Lesson 3: Detailed Study of English Vowels: Diphthongs & Triphthongs

Introduction

In British English, we have **12 pure vowels** divided into **5** *long vowels* and **7** *short vowels*. In addition, we have **8** diphthongs (*gliding vowels*) which are a composed of a combination of *two short vowels* that make *one sound* as follows: /**eɪ**/, **/ɔɪ/, /ɑɪ/, /ɪə/, /eə/, /ʊə/, /əʊ/, /ɑʊ/.** On the other hand, **triphphongs** are the following *diphthongs* /**eɪ**/, **/ɔɪ/, /ɑɪ/, /əʊ/, /ɑʊ/** + **/ə/** as follows: /**eɪə**/, **/ɔɪə/, /ɑɪə/, /əʊə/, /ɑʊə/.**

I- Diphthongs /'dɪfθɒŋz/:

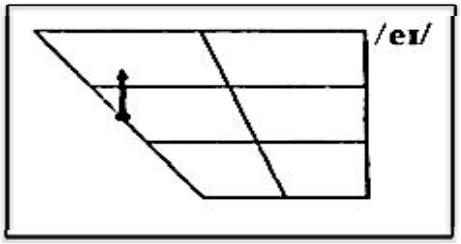
Definition: a diphthong or a gliding vowel is a term used in the phonetic classification of vowel sounds. It refers to a glide or a movement from one vowel to another one in which the first part is more prominent than the last. It involves a change in quality within the one vowel, they are classified according to their ending as follows:
Closing diphthongs end in /**ɪ**/ like /**eɪ**/, **/ɔɪ/, /ɑɪ/** or in /**ʊ**/ like **/əʊ/, /ɑʊ/.**
Centering diphthongs end in /**ə**/ like **/ɪə/, /eə/, /ʊə/.**

I-1. Closing Diphthongs:

This category of diphthongs may be placed on the Cardinal Vowel Chart between a starting-point and ending in the space of close position (between mid-close and close position).

1.1.1. The diphthong /eɪ/

Description: *the starting-point is* /**e**/ *where the glide begins from slightly the mid-close front position and moves in the direction of* /**ɪ**/ *to form the diphthong* /**eɪ**/; *there is a slight closing movement of the lower jaw. The lips are spread.*

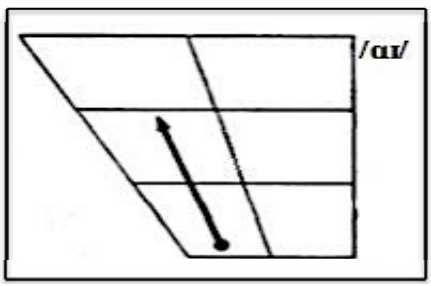


Examples: Ache /eɪk/, base /beɪs/, chase /tʃeɪs/, face /feɪs/, gaze /geɪz/, make /meɪk/, safe /seɪf/. Aim /eɪm/, Braille /breɪl/, fail /feɪl/, straight /streɪt/, veil /veɪl/, break /breɪk/, great /greɪt/, café /'kæfeɪ/.
Example sets of minimal pairs: Edge /edʒ/ - age /eɪdʒ/; let /let/ - late /leɪt/; met/met/ - mate /meɪt/; Pen /pen/ - pain /peɪn/; pepper /'pepə/ - paper /'peɪpə/; shed /ʃed/ - shade /ʃeɪd/; test /test/ - taste /teɪst/.

Exercise: *Underline the diphthong* /**eɪ**/ *in the following*: made, change, may, train, eight, grey.

1.1.2. The diphthong /ɑɪ/

Description: *the diphthong* /**ɑɪ**/ *begins at a point slightly behind the front open position* /**æ**/*, it is similar to the articulation of* /**ʌ**/ *and moves towards the vowel* /**ɪ**/*;* /**ɑɪ**/ *is more extensive than* /**eɪ**/ *in which there is more movement in the lower jaw to open position. The lips shift from neutral to loosely spread position.*



CONSONANTS PHONEMES	/p/pen	/b/bad	/t/tea	/d/did	/k/cat	/g/got	/tʃ/chin	/dʒ/June	/f/fall	/v/van	/θ/thin
	/ð/then	/s/so	/z/zoo	/ʃ/she	/ʒ/vision	/h/how	/m/man	/n/no	/ŋ/sing	/l/leg	/r/red	/j/yes	/w/wet

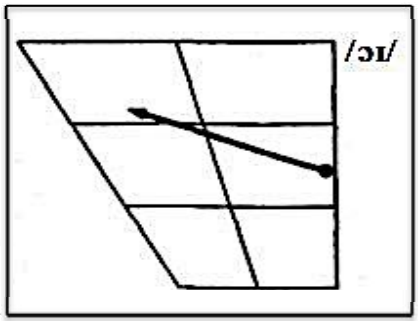
Examples: Fly /flaɪ/, die /daɪ/, mine /maɪn/, hide /haɪd/, eyes /aɪz/, fight /faɪt/, aisle_isle /aɪl/.

Example sets of minimal pairs: fight /faɪt/-fate /feɪt/; bite_byte /baɪt/-bit /bɪt/; might /maɪt/- mate /meɪt/.

Exercise: *underline the diphthong* **/aɪ/** *in the following:* why, hi, night, five, drive, miles, library.

1.1.3. The diphthong /ɔɪ/

Description: *the gliding vowel* **/ɔɪ/** *the tongue begins at a point between the mid-open and open back positions nearer to* /ɔ:/ *than to* **/ɒ/** *then I tmoves in the direction of* **/ɪ/.** *The tongue movement extends from back to centralised front position. The lips are open rounded for the first element then changing to neural for the second.*



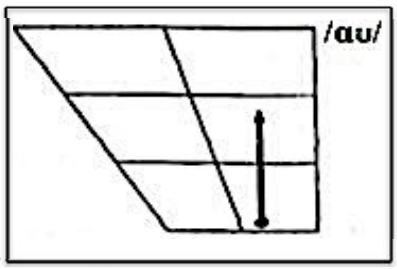
Examples: Boy /bɔɪ/, noise /nɔɪz/, point /pɔɪnt/, joint /dʒɔɪnt/, choice /tʃɔɪs/, soil /sɔɪl/, voice /vɔɪs/.

Example sets of minimal *pairs*: all /ɔ:l/-oil /ɔɪl/; corn /kɔ:n/-coin /kɔɪn/; roar/rɔ:/- Roy /rɔɪ/.

Exercise 1: *try to transcribe the following* **/ɔɪ/***:* toy, noise, voice, spoilt, pointing, destroyed, poison.

1.1.4. The diphthong /ɑʊ/

This diphthong begins with a vowel similar to /ɑ:/ *then there is a large movement to the vowel* **/ʊ/** *in order to get* **/ɑʊ/**.
This glide towards **/ʊ/** *begins but is not completed, in which the end of the diphthong is somewhere between mid-close and mid-open. There is a slight lip-rounding in the articulation of this diphthong.*



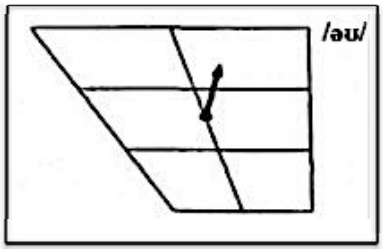
Examples: how /haʊ/, gown /gaʊn/, now /naʊ/, around /ə'raʊnd/, couch /kaʊtʃ/, plough /plaʊ/.

Minimal pairs: now /naʊ/ - no /nəʊ/; mice /maɪs/ - mouse /maʊs/; sand /sænd/ - sound /saʊnd/.

Exercise: *Look up the transcription of the following:* Audi, count, ground, foul, flour, mountain.

1.1.5. The diphthong /əʊ/

The beginning of this diphthong is at the central position between mid-close and mid-open position which is the schwa **/ə/,** *and moves in the direction of* **/ʊ/**. *There is a slight closing movement of the lower jaw. The lips are neural for first and slightly rounded for the second element.*



Examples: bow /bəʊ/, joke /dʒəʊk/, know /nəʊ/, low /ləʊ/, smoke /smәʊk/, shown /ʃəʊn/, so/səʊ/.

Minimal pairs: must /mʌst/-most /məʊst/; abide /əˈbaɪd/ - abode / əˈbəʊd/; whole /həʊl/- hill /hɪl/.

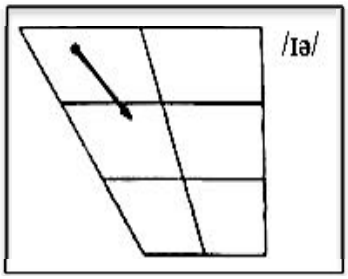
Exercise: *Find the transcription of the words:* folio, folklore, load, road, gross, soldier, role, own.

VOWELS	/i:/see	/i/any	/ɪ/sit	/e/ten	/æ/hat	/ɑ:/father	/ɒ/got	/ɒ/got	/ɔ:/saw	/ʊ/put	/u:/too	/u/usual		
PHONEMES	/ʌ/cup	/ɜ:/fur	/ə/ago	/eɪ/pay	/əu/go	/aɪ/five	/au/now	/aʊ/now	/ɔɪ/join	/ɪə/near	/eə/hair	/uə/pure		

I-2. Centering Diphthongs:

1.2.1. The diphthong /ɪə/

This RP diphthong **/ɪə/** *begins with a position approximately to* **/ɪ/** *in mid-close and centralised front position. The glide moves towards /***ə***/ and to more open in final position of the words, as in* here */hɪə/ but not so extensive in mid-position of the word, as in* weird */wɪəd/.*
The lips are neural with a slight movement from spread to open.



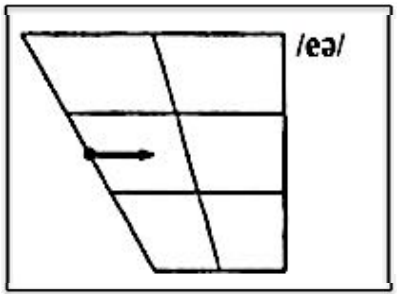
Examples: here /hɪə/; near /nɪə/; peer_pear /pɪə/; zero /'zɪərəʊ/; Algeria /æl'dʒɪərɪə /; mania /'meɪnɪə/.

