [l]
6. Retroflex (liquid): Tongue curled backwards [ɭ]
7. Glide: Little obstruction of airstream. Air escapes without frication [y, w]

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## Two Basic Manners of Articulation

### Obstruents

Stops  
Fricatives  
Affricates

### Sonorants

Laterals  
Retroflexes  
Glides

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## How to Describe Sounds

You can accurately describe any sound in any language (Remember that the writing system is **TOTALLY IRRELEVANT**) by giving the:

place of articulation  
manner of articulation  
voicing

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## Exceptions

Only for a few sound types, e.g. those using other airstream mechanisms – see next but one class).

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## Link to *Vowels and Consonants*

- <http://hctv.humnet.ucla.edu/departments/linguistics/VowelsandConsonants/course/chapter1.1/chapter1.1.htm>
- Go to Chapter 1, Articulation and Acoustics

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## Sounds Form Groups or Classes

- e.g. The class of all voiceless sounds  
The class of all bilabial sounds  
The class all nasals  
The class of all velars  
The class of all fricatives
- Languages (I.e. speakers) use rules which treat classes of sounds in particular ways.
- Topic of Week 4.

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## IPA Chart for Some English Consonants

LF 9 p 54: place, manner, voicing, front to back

	<b>bilabial</b>	alveolar	velar etc
stop	p, b	t, d	k, g
nasal	m	n	ŋ
lateral		l	
etc			

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## Next Time

Vowels

The Film “Normal Speech Articulation”

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## Sounds of the World's Languages

Topic for next class:

Look at website

<http://hctv.humnet.ucla.edu/departments/linguistics/VowelsandConsonants/course/chapter1/chapter1.html>

IPA chart

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