

Open Learning

Translation Department

Second Year

Second Term

Phonetics

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AL ANWAR | مؤسسة النوار التعليمية



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GOOD MORNING!

(Ms. Reima writes on the board)

- /hə'ləʊ 'evriwʌn/

Instructor: Who can read what's on board?

Student: Hello everyone.

- /gʊd 'mɔ:nɪŋ/

Student: Good morning.

- /lets rɪ'vju: tə'geðə/

Student: Let's review together.

Instructor: Excellent!

So, now I am going to review what we've discussed last time. Today, we are going to discuss in detail the general information that we've discussed last lecture.

As I said last lecture "*The Sounds of English*" is the book that we're going to follow.

* * *

What do we call the material that we are studying together?

Students: Phonetics & Phonology.

Instructor: Exactly! What is the umbrella field of this subject? Is it mathematics?

Students: No!

Instructor: Is it science?

Students: No, it is linguistics.

Instructor: Exactly! So, linguistics is the umbrella terms that covers a wide range of fields including phonetics and phonology. So, phonetics and phonology are two branches of linguistics.

What is the difference between phonetics and phonology? Which is bigger?

Students: Phonology.

Instructor: Exactly! So, phonetics studies the characteristics of sounds, whereas phonology studies the cases when you put two (or more) sounds together. Hence, phonology is the study of the patterns of sounds.

Now, which skill does phonetics focus on? Is it focus on speaking or writing?

Student: It focuses on speaking.

Instructor: Exactly! Since we are focusing on pronunciation, then we are dealing with the speaking skill. I care about pronunciation; I don't care about **orthography** الإملاء.

How many letters or alphabets do we have in English?

Students: 26.

Instructor: Exactly! We don't care about them now. We care about them when we write, but in this subject (phonetics & phonology) we care about speaking and pronunciation. Hence, we are going to deal with phonemes or sounds rather than alphabets.

Of course, sounds are called phonemes. Last time, I told you that we have 44 phonemes in English, and they are divided into consonants and vowels:

1. Consonants (24 consonants):

As we said last lecture, we have good news regarding consonants. We already know 16 of the consonants since they are the same in the alphabet. However, we still have 8 consonants which are somehow troublesome . We are going to concentrate more on them.

2. Vowels (20 vowels):

We said we have 20 vowels, and they are divided into:

- a) Monophthongs (12 vowels).
- b) Diphthongs (8 vowels).

We are going to talk about them later.

In general, when we write phonemes, we call them **symbols**. For example, /θ/ is a symbol.

What do we call the reading of symbols?

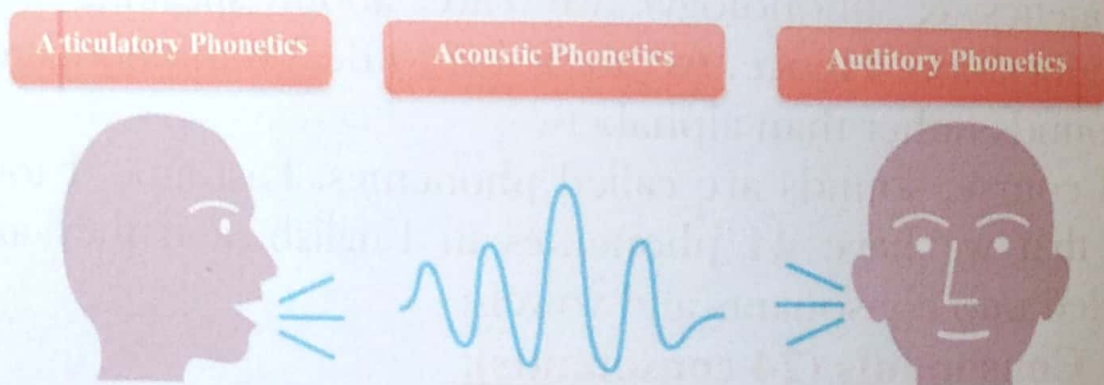
Student: Transcription.

Instructor: Exactly!

We are going to follow the standard system of symbols in English, which is called **IPA** (International Phonetic Alphabet). This system of symbols is used worldwide.