Minimal pairs: fear /fɪə/-fare /feə/; peer /pɪə/-pair /peə/; fierce /fɪəs/-face /feɪs/; pierce/pɪəs/-piece /pi:s/.

Exercise: *Find the transcription of the words:* hero, sincere, deer, cheer, career, weird, idea, media, material, familiar, year, real, area, beard, period, opinion, previous, medium, million, union.

1.2.2.The diphthong /eə/

This RP gliding vowel **/eə/** *begins with a mid-open front position and moves to more open variety of* **/ə/** *especially in word final position as in* there */ðeə/. However, in word-medial position the second element* **/ə/** *tends to be neutral as in* parent */ 'peərənt /.*
The lips are neural throughout the diphthong.



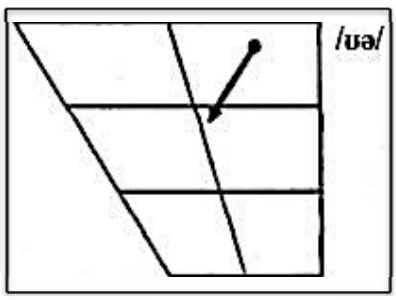
Examples: air /eə/, pair /peə/, care /keə/, fair_fare /feə/, where /weə/, there /ðeə/, scarce /skeəs/.

Minimal pairs: spare /speə/ - spear /spɪə/; bear /beə/ - beer /bɪə/; rear/rɪə / - rare /reə/; air - ear.

Exercise: *Find the transcription of the following:* bare, hair, heir, their, swear, share, various.

1.2.3.The diphthong /ʊə/

This RP diphthong **/ʊə/** *glides from a tongue position similar to* **/ʊ/** *then moves towards the vowel* **/ə/***. It moves to more the centre when the diphthong occurs in word-medial position* during /'djʊərɪŋ/*. However, it is more open in word final position as in* poor */pʊə/. The lips are rounded at the beginning then neutral at the glide progresses.*



Examples: poor /pʊə/, plural /'plʊərəl/, pure /pjʊə/, cure /kjʊə/, endure /ɪn'djʊə/, during /'djʊərɪŋ/.

Minimal pairs: sure /ʃʊə/ - show /ʃəʊ/; moor /mʊə/ - more /mɔ:/; poor /pʊə/ - pour /pɔ:/.

Exercise: *Transcribe the following words:* curious, furious, security, actual, mutual, usual, gradual, influence, valuable.

II-Triphthongs /'trɪfθɒŋz /:

Definition: a triphthong is a glide from one vowel to another and then to a third, all produced rapidly and without interruption. For example, a slow pronunciation of the word "hour" begins with a vowel quality similar to /**ɑ**:/ and goes on towards /**ʊ**/ then ends with schwa /**ə**/ to get /**ɑʊə/.** A triphthong is made up of two vowel sounds, a closing diphthong plus a schwa (diphthong+ schwa= triphthong).

The triphthongs are composed of the five closing diphthongs described before, with schwa /**ə**/ added to the end. Thus we get:

/**eɪ**/ + /**ə**/ = /**eɪə**/	**i.e:** Player /'pleɪə/, payer /'peɪə/
/**ɑɪ**/ + /**ə**/ = /**ɑɪə**/	**i.e:** Fire /'fɑɪə/, higher /'hɑɪə/
/**ɔɪ**/ + /**ə**/ = /**ɔɪə**/	**i.e:** Loyal /'lɔɪəl/, royal /'rɔɪəl/
/**əʊ**/ + /**ə**/ = /**əʊə**/	**i.e:** Lower /'ləʊə/, slower /'sləʊə/
/**ɑʊ**/ + /**ə**/ = /**ɑʊə**/	**i.e:** Our–hour /'ɑʊə/, power /'pɑʊə/

Performance Exercises

Task 1.1 practise the difference.

low	law	toe	tore
Joe	jaw	tone	torn
yoke, yolk	York	snow	snore
boat	bought	hole	hall
cold	called	sew, sow	saw
bowl	ball	show	shore

Task 1.2: find the spelling form (orthography) of the following minimal pairs.

/mʊə, mɔ:/	/meə/	/bɑɪt/	/bəʊt/
/pʊə, pɔ:/	/peə/	/dɑɪ/	/dəʊ/
/tʊə, tɔ:/	/teə/	/flɑɪ/	/fləʊ/
/bʊə, bɔ:/	/beə/	/nɑɪt/	/nəʊt/
/ʃʊə, ʃɔ:/	/ʃeə/	/rɑɪt/	/rəʊt/

References for further study:

1- Roach, Peter. *English Phonetics and Phonology.* pp 18-25. Cambridge University Press.
2- Gimson, A, C. *Pronunciation of English.* pp 32-37. Cambridge University Press.
3- Hancock, Mark. *English Pronunciation in Use*. pp 44-50. Cambridge University Press.

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Lecture 4: Detailed Study of English Consonants

Objective: *By the end of this course you'll be able to:*

1- Define English consonants.

2- Recognise the different manners of articulation for consonants.

3- Know the places of articulation of different English consonantal sounds.

4- Identify each consonant using description of articulation and example words.

5- Use authentic audios and videos for listening and repeating to English consonants.

7- Pronounce pure vowels in several words and utterances with correct pronunciation.

Lecture 4: Detailed Study of English Consonants

Introduction

In this lesson, we will introduce the properties of English consonants and their force, place, and manner of articulation.

1. Consonants /ˈkɒnsənənts/

Consonant: (*n.*) (**C**) it can be defined phonetically as the sound made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, partially, or restricted with an audible friction.

There are 24 consonantal phonemes classified in the table below into two general categories:

A. Those articulations in which there is a total closure or a stricture causing friction. In this class, there is a distinctive opposition between fortis and lenis.

B. Those articulations in which there is a partial closure or an oral or nasal escape of air. Such articulations, typically voiced and frequently frictionless may share many phonetic characteristics with vowels (Gimson, p.149).

	Place of articulation / Manner of articulation	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Palato-alveolar	Palatal	Velar	Glottal
A	Plosive	p , b			t , d				k , g	
A	Fricative		f , v	θ , ð	s , z		ʃ , ʒ			h
A	Affricate						tʃ , dʒ			
B	Nasal	m			n				ŋ	
B	Lateral				l					
	Approximant[1]	w				r		j		

IPA table contains the **consonant phonemes** of the English language

2. Properties of English Consonants

A consonant is described in terms of **manner and place of articulation** and **voicing.**

2.1 Manner of Articulation

Plosive: formed by a blockage of the vocal tract, followed by an explosive release of air. As follows:

1- The CLOSING stage: the articulators move together to form the obstruction of the air breathed in.

2- The COMPRESSION stage: during which the lung compresses the air in the vocal tract.

3- The RELEASE stage: the organs forming the obstruction set apart rapidly, allowing the air to escape abruptly.

There are six *stops or* plosive consonants in English, as follows: / p, t, k, b, d, g /.

Fricative: formed by slight contact between articulators, allowing turbulent airflow. There are **nine** fricative consonants in English. i.e.: /f, v, θ, ð, s, z, ʃ, ʒ, h /.

Affricate: formed by a blockage of the vocal tract like plosives and, followed by a gradual release of turbulent air, like a fricative. For instance: / ʧ, ʤ /.

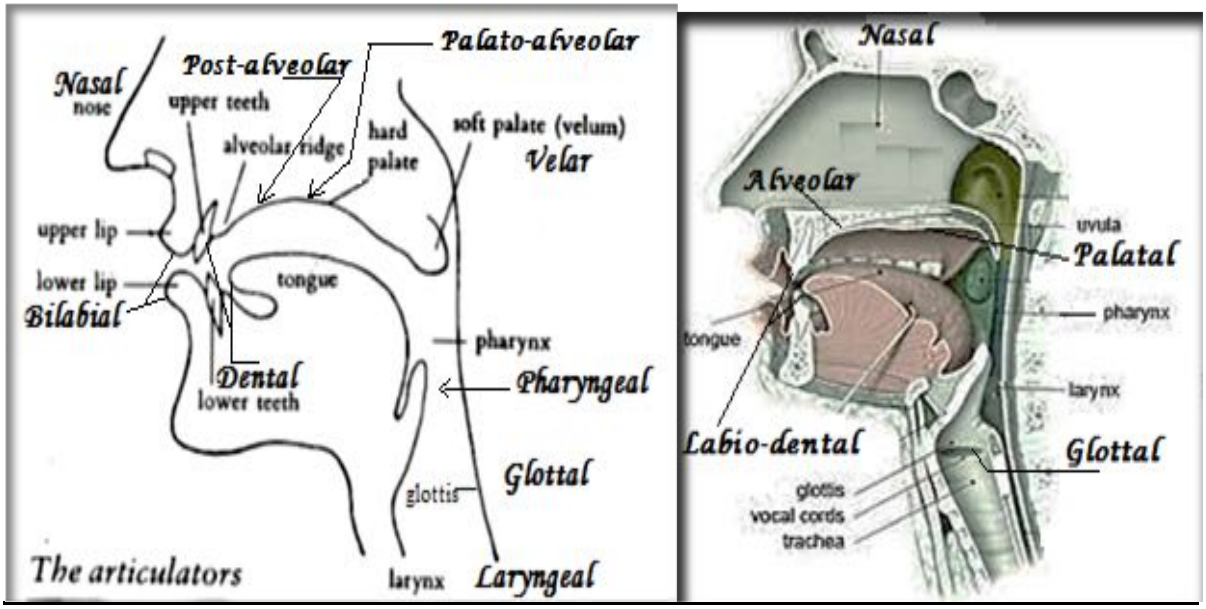
Nasal: formed by the lowering of the velum, allowing air to flow through the nasal cavity. i.e.: /m, n/.

***Lateral* (approximant):** formed by an obstruction of the passage of the airflow in the centre of tongue meanwhile the air flows through both sides of the tongue where obstruction occurs. E.g.: / l /.

Approximant: formed by the constriction of the vocal tract, but with no blockage of the air. /w, r, j/.

