

# TYOLOGY OF CONSONANTS

GROUP 115

# PLAN

## CONSONANTS

1. Definition and consonants in English

### TYPOLOGY OF CONSONANTS

2. Voiced and voiceless

3. Place of articulation

- Bilabials
- Labiodentals
- Dentals
- Alveolars
- Palatals
- Velars
- Glottals

4. Charting consonant sounds

5. Manner of articulation

- Stops
- Fricatives
- Affricates
- Nasals
- Liquids
  - Literals
- Glides
- Glottal stops and flaps

6. QUESTIONS

**Consonant(согласная)** is one of the speech sounds or letters of the alphabet that is not a vowel. Consonants are pronounced by stopping the air from flowing easily through the mouth, especially by closing the lips or touching the teeth with the tongue.

B C D F G H J K L M N  
P Q R S T V W X Y Z

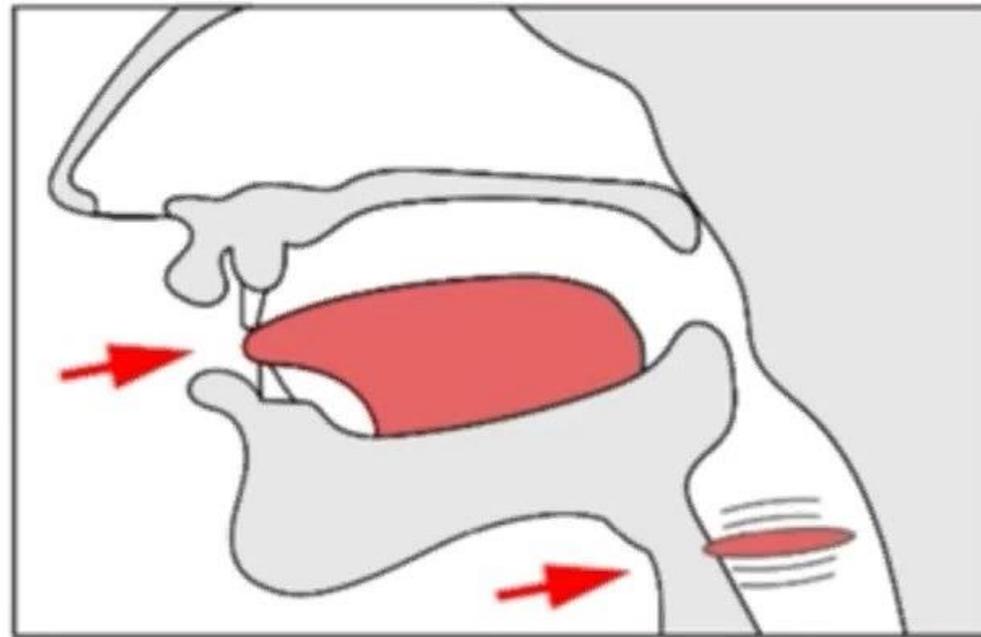
# TYPOLGY OF CONSONANTS

# VOICED AND VOICELESS CONSONANTS

**Voicing** [ 'vɔɪsɪŋ] - the process when the vocal folds may be held against each other at just the right tension so that the air flowing past them from the lungs will cause them to vibrate against each other.

**voiced sounds (lenis)**

**voiceless (unvoiced) sounds (fortis)**



**Voiced**

**Unvoiced**  
(no vibration)

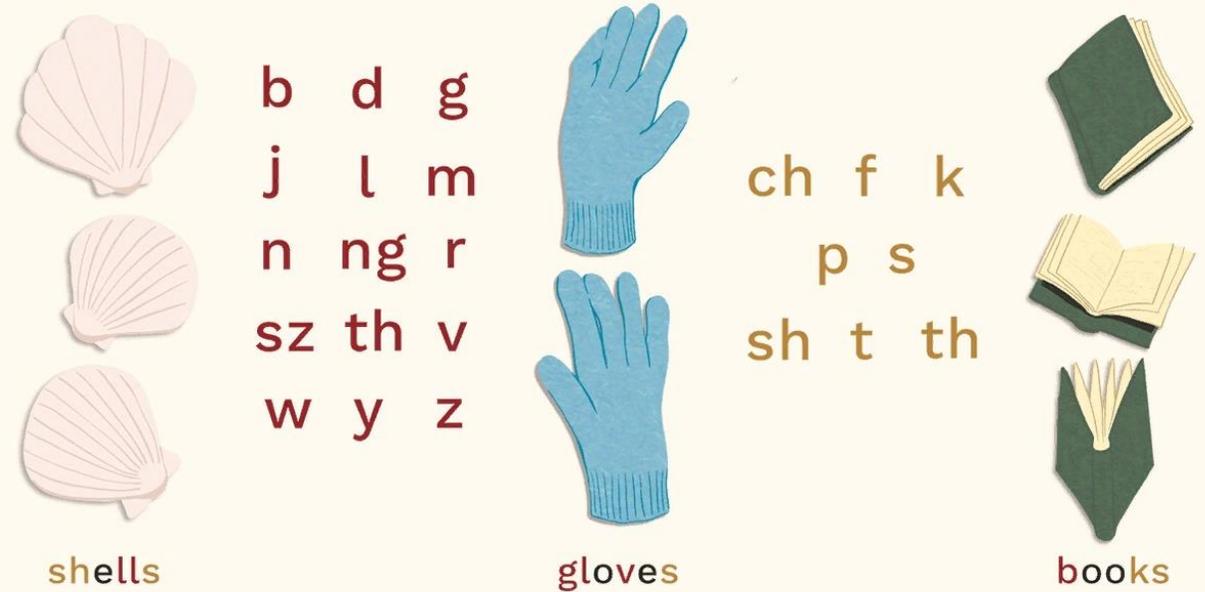
[f] **f**at  
[k] **c**ome  
[p] **p**it  
[s] **s**ip  
[t] **t**on  
[tʃ] **ch**in  
[θ] **th**ick  
[ʃ] **pr**essure