Actually, phonetics, as a branch of linguistics, can be subdivided into **three parts**:

- 1) **Articulatory Phonetics.**
- 2) **Acoustic Phonetics.**
- 3) **Auditory Phonetics.**



Articulatory phonetics is how we produce sounds in our breathing system. So, it has to do with our organs of speech. It has to do with what we do inside our body to utter or pronounce sounds. With articulatory phonetics, we try to answer the following question: What are the muscles involved in the process of producing sounds? So, this is what we study in articulatory phonetics.

Acoustic phonetics has to do with how the sound waves go out from the mouth of the speaker.

تحدث بعض التغيرات ليصل الصوت إلى أذن المستمع.

As for **auditory phonetics**, it is what happens to the sound when it enters the listener's ear. So, auditory phonetics studies how the sound waves enter the listener's ear.

بعد ان يدخل الصوت إلى أذن المستمع، يقوم الدماغ بتحليل الصوت لمعرفة المعنى المراد.

We are only interested in **articulatory phonetics**. We are NOT going to cover acoustic phonetics nor auditory phonetics. We are going to focus only on articulatory phonetics.

Accent Vs. Dialect

Now, before we start diving in phonetics, I want to review also what we've said last time about the difference between accents and dialects.

Which one is bigger?

Student: Dialect.

Instructor: Exactly! What do we mean by 'dialect'?

Student: It focuses on the differences in vocabulary, grammar, word order and pronunciation.

Instructor: Exactly!

When we have differences in pronunciation only, then we are talking about '**accents**'.

Hence, under a dialect, we have accents.

In UK, we have many accents actually. We are going to follow the standard one, namely Received Pronunciation (RP). People in the past used to believe that RP is the language of the royal family. RP shows that you are from the high class. Also, it has been used by BBC. Moreover, RP is the standard accent that is used in teaching.

Now, when it comes to USA, we also have variations, but the standard accent is called the General American English (GA). So, in UK, we have RP, whereas in USA we have (GA).

Now, let's have examples about the differences in dialects:

British	American
Holiday	Vacation
Flat	Apartment
Lift	Elevator

These are differences in dialects.

As for accents, for example, the British accent is different from the American accent in many words:

British	American
Fast /fɑ:st/	Fast /fæst/
Car /kɑ:/	Car /kɑ:r/
City /'sit.i/ (Clear /t/)	City /'sit.i/ (soft /t/)

So, in the British accent, usually the /r/ sound is silent (as in car), whereas it is pronounced clearly in the American accent.

* * *

Now, I am going to show you a video about a live MRI of human tongue while talking.

The URL:

<https://www.youtube.com/watch?v=C48XH0mE780>

Do you see how the tongue is moving? Do you see the organs that are moving in your tongue while talking? Do you feel them while you talk?

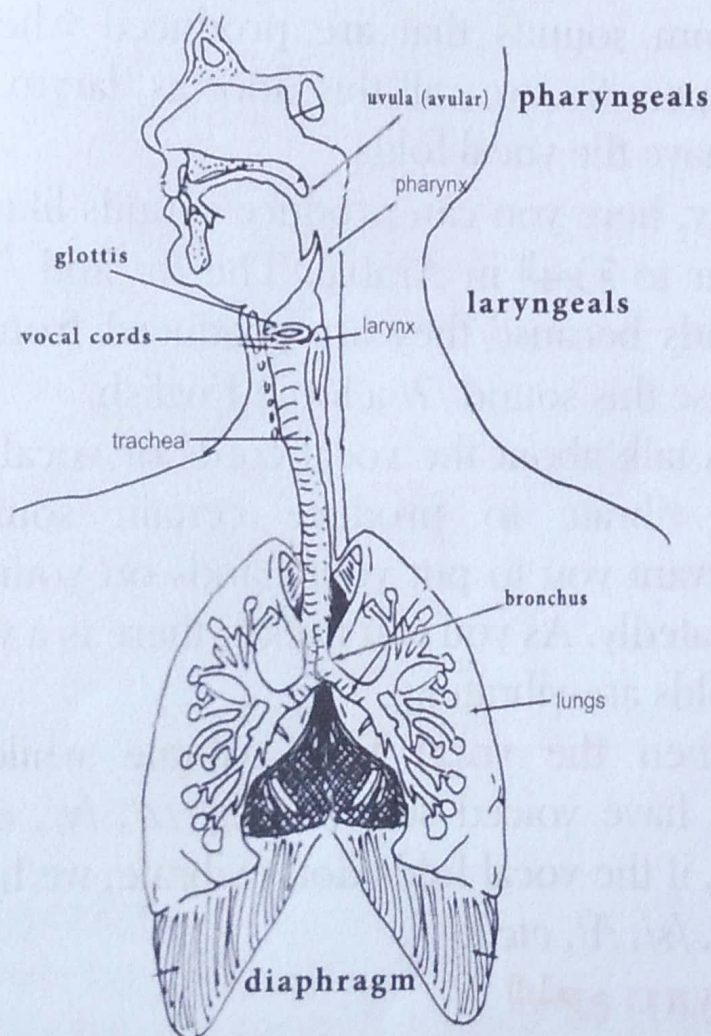
Students: No!