2.2 Place of Articulation

The following figures represent the major **Places of Articulation for English Consonants**:



The term place of articulation classifies speech sounds in terms of where in the vocal tract the shape is altered. Hereafter, the main places of articulation of English consonants are shown as:

Bilabial: bilabial sounds are those sounds made by the articulation of the lips against each other. i.e: /b, p, m, w/.

Labio-dental: labiodental sounds are made by moving the upper teeth towards the lower lip. i.e.: /f , v/.

Dental: interdental sounds are made by moving the tip of the tongue between the teeth. i.e.: / θ, ð /.

Alveolar: alveolar sounds are made by moving the tip of the tongue towards the alveolar ridge. / t, d, s, z, n, l /.

Palato-alveolar: sounds are made by pressing the front of the tongue towards the area between the alveolar ridge and the hard palate. Examples of such sounds in English are the following: / ʃ, ʒ, ʧ, ʤ /.

Post-alveolar: is a place of articulation produced with significant raising of the front of the tongue toward the back of the alveolar ridge in a retroflex manner. For example: /r/.

Palatal: palatal sounds are made by pressing the body of the tongue towards the hard palate. i.e.: / j /.

Velar: velar sounds are made by pressing the body of the tongue towards the velum. i.e.: / k , g , ŋ /.

Glottal: glottal sounds are made at the glottis by narrowing in the vocal tract. i.e.: / h /.

2.3. Force of Articulation/ Voicing

With regard to the *force of articulation*, we use the following terms: **fortis** (strong) and **lenis** (weak). In phonetic terms, *fortis* means an unvoiced sound but it requires more force to be articulated. However, the *lenis sounds* are voiced sounds but articulated with less force. For example: fortis /p/, lenis /b/.

3. Description of the Articulation of English Consonants

3.1. Identification of the consonants /p/, /b/

Those two bilabial sounds are made with total closure using the lips. The soft palate is raised to stop the air from escaping through nasal cavity. **/p/** is unvoiced and fortis. **/b/** is voiced and lenis. *Pay*/peɪ/, *bye*/bɑɪ/.

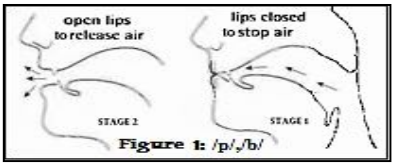


Figure 1: /p/,/b/

3.2. Identification of the consonants /k/, /g/

Those two velar sounds are made with total closure using the back of the tongue against the soft palate the suddenly release the air. /**k**/ is unvoiced and fortis. /**g**/ is voiced and lenis. e.g: *can*/kæn/, *guess*/ges/.

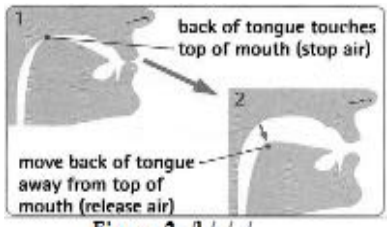


Figure 2: /k/, /g/

3.3. Identification of the consonants /t/, /d/

Those two alveolar sounds are made with total closure using the tongue blade against the alveolar ridge. Soft palate is raised to stop air from going to nasal cavity. /**t**/ is unvoiced & fortis. /**d**/ is voiced & lenis. *Tie*/tɑɪ/, *do*/duː/.

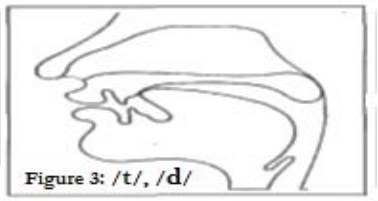


Figure 3: /t/, /d/

3.4. Identification of the consonants /f/, /v/

Labiodental sounds are made with partial closure in which an audible friction is heard. They are articulated with the front upper teeth against lower lip. /**f**/ is unvoiced & fortis. /**v**/ is voiced & lenis. *fit* /fɪt/, *vice* /vɑɪs/.

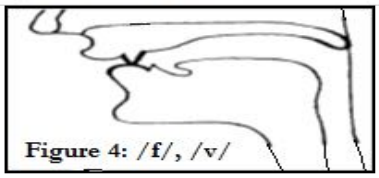


Figure 4: /f/, /v/

3.5. Identification of the consonants /θ/, /ð/

Dental sounds are made with partial closure or narrow opening using the upper front teeth against tongue-tip. The soft palate is raised. The consonant /θ/ is unvoiced & fortis. /ð/ is voiced & lenis. *Thin* /θɪn/, *that* /ðæt/.

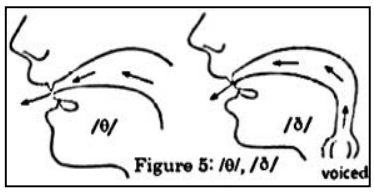


Figure 5: /θ/, /ð/

3.6. Identification of the consonants /s/, /z/

Those alveolar sounds are made with partial closure. The soft palate is raised to stop air from going thru nasal cavity. The tip of the tongue contacts alveolar ridge. /**s**/ is voiceless & fortis. /**z**/ is voiced & lenis. *See* /siː/, *zoo* /zuː/.

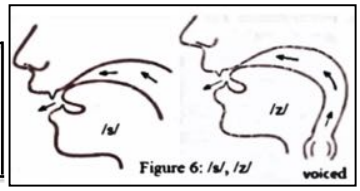


Figure 6: /s/, /z/

3.7. Identification of the consonants /ʃ/, /ʒ/

Fricative consonants are formed by a narrowing of the air passage then the air escapes making a kind of hissing sound with an audible friction. The blade of the tongue contacts the palato-aveolar slightly. The soft palate is raised. /**ʃ**/ is unvoiced & fortis. /**ʒ**/ is voiced & lenis. *Shake* /ʃeɪk/, *beige* /beɪʒ/.

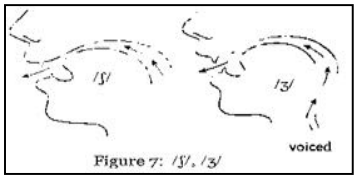
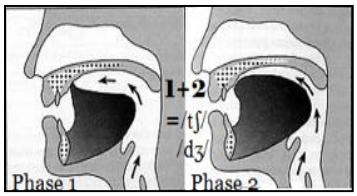


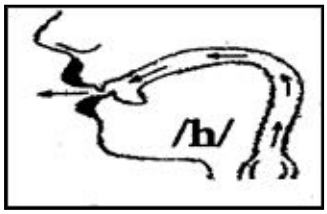
Figure 7: /ʃ/, /ʒ/

3.8. Identification of the consonants /tʃ/, /dʒ/



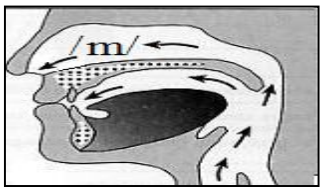
The English affricative sounds /**tʃ**/ and /**dʒ**/ are described as a transition from the plosives /**t, d**/ into the fricatives /**ʃ , ʒ**/ rapidly to get one phoneme. /**tʃ**/ is unvoiced & fortis. /**dʒ**/ is voiced & lenis. *Chief* /tʃiːf /, *Jack* /dʒæk/.

3.9. Identification of the consonant /h/



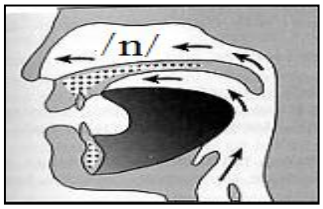
This consonant is articulated with the narrowing of the airflow in glottis. It is a kind of breathing out with an audible friction in the vocal cords. /**h**/ is a voiceless when produced alone, but voiced when followed by a vowel. Example words: *Heat* /hiːt/, *who* /huː/, *perhaps* /pəˈhæps/, *adhere* /ədˈ□ɪə/.

3.10. Identification of the consonant /m/



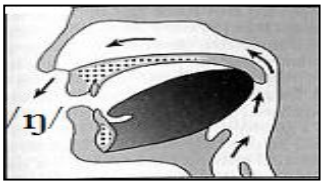
In the nasal consonants the air escapes through nose. To do this, the soft palate is lowered to let air go to nasal cavity. /**m**/ is articulated with closed lips (bilabial) then air goes through nasal cavity. /**m**/ is voiced. *Mike* /maɪk/.

3.11. Identification of the consonant /n/



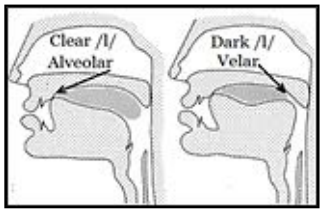
In the nasal sound /n/ the velum is lowered so that the air can escape thru the nasal cavity. /**n**/ is articulated with tongue tip with alveolar ridge then air is release via nasal cavity. /**n**/ is voiced. *Nile*/naɪl/, *snow* /snəʊ/, *fallen* /ˈfɔːlən/.

3.12. Identification of the consonant /ŋ/



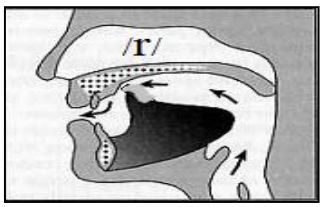
This voiced nasal sound is made with the back of the tongue against velum. e.g.: *Ring* /rɪŋ/, *link* /lɪŋk/, *singer* /ˈsɪŋə/, *hanger* /ˈ□æŋə/, *hunger* /ˈhʌŋgə/

3.13. Identification of the consonant /l/



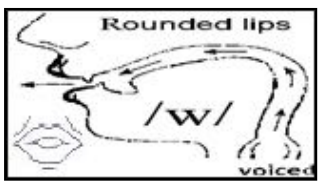
This voiced alveolar lateral consonant is articulated with tongue centre and the alveolar ridge in which the air flows around both sides of the tongue. There are **clear** /**l**/ as in *l̲et*/let/ and **dark** /**l**/ as in *mil̲k* [mɪɬk], *littl̲e* [ˈ□ɪtl̩].

3.14. Identification of the consonant /r/



This post-alveolar consonant is pronounced with the articulators approach each other without a plosive or fricative sound as an approximant. The tip of the tongue approaches further back to the alveolar ridge somehow like /**t**, **d**/. the lips are slightly round. /**r**/ is voiced. *Right* /raɪt/, *firm* /fɜːm/, *writer* /ˈraɪtə/.