**Voiced**  
(vibration)

[v] **v**at  
[g] **g**um  
[b] **b**it  
[z] **z**ip  
[d] **d**one  
[dʒ] **g**in  
[ð] **th**is  
[ʒ] **pl**easeure

Pic. 1

Examples of **Voiced** and **Voiceless** Consonants



Pic. 2

# Place of articulation

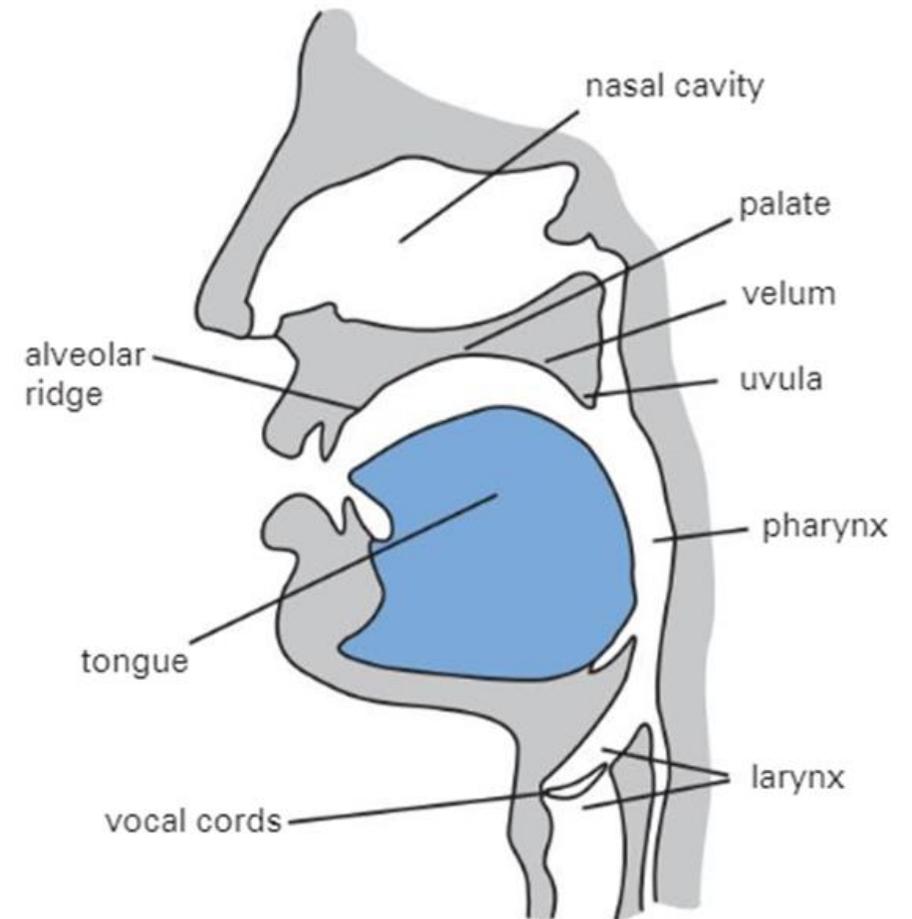
- Bilabials
- Labiodentals
  - Dentals
- Alveolars
  - Palatals
  - Velars
- Glottals

## Place of articulation

Once the air has passed through the larynx, it comes up and out through the mouth and/ or the nose.