Instructor: Ok.

So, as you can see, we have a lot of muscles involved while speaking. This is a very effortless process; we can't actually feel it, but we have many organs that are involved in the process. Now, we are going to talk about these organs.

The easiest sound that we can produce is the /m/ sound, which only needs moving your lips. That's why the baby first says 'mama'. The baby says 'mama' before 'baba' because /b/ needs more effort.

Organs of Speech (Articulators)



1) **Lungs:** الرئتان

First of all, we need air from our lungs to pronounce sounds. Lungs are like air sacks; they store air.

2) Trachea: القصبة الهوائية

Then, the air goes out to the trachea (القصبة الهوائية). Its function is to move the air from the lungs to the larynx.

3) Larynx: الحنجرة

After, the trachea, the air reaches the larynx (الحنجرة). It is the Adam's apple.

Behind the larynx, we have two bodyguards (vocal cords/folds) الحبال الصوتية standing on a gate (larynx). These two guards can open and close the door. So, when the vocal cords/folds are closed, we have sounds produced that are different from sounds that are produced when the vocal cords are open. So, we call this door as 'larynx'. Inside the larynx, we have the vocal folds.

By the way, here you can produce sounds like /h/ and /ʔ/. /ʔ/ is similar to الهمزة in Arabic. The /h/ and /ʔ/ are called glottal sounds because they are produced from the glottis. We don't use this sound /ʔ/ a lot in English.

Now, let's talk about the vocal cords or vocal folds. They sometimes vibrate to produce certain sounds (voiced sounds). I want you to put your hands on your throats and say /z/ repeatedly. As you can notice, there is a vibration. So, the vocal folds are vibrating.

Again, when **the vocal folds** vibrate while producing sounds, we have voiced sounds (e.g. /z/, /v/, etc.). On the other hand, if the vocal folds don't vibrate, we have voiceless sounds (e.g. /s/, /f/, etc.).

4) Pharynx: البلعوم

After the larynx, the air reaches the pharynx (البلعوم). This is the last stage before the air reaches either the oral cavity or the nasal cavity.