3.15. Identification of the consonant /w/



This glide or semivowel is made like front close vowel /**u**ː/ but it is very short. This bilabial approximant is articulated with rounded lips. /**w/ & /j**/ never occur in word final position. e.g.: *waste* /weɪst/, *require* /rɪˈkwaɪə/.

3.16. Identification of the consonant /j/

This glide or semivowel is made like front close vowel /**i**:/ but is very short. This palatal approximant is articulated with the back of the tongue raised to the velum (soft palate). **/j/** is voiced. *Yes* /jes/, *tube* /tju:b/, *new* /nju:/.

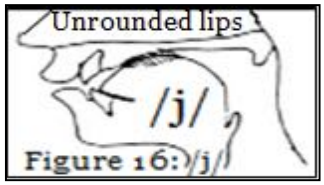


Figure 16: /j/

4. Time for practice

Task 1: ***Mention the consonant sounds described and their Voicing, Place, Manner of Articulation (VPM):***

a- The vocal cords vibrate. The soft palate is raised. A narrowing is formed between the tip and the blade of the tongue with alveolar ridge. A friction occurs. ……

b- The vocal cords do not vibrate. The soft palate is raised. A complete closure is made between the blade of the tongue and the alveolar ridge. The front of tongue is raised towards the hard palate. The closure is released slowly with a friction heard. ……

c- The vocal cords vibrate. The soft palate is lowered. A complete closure is made by the lips. The closure is released abruptly. ……

Task 2: ***Transcribe the words then write out the common sound in the words:***

1- Chest, cheap, chain, attach, fetch, wretch, question, suggestion, century, nature ……

2- Job, juice, eject, major, magic, pigeon, fragile, adjacent, exaggerate, judge ……