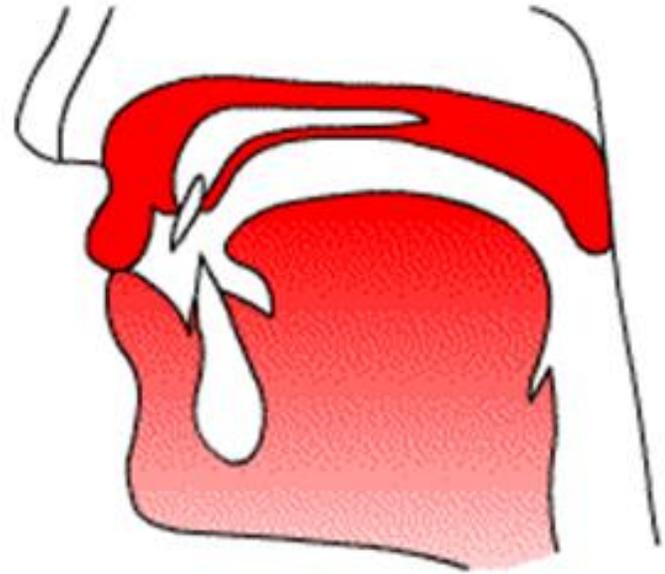
Place of articulation (POA) of a consonant specifies where in the vocal tract the narrowing occurs. It is the location inside the mouth at which the constriction (сжатие, ограничение) takes place.

## ORGANS OF SPEECH



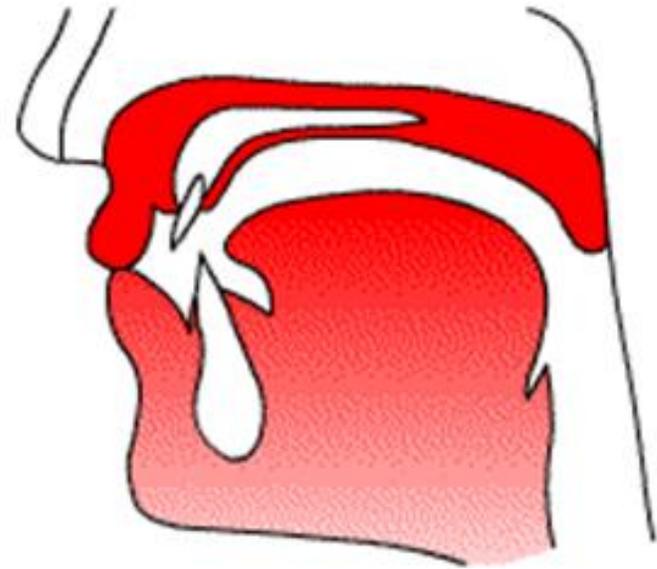
## Bilabial

In a bilabial consonant, the lower and upper ('bi'=both) lips ('labia'=lips) approach or touch each other. English [p], [b], and [m] are bilabial stops; English [w] is a bilabial semi-vowel.



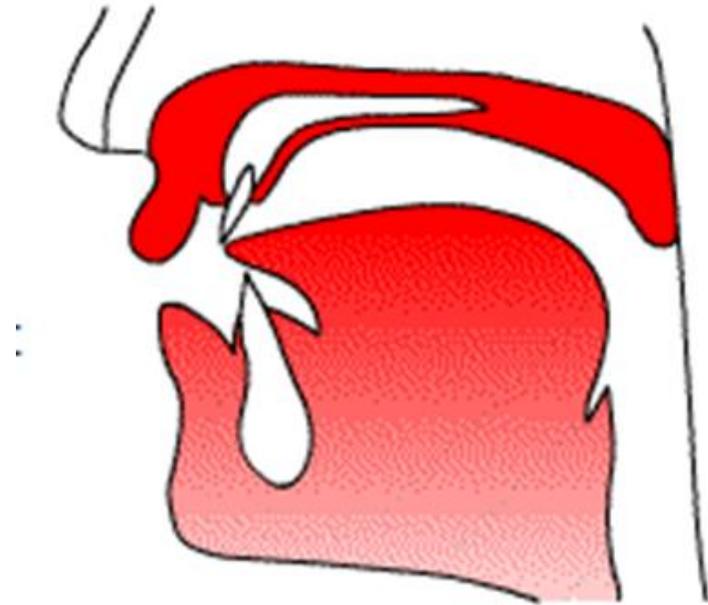
## Labiodental

In a labiodental consonant, the lower lip ('labio'=lip) approaches or touches the upper teeth ('dental'=teeth). English [f] and [v] are bilabial fricatives.



## Dental

In a dental consonant, the tip or blade of the tongue approaches or touches the upper teeth ('dental'=teeth). English [θ] ('theta') and [ð] ('eth') are dental fricatives. The term "interdentals" is sometimes used for these consonants when they are pronounced with the tongue tip between ('inter'=between) the upper and lower teeth.