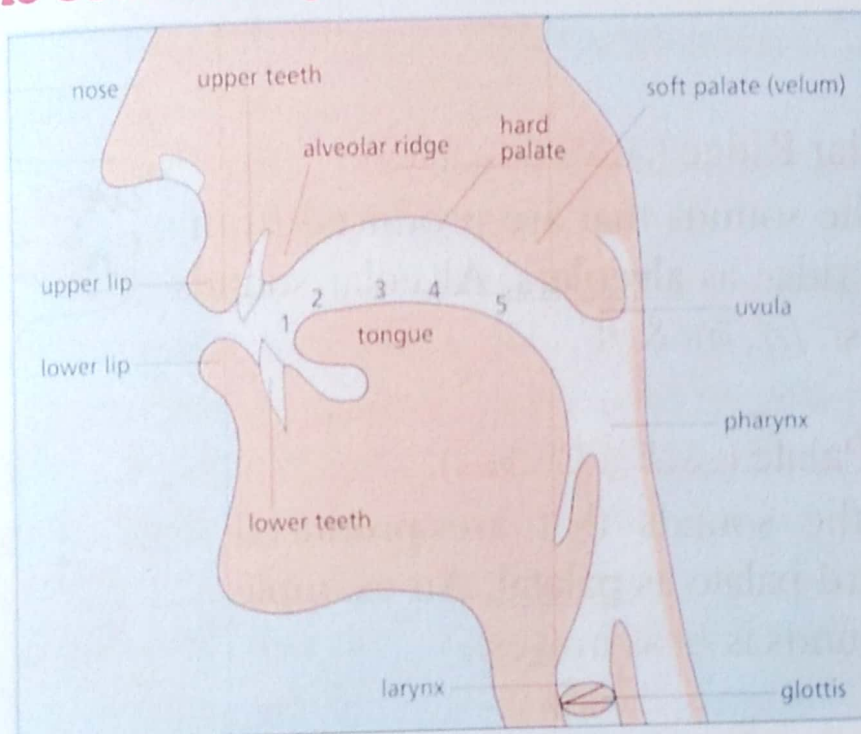
No English sounds are produced from the pharynx. However, we have sounds Arabic sounds that are produced from the pharynx like ع. That's why it is sometimes difficult for English people to pronounce this sound because they don't pronounce any sound from this place in their language. So, they don't use this muscle when they articulate sounds.

5) Finally, the air goes either to **the oral cavity** التجويف الفموي or **the nasal cavity** التجويف الأنفي.

We use the nasal cavity to produce /m/, /n/ and /ŋ/.

Now, let's talk about the oral cavity:

The Oral Cavity:



1) Lips:

We have:

a. **The upper lip**

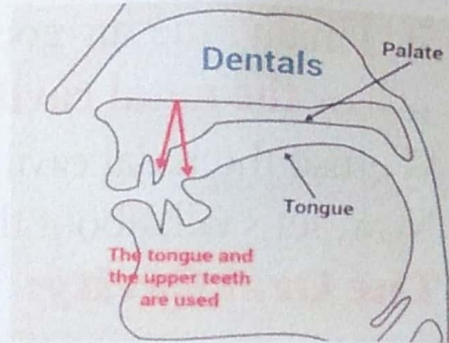
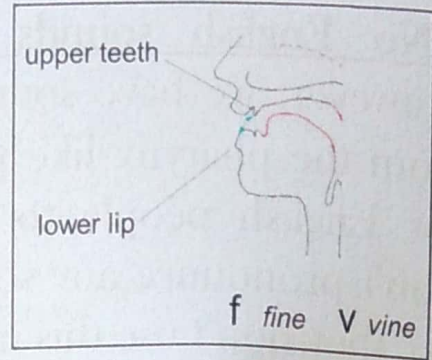
b. **The lower lip**

The sounds that are produced when we use the two lips together are called **bilabial**. Bilabial sounds are /b/, /p/, and /m/.

The sounds that are produced when we use one lip and the teeth are called **labiodental**. Labiodental sounds are /f/ & /v/.

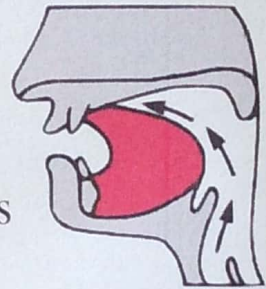
2) Teeth:

The sounds that are produced when we use the teeth are called **dental sounds**. Dental sounds are /θ/ (as in think) & /ð/ (as in that). You can feel your tongue touching your teeth to produce these two sounds.



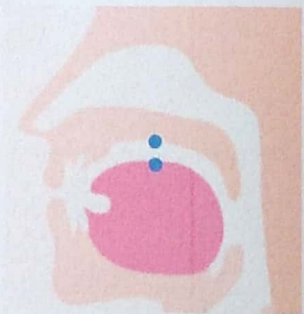
3) Alveolar Ridge (اللثة الخلفية للأسنان):

We call the sounds that are produced from the alveolar ridge as **alveolars**. Alveolar sounds are /t/, /d/, /s/, /z/, /n/ & /l/.