3- Thy, thou, though, clothes, leather, feather, worthy, breathe, smooth ……

Task 3: ***Find two minimal pairs for each consonant sound of the following:***

□□□ □□□□□□ □□□□ □□□ □□b□□ □□□□□s□□□□ □ □ □□□z□□

□□□□□□□□ □□□ŋ□□□□□□□□□□ □□□□□ □□g/□□□□□ □

…… …… …… …… …… …… …… ……

…… …… …… …… …… …… …… ……

Task 4: ***Find the spelling form of the following:***

1- Quick /kwɪk/ **9-** ……

2- …… **10-** ……

3- …… **11-** ……

4- …… **12-** ……

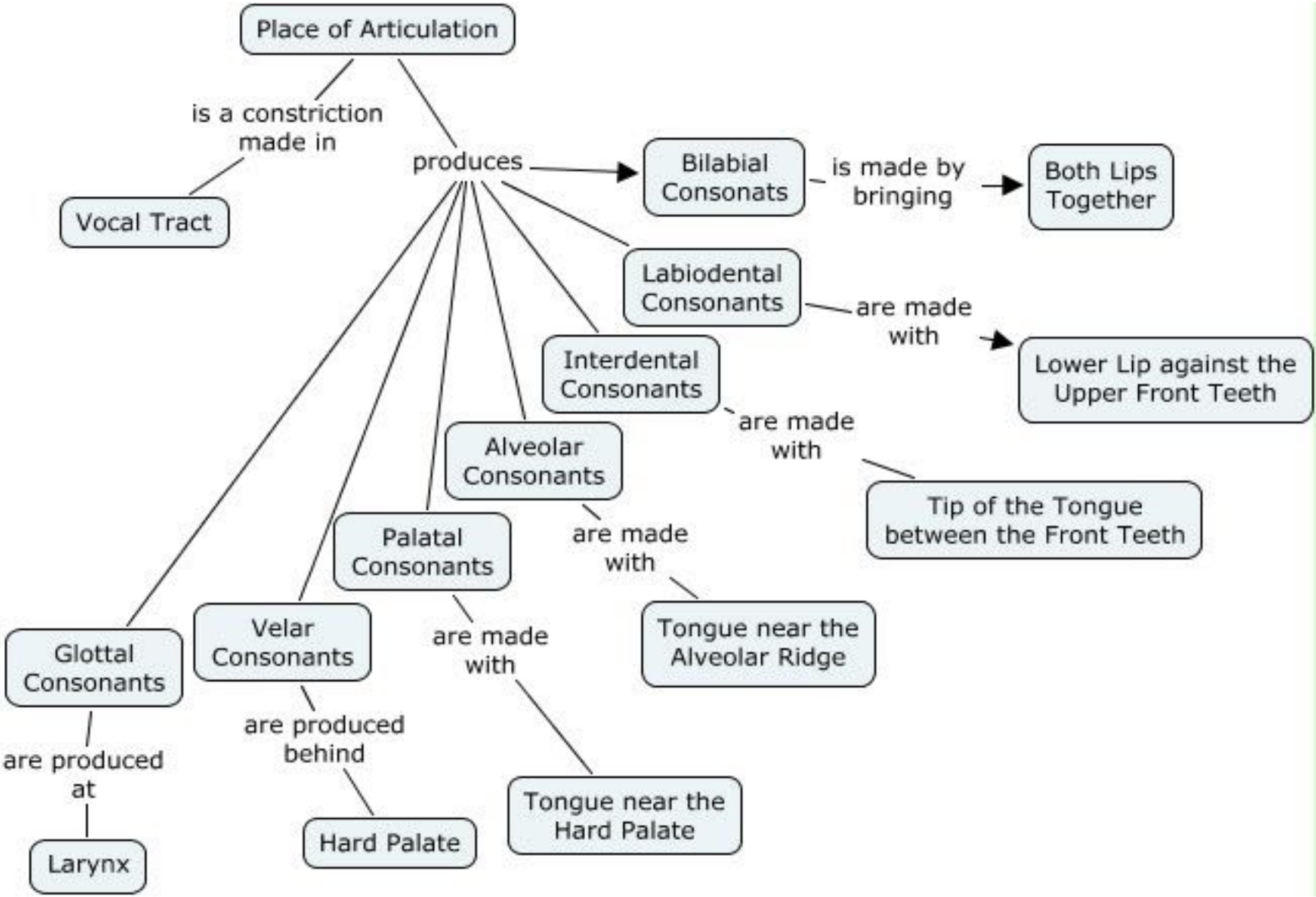
5- …… **13-** ……

6- …… **14-** ……

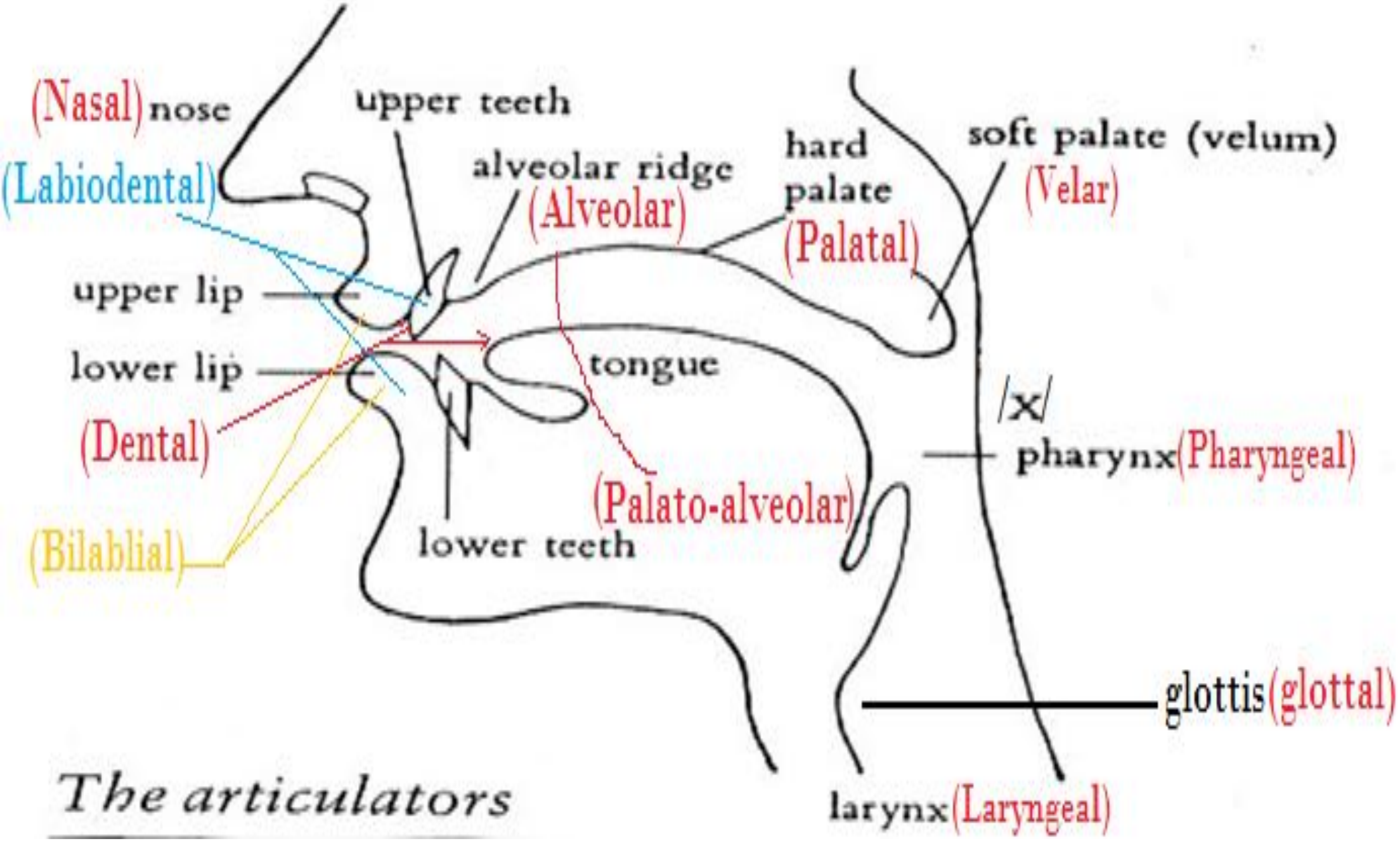
7- …… **15-** ……

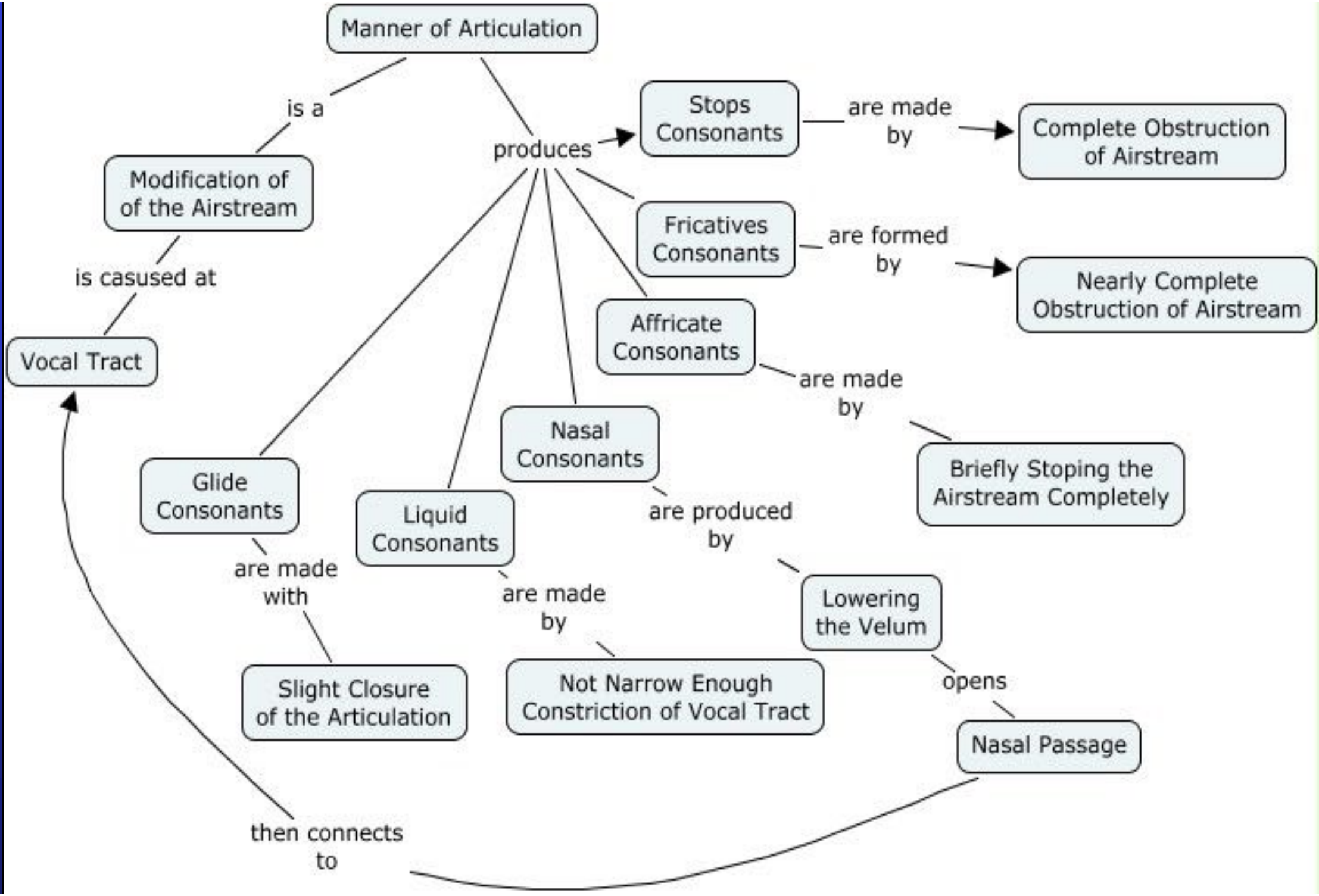
8- …… **16-** ……

tʃ	eə	ɪ	ŋ	g	l	ɪ	ʃ
m	k	w	e	s	tʃ	ə	n
ɪ	k	n	j	u:	z	b	s
k	w	k	əʊ	s	f	r	ɪ
s	ɪ	w	ʃ	k	j	i:	k
t	k	aɪ	ə	u:	u:	ð	s
e	dʒ	t	n	l	tʃ	z	θ
dʒ	u:	s	ʃ	u:	ə	ð	əʊ


Place of Articulation
is a constriction made in
Vocal Tract
produces
Bilabial Consonats
is made by bringing
Both Lips Together
Labiodental Consonants
are made with
Lower Lip against the Upper Front Teeth
Interdental Consonants
are made with
Tip of the Tongue between the Front Teeth
Alveolar Consonants
are made with
Tongue near the Alveolar Ridge
Palatal Consonants
are made with
Tongue near the Hard Palate
Velar Consonants
are produced behind
Hard Palate
Glottal Consonants
are produced at
Larynx

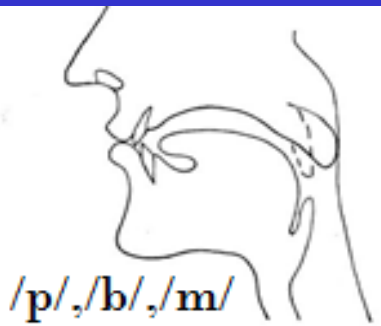
1. Place and Manner of Articulation of Consonants:




Manner of Articulation
is a
Modification of of the Airstream
is casused at
Vocal Tract
produces
Stops Consonants
are made by
Complete Obstruction of Airstream
Fricatives Consonants
are formed by
Nearly Complete Obstruction of Airstream
Affricate Consonants
are made by
Briefly Stoping the Airstream Completely
Nasal Consonants
are produced by
Lowering the Velum
opens
Nasal Passage
Glide Consonants
are made with
Slight Closure of the Articulation
Liquid Consonants
are made by
Not Narrow Enough Constriction of Vocal Tract
then connects to

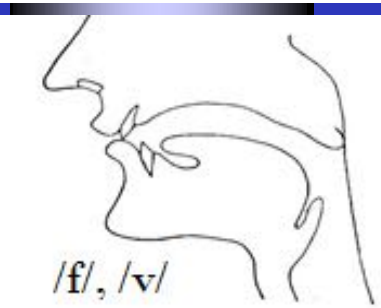
1.1. Place of Articulation:

The place of articulation classifies speech sounds in terms of their articulation in the vocal tract. In this section, we will present the main places of articulation of English consonants as follows:



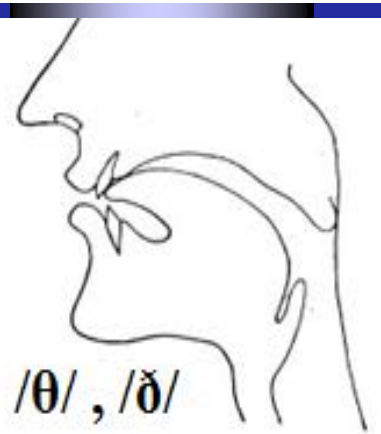
Bilabial articulation

Bilabial: bilabial sounds are made by placing the lips against each other. Examples of such sounds in English we have the following: /**p**/, /**b**/, /**m**/. The sound /p/ is voiceless, e.g: *pay* but voiced in /b/ & /m/ e.g: *bay*, *may*.



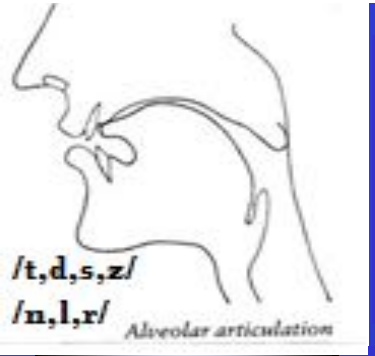
Labiodental fricative

Labiodental: sounds are made when the lower lip is raised towards the upper front teeth. Examples are /**f**/ *safe* (voiceless) and /**v**/ *save* (voiced).

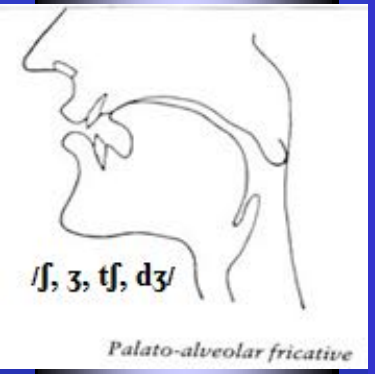


Dental fricative

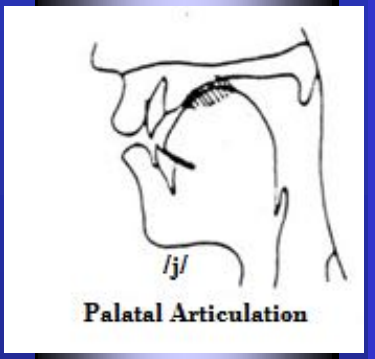
Dental sounds are produced by touching the upper front teeth with the tip of the tongue. Examples are /θ/ *oath* (voiceless) and /ð/ *clothe* (voiced).



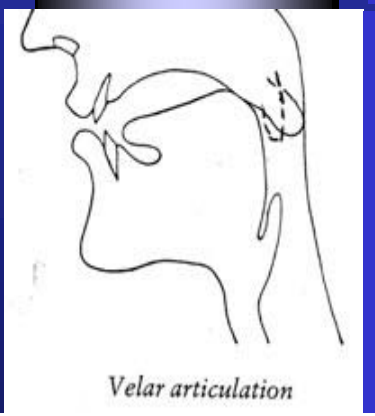
Alveolar sounds are made by raising the tip of the tongue towards the ridge that is right behind the upper front teeth, called the alveolar ridge. Examples are / **t, s** / *too*, *sue*, both voiceless, and /**d, z, n, l, r** / *do, zoo*, *no, look, rook*, all voiced.



Palato-alveolar sounds are made by raising the blade of the tongue towards the part of the palate just behind the alveolar ridge. Examples / **ʃ, tʃ** / *pressure*, *batch* (voiceless) and / **ʒ , dʒ** / *pleasure*, *badge* (voiced).



Palatal sounds are very similar to palatoalveolar ones, they are just produced further back towards the velum. The only palatal sound in English is / **j** / as in *yes*, *yellow*, *beauty*, *new* and it is voiced.