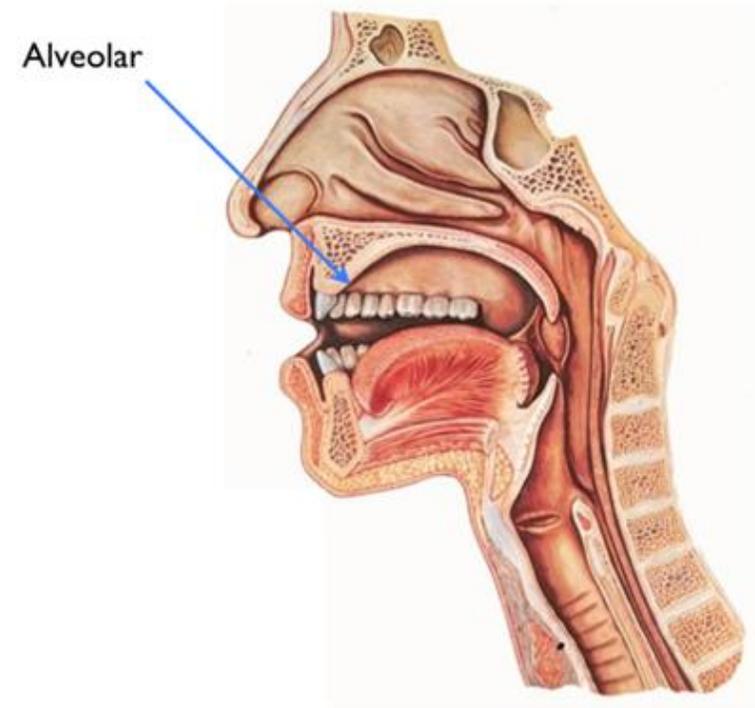


## Alveolars

These are sounds formed with the front part of the tongue on the alveolar ridge, which is the rough, bony ridge immediately behind and above the upper teeth. In other words, alveolars are the sounds that you pronounce putting a tip of your tongue on your alveolar ridge.

### The English alveolar consonants are as follows:

- /n/ as in "no" and "man"
- /t/ as in "tab" and "rat"
- /d/ as in "dip" and "bad"
- /s/ as in "suit" and "bus"
- /z/ as in "zit" and "jazz"
- /l/ as in "luck" and "fully"



## Palatals

If you feel back behind the alveolar ridge, you should find a hard part in the roof of your mouth. This is called the hard palate or just the palate. Sounds produced with the tongue and the palate are called PALATALS.

To be honest, we can divide so-called palatals in two groups:

- 1) Palatal consonants
- 2) Palato-alveolar (or post-alveolar)

English has only one palatal consonant:

/j/ as in "yes" and "yet"

The post-alveolar english consonants are as follows:

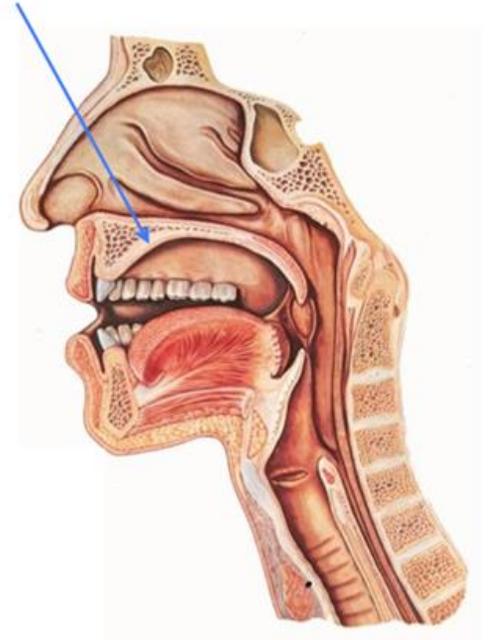
/ʃ/ as in "shot" or "brash"

/ʒ/ as in "vision" or "measure"

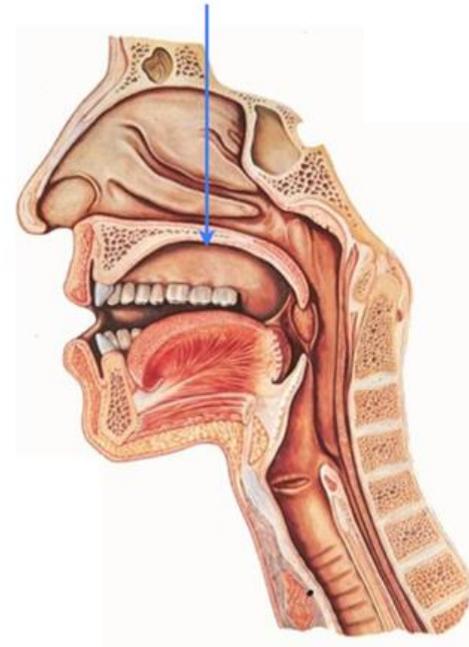
/tʃ/ as in "chick" or "match"

/dʒ/ as in "jam" or "badge"

Post-Alveolar



Palatal



## Velar

Behind your hard palate you have the velum or soft palate. You make Velar Consonants when you raise the back of your tongue to the velum to block or restrict airflow.

