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ENGLISH PHONETICS

A Practical Guide for First-Year University Students



- **Phonetics**
- **Phonology**
- **Speech Mechanism**
- **Articulatory Phonetics**
- **Phonotactics**
- **Consonant clusters**
- **Word Stress**



Preface

This coursebook deals with both the theoretical and practical aspects of English articulatory phonetics. It is meant to familiarize learners of RP English, mainly those at the university level with all aspects of human speech sounds: how these sounds are produced using the different speech organs 'articulatory phonetics', their physical properties while they travel in the air from speaker's mouth to listener's ear 'acoustic phonetics', and the way they are perceived and recognized by the inner ear and the brain 'auditory phonetics'. The different lessons are intended to enable learners to know about the human speech process and the journey which the airstream goes through from the lungs until it gets its final shape by the different articulators before it is sent out from either the oral and nasal cavities, or the oral cavity alone. The different lessons also deal with how phonetic knowledge can help learners acquire correct pronunciation of RP English vowels and consonants through the study of broad (phonemic) and narrow (phonetic) transcription of sounds. The study includes the articulation of each sound according to its occurrence in the different environments in the utterance (initially, medially, finally). The sounds are examined in both words in isolation, at word boundaries, and in phrases. Points in Phonotactics are also dealt with in this course. They encompass consonant clusters, syllable structure, and word stress, which form important parts of prosodic features of speech (supra-segmental phonology). Practice activities are provided at regular intervals to ensure, consolidate and extend what has been learnt. In order to save time and effort for learners, elucidated words, accompanied by their phonemic transcriptions are presented nearly after each illustrated linguistic point to ease their understanding.

Though these original views and observations crystallize in both the material and its presentation, much of the information given is derived from the numerous sources quoted in the bibliography. The drawings representing human speech consonant sounds, for example, are taken from Ward's *The phonetics of English* (1972). Except for the English triphthongs, the vowel diagrams are taken from Gimson's *An Introduction to the Pronunciation of English* (1989).

Mohamed Hemaidia

**A PRACTICAL GUIDE TO ENGLISH PHONETICS FOR FIRST YEAR
STUDENTS**

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SECTION ONE

PHONETICS & HUMAN SPEECH MECHANISM

I.1. Notion of RP English Accent

I.1.1. RP ‘Received pronunciation’ English, also referred to as the standard variety of English, is the regionally neutral middle-class accent of English. This means that by hearing this accent one does not know where in the UK the speaker is from. So, they might be from London, Birmingham, Manchester, Liverpool, Yorkshire, or anywhere. This means that this accent is not from a particular place. It is also called the ‘Queen’s English’ because people assume that the Queen speaks with Received Pronunciation. It is the accent used by news presenters on BBC; although certain sounds, mainly in terms of vowels are not pronounced by some speakers according to the norms that govern RP English. It is also referred to as Oxford English where this accent is used in Great Britain and is most widely taught in language schools all around the world. It is worth mentioning that RP is spoken by only 3 percent of the whole UK population.

I.1.2. Characteristics of RP English: RP English is spoken in clipped and precise tones, clipped consonants and elongated vowels. It seems a quite serious accent. It is the accent spoken by the upper-class category, *‘the accent mostly associated with the upper crust’*, Daniel J 1917. This accent is widely understood and used as the lingua-franca. Its main characteristic is defined as ‘non-regional dialect’, which does not tolerate any regional variation. Contrary to other regional accents which change over time, RP English is fixed; although some of its speakers very often introduce some changes that have taken place at the level of vowel sounds in certain regional accents into RP English. Most importantly is that one cannot identify the social, regional and cultural background of an RP English speaker

I.2. Phonetics: Definition

Phonetics /fə'netiks/ is the subfield of linguistics that studies the physical properties (aspects/characteristics) of human sounds (phones/voices), and the processes of their

physiological production. The minimal linguistic unit in phonetics is the 'phone' __ a speech sound in a language.

I.3. Branches of Phonetics

The field of phonetics is divided into three sub-disciplines based on the research question involved, such as how humans plan and execute movements to produce speech; how different movements affect the properties of the resulting sound; or how humans convert sound waves to linguistic information. This can be summarized as follows:

I.3.1. Articulatory Phonetics is concerned with the articulation of human speech sounds (how sounds are produced), i.e., the position, shape and movement of articulators (speech organs, such as the tongue, lips, the vocal cords, etc.). It studies the voicing, places of articulation and manners of articulation (V.P.M) of sounds. In general, what a person does to produce these different sounds.