Velar sounds are made by raising the back of the tongue towards the soft palate, called the velum. Examples /**k**/ *back*, voiceless, and / **g** , **ŋ** / both voiced *bag*, *bank*.

Glottal sounds are produced when the air passes through the glottis as it is narrowed. Example of such sound is /h/ as in *high*.

1.2. Manner of Articulation:

The manner of articulation has to do with the kind of air obstruction after it has passed the vocal folds. It may meet a complete closure (plosives), an almost complete closure (fricatives), or a smaller degree of closure (approximants), or the air might escape in more exceptional ways, around the sides of the tongue (laterals), or through the nasal cavity (nasals).

Manner of Articulation \ Place of Articulation		Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Palato-alveolar	Palatal	Velar	Glottal
A	Plosive	p , b			t , d				k , g	
A	Fricative		f , v	θ , ð	s , z		ʃ , ʒ			h
A	Affricate						tʃ , dʒ			
B	Nasal	m			n				ŋ	
B	Lateral				l					
B	Approximant[1]	w				r		j		

IPA table contains the **consonant phonemes** of the English language

3. Description of the Articulation of English Consonant

3.1. Identification of the consonants /p/, /b/

Those two bilabial sounds are made with total closure using the lips. The soft palate is raised to stop the air from escaping through nasal cavity. /**p**/ is unvoiced and fortis. /**b**/ is voiced and lenis. *Pay*/peɪ/, *bye*/baɪ/.

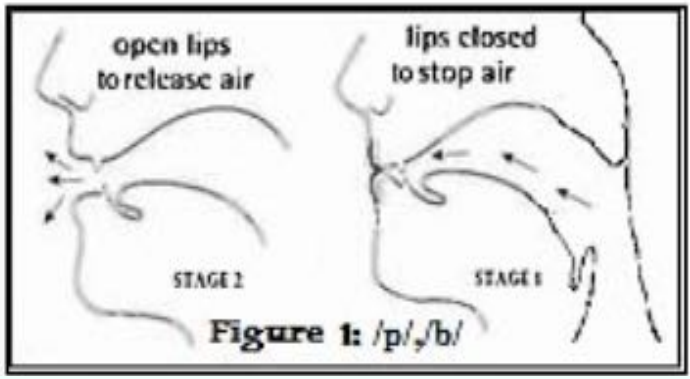


Figure 1: /p/,/b/

Task : Pronounce the following words

Listen and repeat: /p/ Pack, Pan, Copy, Happen, Hop, Pop

/b/ Back, Bag, Hobby, Habit, Job, Bob

Minimal Pairs: Back, Pack

Bare, Pair

Cab, Cap

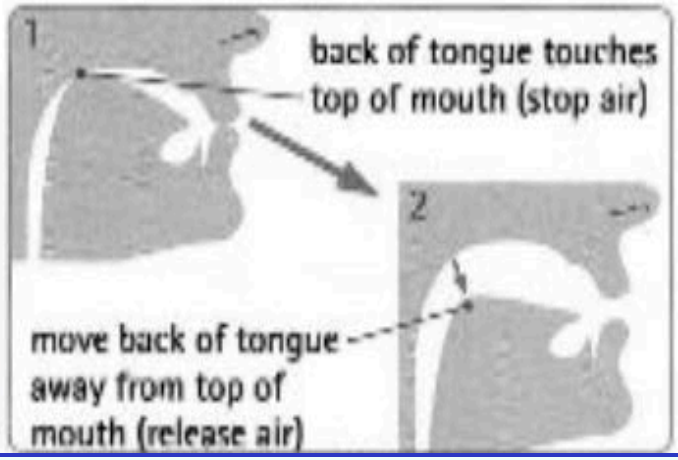
Symbol, Simple

Punch, Bunch

3.2. Identification of the consonants /k/, /g/

Those two velar sounds are made with total closure using the back of the tongue against the soft palate the suddenly release the air.

/k/ is unvoiced and fortis. **/g/** is voiced and lenis. e.g: *can*/kæn/, *guess*/ges/.



Task : Pronounce the following words

Listen and repeat: /k/ Came, Lucky, Sick, Clock

/g/ Glue, Struggle, Bag, Gig

Minimal Pairs: Glue, Clue

Ghost, Coast

Log, Lock

Pig, Pick

Came Game

Back Bag

Cage Gauge

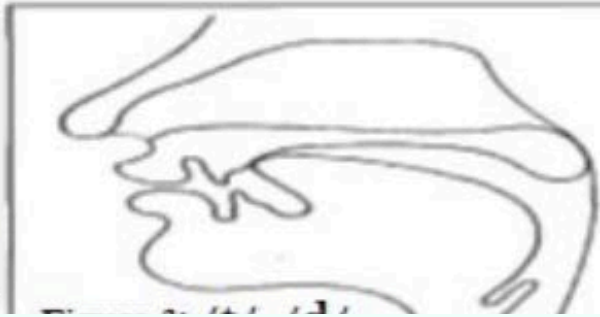
Calories Galleries

3. Description of the Articulation of English Consonant

3.3. Identification of the consonants /t/, /d/

Those two alveolar sounds are made with total closure using the tongue blade against the alveolar ridge. Soft palate is raised to stop air from going to nasal cavity. /**t**/ is unvoiced & fortis. /**d**/ is voiced & lenis. *Tie*/taɪ/, *do*/duː/.

Figure 2: /k/, /g/



Task : Pronounce the following words

Listen and repeat: /t/ Tin, Button, Get, Tight, Tell

/d/ Dame, Ladder, Odd, Did, Deaf

Minimal Pairs: Tin, Din

To, Do

Town, Down

Eight, Aid

Bet Bed

Tame Dame

Doom Tomb

Medal Metal

Heard Hurt

3.4. Identification of the consonants /f/, /v/

Figure 3: /t/, /d/

Labiodental sounds are made with partial closure in which an audible friction is heard. They are articulated with the front upper teeth against lower lip. /f/ is unvoiced & fortis. /v/ is voiced & lenis. *fit* /fɪt/, *vice* /vaɪs/.

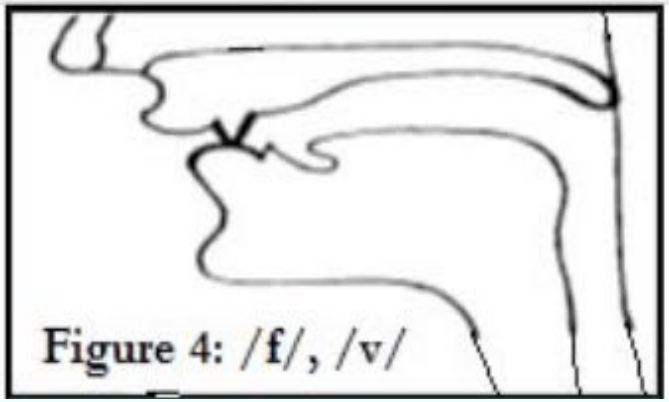


Figure 4: /f/, /v/

Task : Pronounce the following words

Listen and repeat: /f/ Fat, Coffee, Rough, Fluff

/v/ Very, Heavy, Move, Verve

Minimal Pairs: Vault, Fault

Believe, Belief

Live, Life

Fan	Van
Leaf	Leave
Off	Of
Rifle	Rival

Very	Berry
Vet	Bet
Vote	Boat
Vowel	Bowel

3. Description of the Articulation of English Consonant

3.5. Identification of the consonants /θ/, /ð/

Dental sounds are made with partial closure or narrow opening using the upper front teeth against tongue-tip. The soft palate is raised. The consonant /θ/ is unvoiced & fortis. /ð/ is voiced & lenis. *Thin* /θɪn/, *that* /ðæt/.

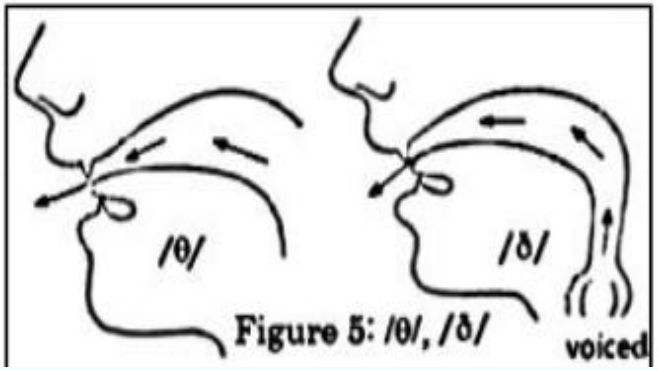


Figure 5: /θ/, /ð/

Task : Pronounce the following words

Listen and repeat: /θ/ Thin, Throw, Thumb, Author, Healthy, Birth, Path

/ð/ Then, This, There, That, Other, Smooth

/ S /

3.6. *Identification of the consonants* /s/, /z/

Those alveolar sounds are made with partial closure. The soft palate is raised to stop air from going thru nasal cavity. The tip of the tongue contacts alveolar ridge. /s/ is voiceless & fortis. /z/ is voiced & lenis. *See* /si:/, *zoo* /zu:/.

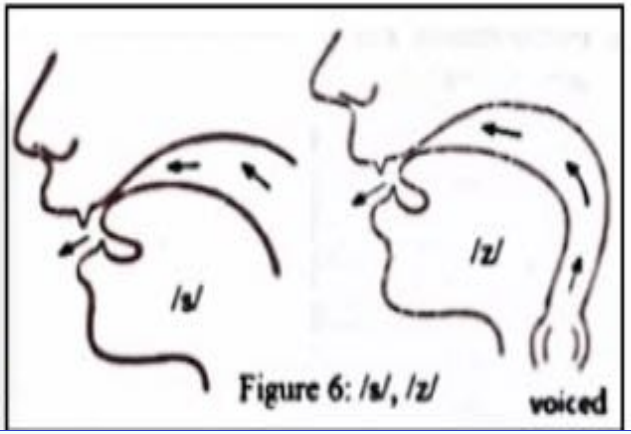


Figure 6: /s/, /z/

Task : Pronounce the following words

Listen and repeat: /s/ Soon, Mister, Hiss, Cease

/z/ Zero, Music, Buzz, Roses

Minimal Pairs: Buzz, Bus

Rise, Rice

Zip, Sip

Lazy, Lacy

His Hiss

Cause, Course

Plays, Place

Grows Gross

3. Description of the Articulation of English Consonant

3.7. Identification of the consonants /ʃ/, /ʒ/

Fricative consonants are formed by a narrowing of the air passage then the air escapes making a kind of hissing sound with an audible friction. The blade of the tongue contacts the palato-aveolar slightly. The soft palate is raised. /ʃ/ is unvoiced & fortis. /ʒ/ is voiced & lenis. *Shake* /ʃeɪk/, *beige* /beɪʒ/.