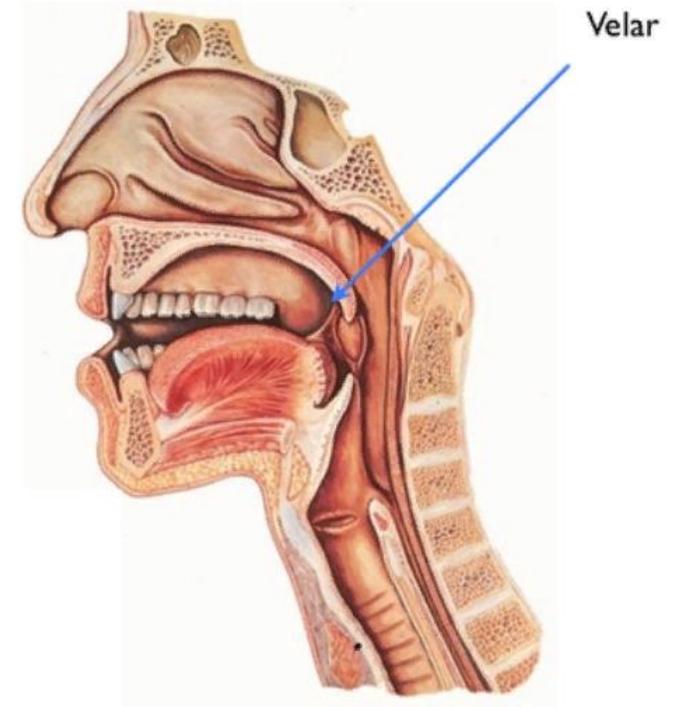
English has the following velar consonants:

**/ŋ/** as in "going" and "uncle"

**/k/** as in "kite" and "back"

**/g/** as in "good" and "bug"

**/w/** as in "wet" and "howard"

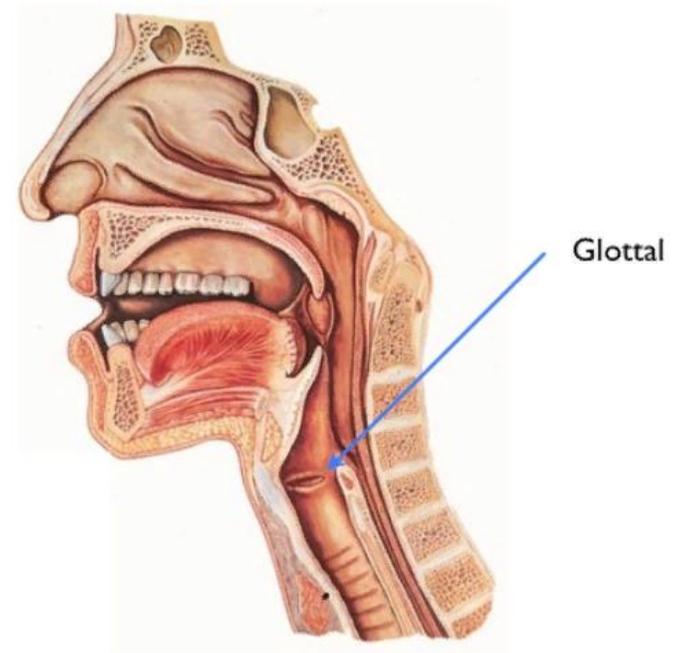


## Glottal

The glottis is actually two vocal folds (i.e. vocal cords). Inhale and then hold your breath for a few seconds while keeping your mouth open. What you are actually doing to keep the air from expelling out of your lungs by closing your glottis.

In English, the following things happen at the glottis:

**/h/ as in “hi” and “Bahamas.”**



# CHARTING CONSONANT SOUNDS

**A consonant chart lists all of the consonant sounds for a given language while neatly organizing them by place of articulation, manner of articulation and phonation.**

The columns are labeled by place of articulation.

The rows are labeled by manner of articulation.

When two consonants are next to each other in the same cell (i.e. they share the same place and manner of articulation), the consonant on the left is voiceless and the consonant on the right is voiced.

So the best way to call a consonant is to list its three features.

The convention for naming a consonant sound is as follows:

**[phonation] [place of articulation] [manner of articulation]**

	Bilabial		Labiodental		Dental		Alveolar		Palatal		Velar		Glottal	
	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V
<b>Stops</b>	p	b					t	d			k	g		
<b>Fricatives</b>			f	v	θ	ð	s	z	ʃ	ʒ				h
<b>Affricates</b>									tʃ	dʒ				
<b>Nasals</b>		m						n				ŋ		
<b>Liquids</b>								l	r					
<b>Glides</b>		w								j				

# MANNER OF ARTICULATION

- Stops
- Fricatives
- Affricates
  - Nasals
  - Liquids
    - Laterals
    - Glides
- Glottal stops and flaps

# Stops

A stop consonant completely cuts off the airflow through the mouth. In the consonants [t], [d], and [n], the tongue tip touches the alveolar ridge and cuts off the airflow at that point. In [t] and [d], this means that there is no airflow at all for the duration of the stop. In [n], there is no airflow through the mouth, but there is still airflow through the nose. We distinguish between nasal stops, like [n], which involve airflow through the nose, and oral stops, like [t] and [d], which do not.