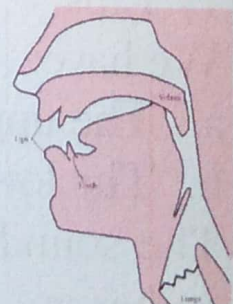
4) Hard Palate (سقف الحلق الصلب):

We call the sounds that are produced from the hard palate as **palatal**. An example of palatal sounds is /j/ as in (yes).



5) Soft Palate (Velum) سقف الحلق اللين:

This is the soft part in your palate (سقف الحلق). We call the sounds that are produced from the velum as **velar**. Velar sounds are /k/, /g/ (as in (gas), & /ŋ/.

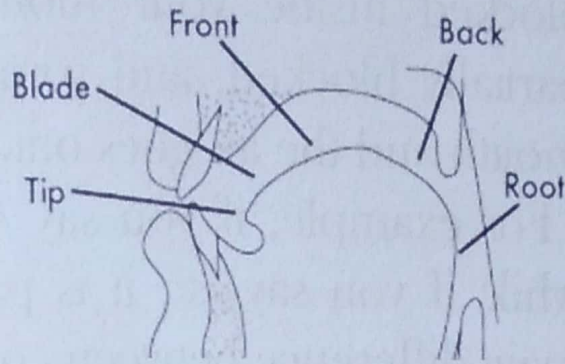


6) Uvula:

No sounds are produced from the uvula. In Arabic, we produce the /ع/ sound from the uvula.

7) **Tongue:** The tongue is a very important muscle for producing sounds. We have different parts of the tongue:

- a. The tip.
- b. The blade.
- c. The front.
- d. The back.
- e. The root.



We don't use the root for producing sounds.

We use different parts of the tongue with another part of the articulators to produce sounds. For example, sometimes we use the tip of the tongue with the upper teeth to produce labiodental sounds.

8) **Jaws:** Finally, we have our jaws. Although we can't produce sounds from the jaws, we can see that they are moving while speaking. So, jaws help the muscles to move correctly in order to produce sounds.

All the organs of speech that we have discussed so far focus on the consonants, not vowels. Why?

Student: Because there are obstructions.

Instructor: Ok. So, when we produce consonants, we have obstructions of the air. On the other hand, when we produce vowels, we don't hold the air inside; the air goes freely from the lungs to the mouth. This is the main difference between consonants and vowels. When we produce vowels, we don't obstruct the air inside.

Vowel Sounds	Consonant Sounds
The air goes freely from the organs of speech to the atmosphere without any kind of obstructions.	Obstacles are needed in front of the air in order to produce a consonant sound.

So, with consonants, sometimes the air is totally blocked inside your mouth. Sometimes, the air is partially blocked, and sometimes you just open your mouth and the air goes out.

For example, if you say /i:/, the air goes out freely, while if you say /s/, it is partially blocked. So, this is main difference between consonants and vowels.

Today, we are going to focus on consonants.

Consonants

How can we describe consonants?

We describe consonants based on three things.

1. Voicing.

2. Manner of Articulation.

3. Place of Articulation:

So, this is how we classify consonants. Let's start with voicing.

1) Voicing:

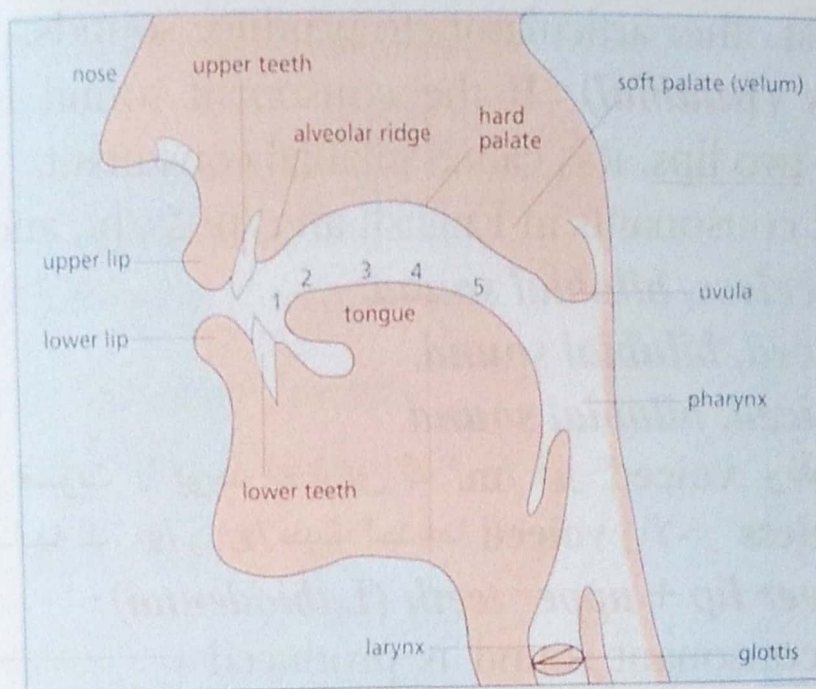
The first thing we need to distinguish is the voicing of the sound. We need to say whether the consonant sound is *voiced* or *voiceless*.

➤ When the sound causes vibration, we call the sound as *voiced sound* (e.g. /z/, /v/, /g/, etc.)

➤ When there is no vibration, we call the sound *as voiceless sound* (/s/, /f/, /k/, etc.).

So, you need less muscles' effort here because you are not making vibration in your throat.

2) Place of Articulation:



To decide the place of articulation of each consonant sound, we need to go back to our organs of speech because we are going to classify our consonant sounds according to which organ we are touching.

So, here we are going to talk about the place where we are producing each consonant sound. This is where the obstruction of air happens. Here, we need two articulators to produce sounds: one is active and the other one is passive.

Of course, the major organ of speech that is moving inside our oral cavity, touching up and down, is the tongue. **The tongue is the active organ of speech that is used to pronounce most of the consonant, and even the vowels.** Other than the tongue, we can use our lower lip as an active articulator.

Active Articulators	Passive Articulators
Lower Lip The tongue (tip, blade, front, back.	Upper lip Upper front teeth Alveolar ridge Hard palate Soft palate (Velum)

So, we can use one of these two muscles (tongue & lower lip) against other articulators to produce sounds.

1. **Lips (Bilabial):** If the consonant sound is produced using the two lips, it is called bilabial consonant.

Bilabial consonants in English are: /p/ & /b/, and /m/

/p/: voiceless, bilabial sound.

/b/: voiced, bilabial sound.

/m/: voiced, bilabial sound.

ملاحظة: أي صوت لا يوجد له قرين ك /m/ فهو voiced. ونقصد بالقرين الأصوات المتشابهة ك /s/ و /z/ حيث احدهما voiced والآخر voiceless.

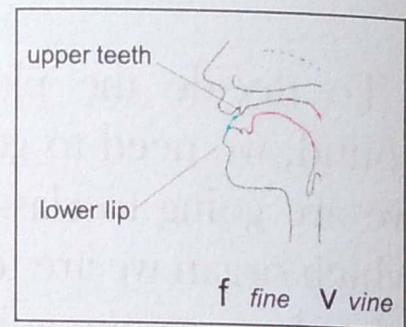
2. **Lower lip + upper teeth (Labiodental):**

If the consonant sound is produced by moving the lower lip against the upper teeth, it is called labiodental.

Labiodental consonants are /f/ & /v/

/f/: voiceless, labiodental sound.

/v/: voiced lenis, labiodental sound.

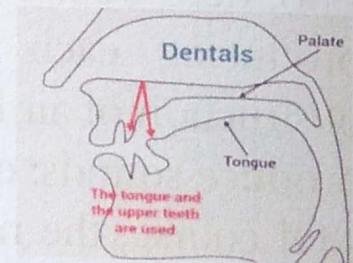


3. **Teeth (Dental):** If the consonant sound is produced using the teeth, it is called dental consonant. Here, we are using our tongue against our upper teeth.

Dental consonants are /θ/ (as in "think") & /ð/ (as in "the, this, that, etc.>").