I.3.2. Acoustic Phonetics is concerned with the physical properties of the sound waves, such as frequency & harmonics (resulting from the disturbance of air by some kind of movement). These disturbances of air are called sound waves. Acoustic Phonetics is what goes on between the speaker and the listener. We can measure, feel and touch the movement of speech sounds, i.e., energy in movement.

I.3.3. Auditory Phonetics is concerned with speech perception. (how sounds are perceived by the inner ear and the brain). This is referred to as a neuro-physical process.

In a nutshell, phonetics broadly deals with two aspects of human speech: the production process __ how humans produce sounds, and the process of perception __ the way human speech is understood. Languages with oral-aural modalities such as English produce speech orally (using the oral cavity 'mouth') and perceive speech aurally (using the ears).

I.4. Phonology /fə'nɒlədʒi/ is grounded in phonetics and is a subfield of linguistics that studies the sound system of a specific language or languages. Phonology describes the way sounds function within a given language or across languages. In other words, phonology is the abstract study of sounds and how these sounds are used to convey meaning. The minimal functional distinctive unit of phonology is **the phoneme** /'fəʊni:m/. In other

words, a phoneme is the mental representation of a speech sound or different sounds (no physical reality). It is a meaningful unit. By meaningful unit, we mean that it has a contrastive function (it is responsible for the change of meaning). It is a unit of sound that can distinguish one word from another in a particular language. For example, if we substitute the consonant phoneme /f/ for /r/ in a word like ‘rat’ /ræt/, it would result in ‘fat’ /fæt/. Similarly, the sound pattern /sin/ ‘sin’ and /sɪŋ/ ‘sing’ are two separate words that are distinguished by the substitution of one phoneme, /n/ for /ŋ/. In this situation, when two words differ in meaning through the contrast of a single phoneme, these words form what is referred to as ‘minimal pairs’.

1.5. Sound and Phoneme

Speech sounds that differ but do not create a change in meaning in words are known as ‘**allophones**’ /æləˈfəʊnz/. Allophones then are the different realizations of the same phoneme in particular phonetic environments. They may be free and vary in the articulation of different speakers of languages or dialects, although this articulation would have no effects on word meaning.

Phonemes usually fall into two classes: consonants and vowels. Differences in words may depend on differences between these classes in different environments. Phonemes are conventionally placed between slashes in transcription / /, whereas speech sounds are placed between square brackets [].

Examples of the contrast of phonemes in different environments are as follows:

In monosyllabic words:

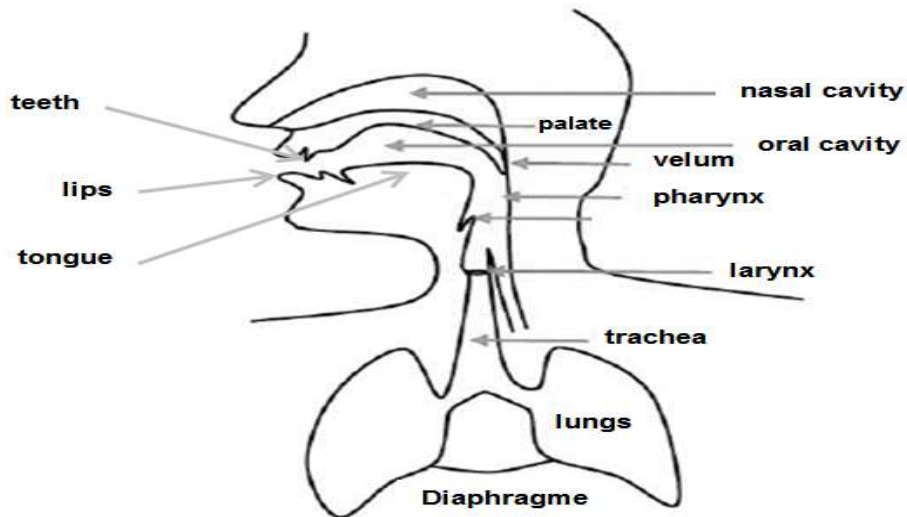
1. **Initially:** ‘bat’ /bæt/ and ‘rat’ /ræt/ differ in only one consonant, i.e., /b/ and /r/. (Initial phonemes are in contrast)
2. **Medially:** ‘hit’ /hɪt/ and ‘hat’ /hæt/ differ in only a vowel, i.e., /ɪ/ and /æ/. (medial phonemes are in contrast)
3. **Finally:** ‘ring’ /rɪŋ/ and ‘rink’ /rɪŋk/ differ in only one consonant, i.e., /g/ and /k/. (final phonemes are in contrast).