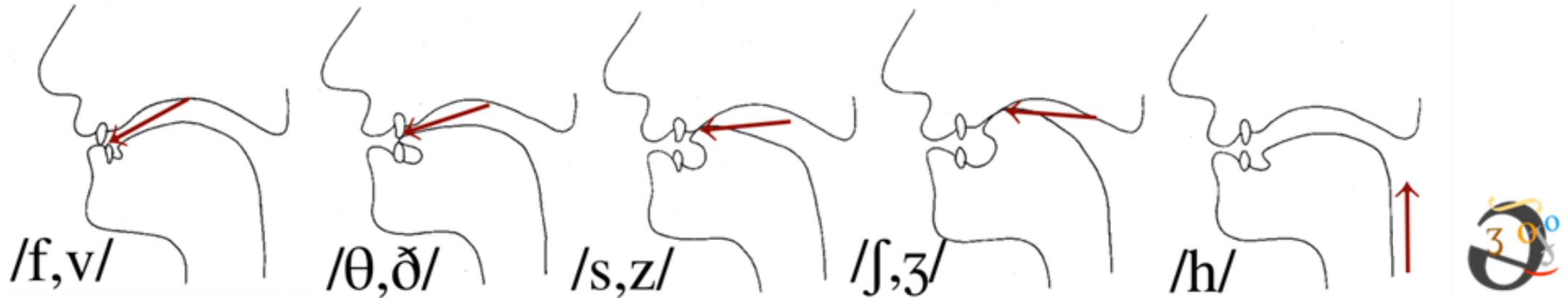
Nasal stops are often simply called nasals. Oral stops are often called plosives. Oral stops can be either voiced or voiceless. Nasal stops are almost always voiced. (It is physically possible to produce a voiceless nasal stop, but English, like most languages, does not use such sounds.)

## Fricatives

There are 9 fricative consonants in English:

*/f/ /v/ /θ/ /ð/ /s/ /z/ /ʃ/ /ʒ/ /h/*

## MOUTH POSITIONS



# How do you make fricative sounds?

- Fricatives are made by obstructing a part of the vocal tract.
- The air is then squeezed out through the narrowed vocal tract.
- The air is never fully blocked, it is constantly released – think of friction.

Place of articulation					
	labiodental	dental	alveolar	Palato-alveolar	Glottal
Voiceless	F	θ	s	ʃ	h
Voiced	V	ð	z	ʒ	

## Affricate consonants

An affricate is a complex consonant sound that begins in a plosive and ends as a fricative, generally with the same place of articulation.

An affricative is usually homorganic, i.e., both the plosive and fricative are made with the same articulator. They are made by stopping the flow of air somewhere in the vocal tract, and then releasing the air comparatively slowly so that the friction sound is produced.

There are only two affricative sounds in the present day English. They are /tʃ/ (ch sound) and /dʒ/ (j sound).

[tʃ] is a voiceless post-alveolar affricate

[dʒ] is a voiced post-alveolar affricate.

## How to produce affricate sounds?

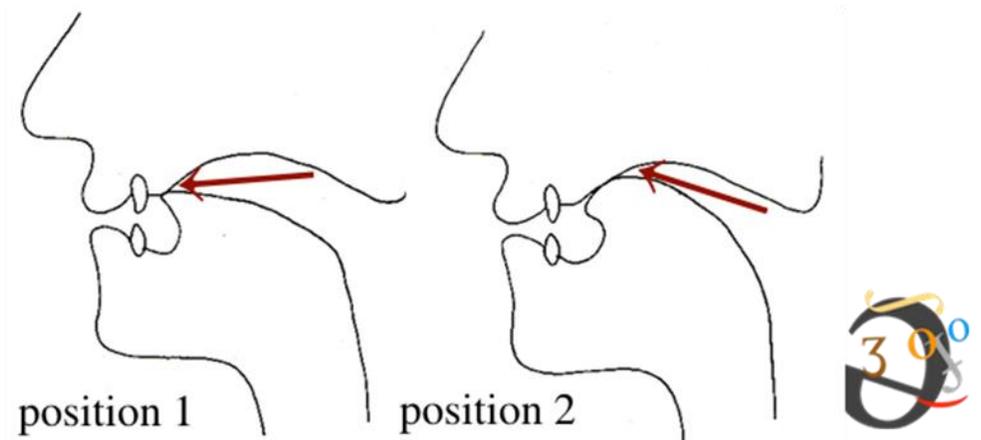
Affricates start as plosives then release into fricatives.

/tʃ/ and /dʒ/ use the same mouth positions.

Firstly, touch your tongue on the alveolar ridge (as if about to pronounce /t/ or /d/).

Secondly, roll your tongue into the post-alveolar position (as in /ʃ/ or /ʒ/).

/tʃ, dʒ/



# Nasals

Characteristics:

- A nasal sound is made by releasing sound through the nose.
- The soft palate is lowered.
- The air cannot pass through the mouth, it is prevented by complete closure in the mouth at some point.