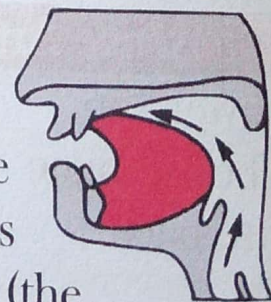
/θ/: voiceless, dental sound.

/ð/: voiced, dental sound.



4. **Alveolar ridge (Alveolar):**

Remember, we said that the alveolar ridge is the area immediately behind the upper teeth. It is like a bridge, and it is followed by the curve smooth surface (the palate).



So, if the consonant sound is produced by moving the tongue towards the alveolar ridge, it is called alveolar consonant.

Alveolar consonants include /t/ & /d/, /s/ & /z/, and /l/

/t/: voiceless, alveolar sound.

/d/: voiced, alveolar sound.

/s/: voiceless, alveolar sound.

/z/: voiced, alveolar sound.

/l/: voiced, alveolar sound.

/n/: voiced, alveolar sound.

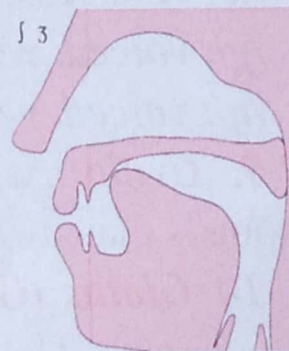
5. Post-Alveolar sounds: If the consonant sound is produced by moving the tongue towards the place after the alveolar ridge, it is called postalveolar consonant. Postalveolar consonants are /dʒ/ (as in June, July, George) & /tʃ/ (as in chair), and /ʒ/ (as in treasure) & /ʃ/ (as in share)

/ʃ/: voiceless, postalveolar sound.

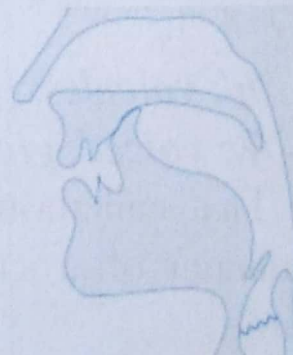
/ʒ/: voiced, postalveolar sound.

/tʃ/: voiceless, postalveolar sound.

/dʒ/: voiced, postalveolar sound.



6. Retroflex: This is where we do the /r/ sound. We call /r/ retroflex because you curl your tongue backward to pronounce it. However, there is a variation for pronouncing the /r/ sound depending on the accent. Some people pronounce it from the post-alveolar place. Other people curl their tongues more to reach the hard palate. However, this is not standard English. In general, it depends on the accent.

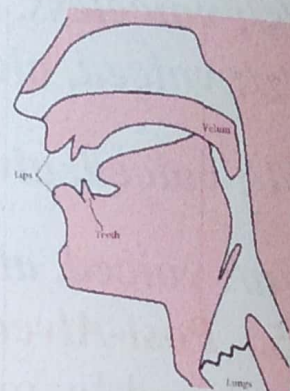


7. Hard Palate (Palatal): If the consonant sound is produced when the tongue touches the **hard palate**, it is called palatal consonant or palatal sound. An example of palatal consonants is /j/ (as in 'yes'). /j/ is a voiceless sound¹.



/j/: *voiced, palatal sound.*

8. Soft Palate (Velar): If the consonant sound is produced when the back of the tongue touches the **soft palate** or the **velum**, it is called velar consonant or velar sound. Velar consonants are /k/ & /g/ (as in "gas") and /ŋ/ (as in "king").



/k/: *voiceless, velar sound.*

/g/: *voiced, velar sound.*

/ŋ/: *voiced, velar sound.*

9. Uvula: As I told you previously, we don't have English sounds that are produced from the uvula.

10. Glottis (Glottal): We said that we have vocal folds in the larynx. The space between the vocal folds is called **the glottis**. So, if the consonant sound is produced with the **glottis**, it is called glottal consonant. Glottal consonants are /ʔ/ & /h/

/h/: *voiceless, glottal sound.*

/ʔ/: *voiced, glottal sound.*

That's all about the place of articulation. We still have 'the manner of articulation'. We are going to talk about it next time.

That's all for today.

See you next Friday!



¹ Actually, it is a voiced sound. (Ask Ms. Deima for clarification.)