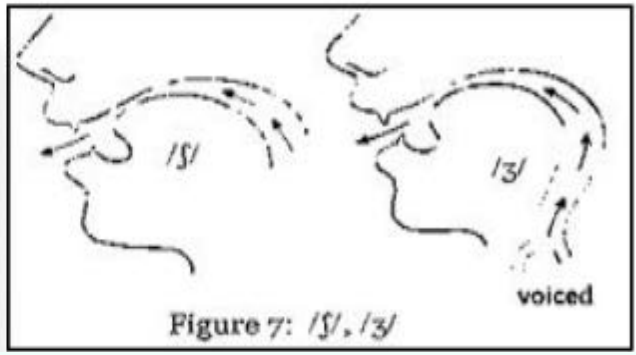


Figure 7: /ʃ/, /ʒ/

Task : Pronounce the following words

Listen and repeat: **/ʃ/ Ship, Sure, Nation, Fish, Shush**

/ʒ/ Leisure, Pleasure, Vision, Beige

Minimal Pairs: Ship, Sip

Show, So

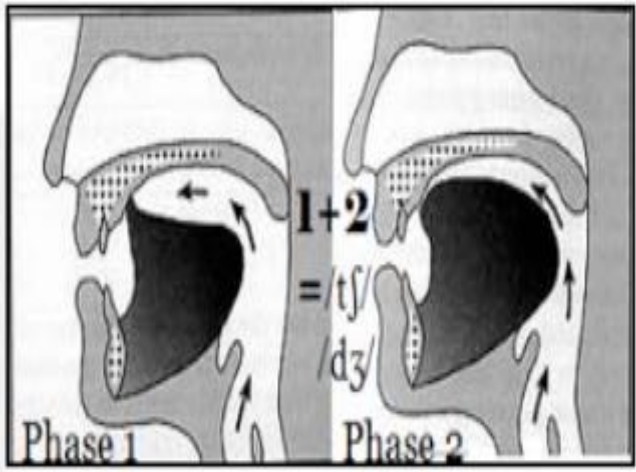
Shy, Sigh

Chauffeur, Sofa

Shock Sock

3.8. *Identification of the consonants /tʃ/, /dʒ/*

The English affricative sounds **/tʃ/** and **/dʒ/** are described as a transition from the plosives **/t, d/** into the fricatives **/ʃ , ʒ/** rapidly to get one phoneme. **/tʃ/** is unvoiced & fortis. **/dʒ/** is voiced & lenis. *Chief* /tʃi:f /, *Jack* /dʒæk/.



Task : Pronounce the following words

Listen and repeat: **/tʃ/ Choke, Teacher, Match, Church**

/dʒ/ Judge, Joke, Lodger, Bridge

Minimal Pairs: Choke, Joke

Chunk, Junk

Rich, Ridge

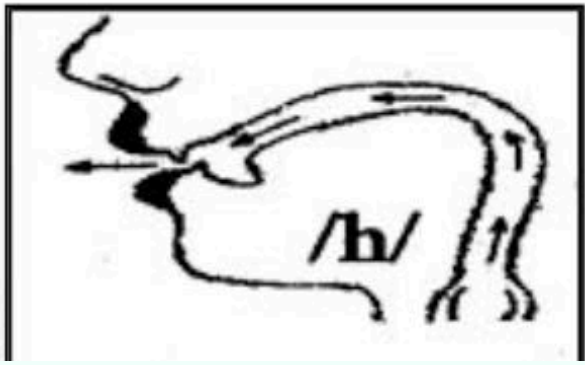
Lunch, Lunge

Surge, Search

3. Description of the Articulation of English Consonant

3.9. Identification of the consonant /h/

This consonant is articulated with the narrowing of the airflow in glottis. It is a kind of breathing out with an audible friction in the vocal cords. /**h**/ is voiceless when produced alone, but voiced when followed by a vowel. Example words: *Heat* /hiːt/, *who* /huː/, *perhaps* /pəˈhæps/, *adhere* /ədˈhɪə/.

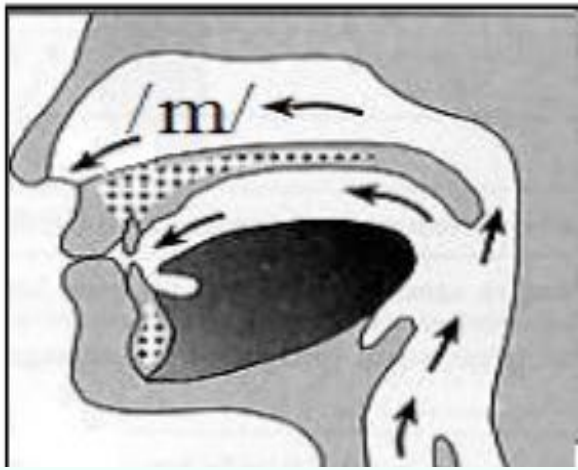


Task : Pronounce the following words

Listen and repeat: /h/ Here, Ahead, Hot, Hello, Height, Hedge, How,

3.10. Identification of the consonant /m/

In the nasal consonants the air escapes through nose. To do this, the soft palate is lowered to let air go to nasal cavity. /**m**/ is articulated with closed lips (bilabial) then air goes through nasal cavity. /**m**/ is voiced. *Mike* /maɪk/.



Task : Pronounce the following words

Listen and repeat: /m/ More, Hammer, Sum, Mime.

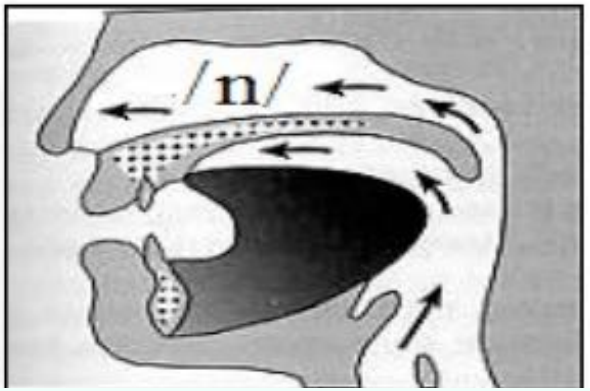
Minimal Pairs: Sum, Sung, Sun

Rum, Run, Rung

3. Description of the Articulation of English Consonant

3.11. Identification of the consonant /n/

In the nasal sound /n/ the velum is lowered so that the air can escape thru nasal cavity. /**n**/ is articulated with tongue tip pressing the alveolar ridge. /**n**/ is voiced. *Nile*/nɑɪl/, *snow* /snəʊ/, *fallen* /'fɔːlən/, none /nʌn/.



Task : Pronounce the following words

Listen and repeat: /n/ Nice, Son, Funny, None.

Minimal Pairs: Sun, Sung

Pin, Ping

Ran, Rang

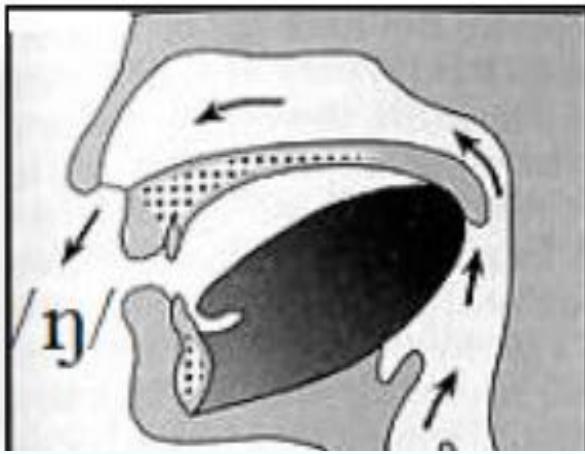
Thin, Thing

Wind, Winged

3.12. Identification of the consonant /ŋ/

This voiced nasal sound is made with the back of the tongue against velum.

e.g.: *Ring* /rɪŋ/, *link* /lɪŋk/, *singer* /ˈsɪŋə/, *hanger* /ˈhæŋə/, *hunger* /ˈhʌŋgə/.



Task : Pronounce the following words

Listen and repeat: /ŋ/ Anger, Thanks, Rung, King.

Minimal Pairs: Run, Rung

Ton, Tongue

Win, Wing

Robin, Robbing

Sinner, Singer

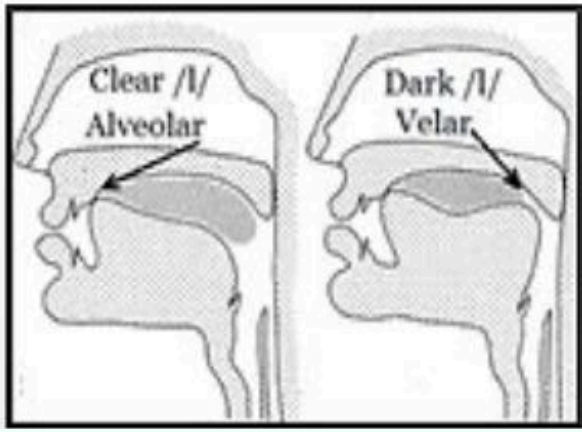
3. Description of the Articulation of English Consonant

3.13. Identification of the consonant /l/

This voiced alveolar lateral consonant is articulated with tongue centre and the alveolar ridge in which the air flows around both sides of the tongue. There are two types of laterals:

The clear /l/ is voiced alveolar lateral as: *let* /let/, wallet /'wɒlɪt/, *elite* /ɪ'li:t/

The dark /l/ is voiced velar lateral as: *well* [weɬ], *milk* [mɪɬk], *little* ['lɪtɬ].