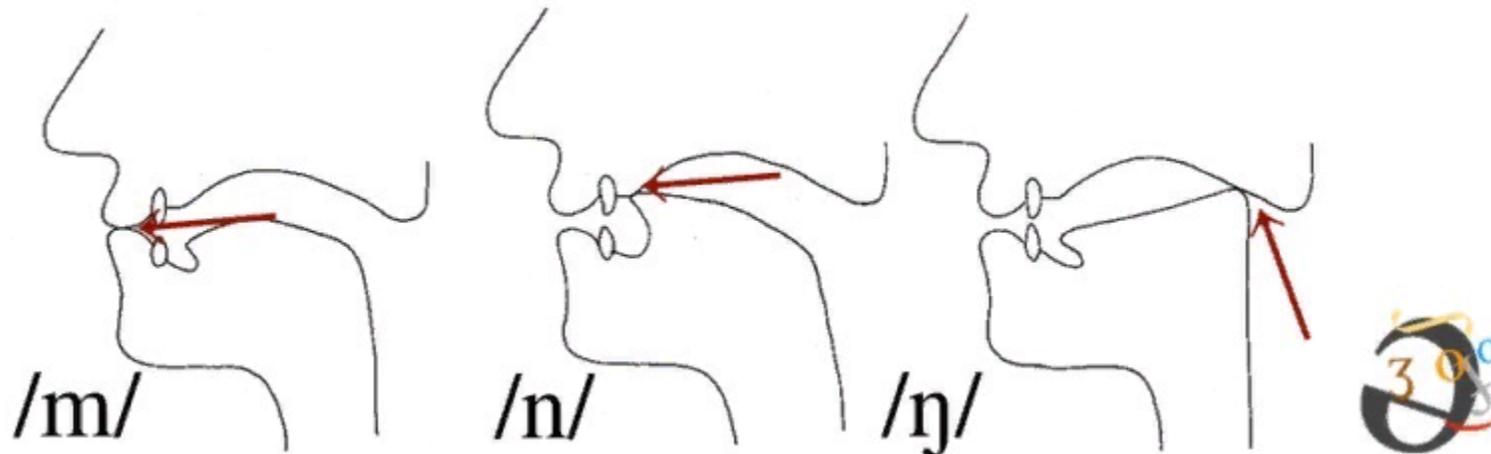
Most nasals are voiced, and in fact, the nasal sounds [n] and [m] are among the most common sounds cross-linguistically. Voiceless nasals occur in a few languages such as Burmese, Welsh, Icelandic and Guaraní.

## In English there are three nasal sounds: [m], [n], [ŋ]

The voiced palatal nasal [ɲ] is a common sound in European languages such as: Spanish ⟨ñ⟩, French and Italian ⟨gn⟩, Catalan and Hungarian ⟨ny⟩, Czech and Slovak ⟨ň⟩, Polish ⟨ń⟩.

Many Germanic languages, including German, Dutch, English and Swedish, as well as varieties of Chinese such as Mandarin and Cantonese, have [m], [n] and [ŋ].

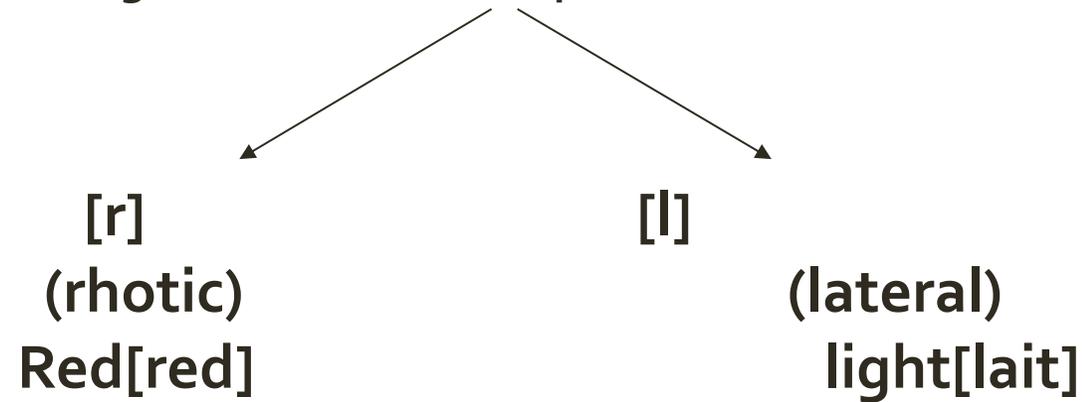
Catalan, Occitan, Spanish, and Italian have [m], [n], [ɲ] as phonemes, and [m] and [ŋ] as allophones.



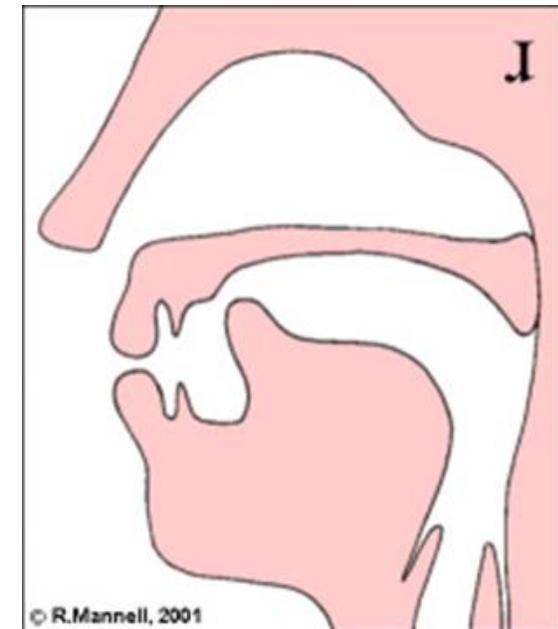
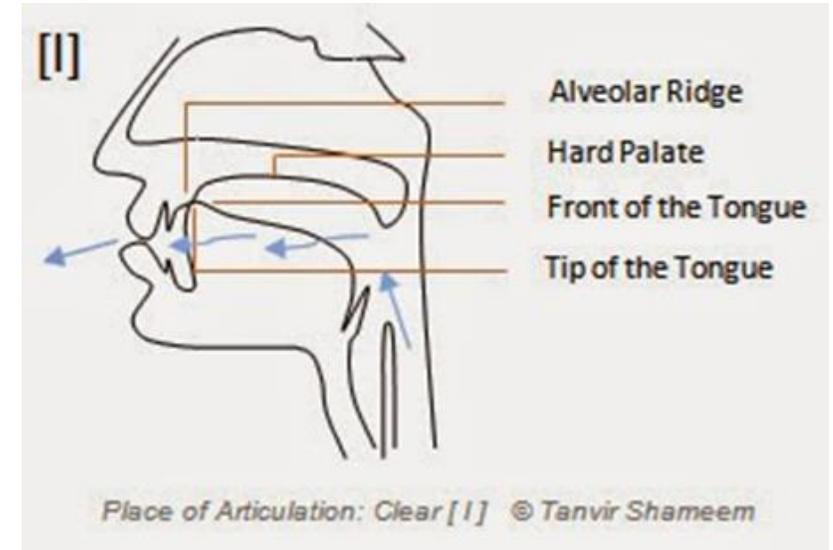
# Liquids

**Liquid** ['lɪkwɪd], in phonetics, a consonant sound in which the tongue produces a partial closure in the mouth but allowing air to exit smoothly.

In English there are two liquid consonants:



- In articulation of [r] sound the tip of the tongue raises and curled back near the alveolar ridge.
- The [l] sound is formed by letting the air stream flow around the sides of the tongue the tip of which makes contact with the middle of alveolar ridge.



# Laterals

**A lateral-** is a consonant in which the airstream proceeds along the sides of the tongue, but it is blocked by the tongue from going through the middle of the mouth.

One lateral phoneme in most languages-the lateral approximant /l/, which has two allophones:

## **1) clear l**

- founded before vowels
- pronounced as the alveolar lateral approximant [l] with a "neutral" position of the body of the tongue(lady, fly)

## **2) dark l**

- founded before consonants
- pronounced as the velarized alveolar lateral approximant [ɫ] with the tongue assuming a spoon-like shape with its back part raised, which gives the sound a [w]- or [ɹ]-like resonance.

# Glides

**Glides** – a glide, like a liquid, is a consonant produced when the tongue approaches a point of articulation within the mouth but does not come close enough to obstruct or constrict the flow of air enough to create turbulence.

# Glottals

The glottal stop or glottal plosive is a type of consonantal sound used in many spoken languages, produced by obstructing airflow in the vocal tract or, more precisely, the glottis. As a result of the obstruction of the airflow in the glottis, the glottal vibration either stops or becomes irregular with a low rate and sudden drop in intensity

## Features:

- Its manner of articulation is occlusive, which means it is produced by obstructing airflow in the vocal tract. Since the consonant is also oral, with no nasal outlet, the airflow is blocked entirely, and the consonant is a stop.
- Its phonation is voiceless, which means it is produced without vibration of the vocal cords; necessarily so, because the vocal cords are held tightly together, preventing vibration.
- It is an oral consonant, which means air is allowed to escape through the mouth only.
- Because the sound is not produced with airflow over the tongue, the central–lateral dichotomy does not apply.
- The airstream mechanism is pulmonic, which means it is articulated by pushing air solely with the lungs and diaphragm, as in most sounds.

- 1. What linguistic terms refer to voiced and voiceless consonants? For what reason?
- 2. Provide a classification of consonants according to the a) place b) manner of articulation
- 3. What organs of speech are needed for articulation a labiodental consonant?
- 4. Get characteristics to bilabial place of articulation
- 5. Characterize sounds [f], [p], [ɸ], [g]

**THANK YOU FOR YOUR  
ATTENTION!**