Task : Pronounce the following words

Listen and repeat: /l/ Light, Valley, Bell, Level, Let, Tell, Leaf, Feel, Loaf, Foal, Loot, Tool, Pal, Pill, Mile

Minimal Pairs: Light, Right

Led, Red

Clash, Crash

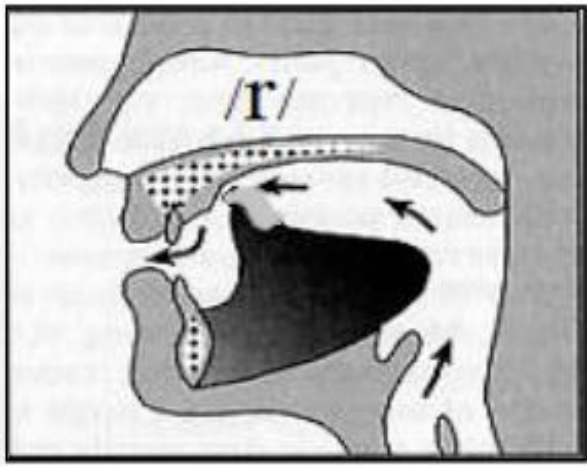
Climb, Crime

Lice Rice

Lock Rock

3.14. Identification of the consonant /r/

This post-alveolar consonant is pronounced with the articulators approach each other without a plosive or fricative sound as an approximant. The tip of the tongue approaches further back to the alveolar ridge somehow like /**t, d**/. the lips are slightly round. /**r**/ is voiced. *Right* /raɪt/, *free* /fri:/, *writer* /'raɪtə/.



Task : Pronounce the following words

Listen and repeat: /r/ Right, Wrong, Sorry, Arrange

Minimal Pairs: Wrong, Long

Royal, Loyal

Misread, Misled

Pirate, Pilot

Pray Play

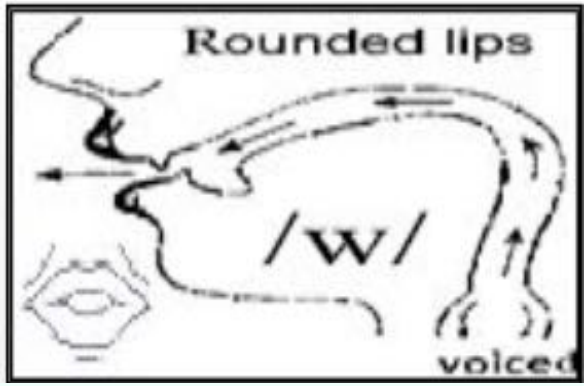
Pronunciation of /r/ in British English after a vowel: car, card, bored, here, heard

This is my car but My car is blue

3. Description of the Articulation of English Consonant

3.15. Identification of the consonant /w/

This glide or semivowel is made like back close vowel /**uː**/ but it is very short. This bilabial approximant is articulated with rounded lips. /**w/ & /j/** never occur in word final position. e.g.: *waste* /weɪst/, *require* /rɪˈkwɑɪə/.



Task : Pronounce the following words

Listen and repeat: **/w/ Wet, When, One, Beware, Quick, Queen**

Minimal Pairs:

Wet,	Vet
Worse,	Verse
While,	Vile
West	Vest
Wary	Vary

3.16. Identification of the consonant /j/

This glide or semivowel is made like front close vowel /iː/ but is very short. This palatal approximant is articulated with the back of the tongue raised to the velum (soft palate). /j/ is voiced. *Yes*/jes/, *tube*/tjuːb/, *new*/njuː/.

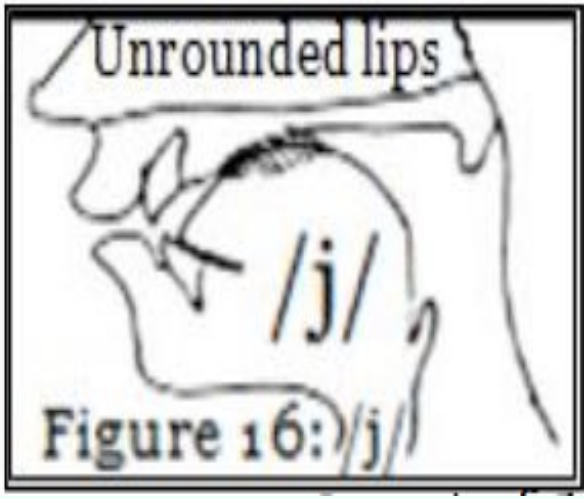


Figure 16: /j/

Task : Pronounce the following words

Listen and repeat: **/j/ Yet, Use, Yellow, Useful, Beauty, Few, Cute, Accuse**

	Initial	*Medial*	*Final*		*Initial*	*Medial*	*Final*
p	pin	upper	top	ð	those	father	soothe
b	buy	rubber	rib	s	same	classy	miss
t	tea	butter	boot	z	zoo	reason	choose
d	desk	lady	word	ʃ	sure	ocean	rush
k	come	echo	weak	ʒ		vision	rouge
g	guest	again	rug	h	horse	ahead	
tʃ	cheese	richer	much	m	must	hammer	some
dʒ	joy	region	charge	n	nail	dinner	thin
tr	tree	extra		ŋ		hanger	long
dr	drive	address		l	look	allow	fall
f	fancy	affect	laugh	r	red	very	
v	voice	river	live	w	wet	away	
θ	think	earthy	faith	j	yet	beyond	

Table 11 The distributional table of English consonant phonemes.

Lecture No. 5: Allophony in English

What is phoneme?

A phoneme is the smallest sound that can make a difference in meaning. In phonetics terms, it is any of the perceptually distinct units of sound in a specified language that distinguish one word from another. For example, the word **car** changes to **far** if you change the phoneme **/k/** to **/f/**. There are 44 phonemes in standard British English (RP). Some of them may be realized differently or have a variety of allophones. Therefore, the **phoneme is** "*the smallest distinct sound unit in a given language*''.

What is allophone?

An allophone is any of the various phonetic realizations of a phoneme, which do not contribute to distinctions of meaning. For example, /p/ in **pin /pɪn/** is aspirated **[$\mathbf{p^hɪn}$]** and /p/ in **spin** /**spɪn**/ is unaspirated **[spɪn]**. The first one **[$\mathbf{p^h}$]** is an allophone of the phoneme /p/.

Phonemic Transcription

Phonemic is a transcription showing the pronunciation of words using a simple set of symbols representing phonemes. It is a transcription usually found in the dictionary which is used between slashes. E.g.: **proposal** / prəˈpəʊzl̩ /, **standard** /ˈstændəd/, **learn** /lɜːn/

Phonetic Transcription

Phonetic transcription is a transcription with more details about the pronunciation of words, used between two square brackets. In this kind of transcription allophones are represented. For example, in [prəˈpʰəʊzɫ̩] the allophone [p^h] is **aspirated** and [ɫ̩] is **dark & syllabic.**

What is aspiration?

Definition of aspiration: it is when the production of /p/, /t/, /k/ is followed by an audible plosion (burst of noise) in the post release phase, producing a sound like h represented as [^{h}].

Examples of allophones:

1. Plosives: the Voiceless Fortis Plosives /p, t, k/ are **aspirated [**p^h, t^h, k^h**]** when **initial** in a **stressed syllable.** However**,** they are **unaspirated** in **final position** or when preceded by **/s/.**

E.g.: party [ˈp^hɑːti] table [ˈt^heɪbɫ̩] concert (n) [ˈk^hɒnsət] appear [əˈp^hɪə]

partake …….. stable ……..…….. treat …….. car ……..

2. Lateral: the English alveolar lateral phoneme /l/ has three main allophones:

a. Clear [l] with a relatively front resonance before **vowels** and **/j/** or when it is intervocalic

E.g.: lead **[**liːd**]** follow **[**ˈfɒləʊ**]** lose [luːz] sailor **[**ˈseɪlə**]** believe **[**bɪˈliːv**]**

b. Dark [ɫ] is articulated with a relatively back vowel resonance, final after a vowel(1), before a consonant preceded by a vowel(2) and as a syllabic sound followed by a consonant(3).

1. Feel ..... canal ..... pearl ..... call ..... well ..... all .....
2. Help ..... salt ..... cold ..... milk ..... film ..... elbow .....
3. Apple ..... middle ..... eagle ..... table ..... trouble ..... able .....

c. Voiceless [l̥] the voiced phoneme **/l/** becomes voiceless when it is preceded by accented **/p, k/**

E.g.: class [kl̥ɑːs] clap [kl̥æp] clean [kl̥iːn] place [pl̥eɪs] pleasure [ˈpl̥eʒə] please [pl̥iːz]

Exercise for practice:

Exercise 1: Transcribe phonetically and phonemically the following words

Words	Phonemic transcription	Phonetic transcription	Words	Phonemic transcription	Phonetic transcription
Pile	.....	.....	Knight	.....	.....
Pearl	.....	.....	Knee	.....	.....
Penalty	.....	.....	Kingdom	.....	.....
Pursue	.....	.....	Knowledge	.....	.....
Prepare	.....	.....	Question	.....	.....
Purchase	.....	.....	Queen	.....	.....
Pure	.....	.....	Scape	.....	.....
Council	.....	.....	Tension	.....	.....
Kangaroo	.....	.....	Towards	.....	.....
Kitten	.....	.....	Tyranny	.....	.....
Kettle	.....	.....	Today	.....	.....
Keen	.....	.....	Tertiary	.....	.....

Exercise 2: Convert the following transcribed passage into English spelling form

[aɪˈhævənt gɒt ə kʰɑːr ət ðəˈməʊmənt | maɪ kʰɑː wəzˈstəʊlən lɑːstˈfraɪdeɪ | aɪ left ɪt ət ðəˈsteɪʃən ɔːɬ deɪ | ənd wen aɪ gɒt bæk ɪn ðiˈiːvnɪŋ | ɪt hədˈvænɪʃt | aɪ həʊp ðiˈɪnʃɔːrənsˈkʰʌmpəni wɪɬ send mi ə tʃek suːn | səʊ ðət aɪ kən gəʊ ənd baɪ ənˈʌðə wʌn | ɪn ðə ˈfjuːtʃə aɪ wɪɬ pʰaːk ɪt ɜːli ɒn tʰaɪm | weɬ aɪɬ nɒt rɪˈpiːt ðæt fɔːɬ əˈgen]

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Thanks for your kind attention