In disyllabic words:

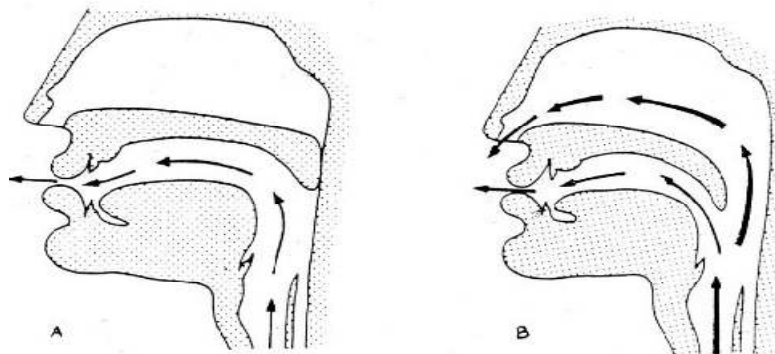
1. **Initially:** ‘harden’ /hɑːdən/ and ‘garden’ /gɑːdən/ differ in only one consonant, i.e., /h/ and /g/. (Initial phonemes are in contrast)
2. **Medially:** ‘rider’ /ˈraɪdə/ and ‘writer’ /ˈraɪtə/ differ in only a vowel, i.e., /ɪ/ and /e/. (medial phonemes are in contrast)
4. **Finally:** ‘riddle’ /ˈrɪdl/ and ‘ridden’ /ˈrɪdn/ differ in only one consonant, i.e., /l/ and /n/. (final phonemes are in contrast).

I.6. Speech Mechanism/Process

Speech does not start in the lungs as some may think, but in the brain as soon as the message is thought of in the mind. Hence, some commands are executed by the different speech organs to produce the utterances. After this mental operation, all the organs, as shown in the figure below, contribute to the production of human speech sounds using the airstream expelled from the lungs ‘pulmonic egressive airstream’. The lungs, helped by the diaphragm, pull in and push out the air, which goes out via the trachea to be submitted to the first obstruction in the larynx, as soon as it passes through it. Inside the larynx, the air passes by the vocal chords, which, if they vibrate, make the sound voiced. Afterward, the air goes up through the pharynx and then escapes via either the oral and nasal cavities or the oral cavity only.



Human's Organs of Speech



A) Production of oral sound

B) Production of nasal sound

I.7. Physiological functions of the speech organs

The different organs of speech involved in speech production have other functions: the lungs and the diaphragm are involved in the breathing process. The diaphragm, the major muscle of respiration, contracts to enlarge the chest cavity and creates a vacuum that pulls the air into the lungs. The lungs make the body survive by transferring oxygen to the blood cells and muscles, remove impurities, and send out Carbon dioxide and other waste gases that the body does not need. The nasal cavity whose first function is to allow air to get through the respiratory system, cleans, heats, and humidifies /hju'mɪdɪfaɪz/ the air that is breathed in. The teeth and the tongue are used in the digestion process (chewing & tasting food), yet, the vocal chords have to be closed to prevent food from going down the wrong way 'respiratory passage'.

I.8. Physical functions of the speech organs

Any speech manifestation is the result of quick and complicated chains of events on the part of the speaker. For example, an utterance such as 'She's so clever' involves a number of activities made by the different speech organs. Speech sounds undergo the following processes:

I.8.1. Neuro-physical Process:

The first step is considered a psychological operation. It occurs in the brain. The nervous system, and after the creation of the intended message expressed through the lexico-grammatical structure in the mind, the brain transmits it to the different organs of speech which will act and create acoustic disturbances in the air.

I.8.2. Respiration Process:

Sounds of nearly all languages are made with an egressive pulmonic breath, i.e., the air coming from the lungs. These organs contract to produce the flow of air when we breathe in and out 'respiration process (1)'.

I.8.3. Phonation Process:

When expelled from the lungs, air travels upward to the vocal tract (pharyngeal, oral, or nasal cavity) via the trachea, but before that to the larynx which is located behind the prominence in men's throat called 'Adam's apple'. The larynx contains two small

bands of elastic tissue called the ‘vocal chords’ responsible for regulating the amount of air coming from the lungs ‘phonation process (2)’. In doing so, the vocal chords can have the following positions:



1. Tightly together



3. Lightly together



I.8.3.1. Tightly Together:

They can be brought together firmly so that they completely cover the top of the trachea (windpipe). This is for the glottal stop/ʔ/ as in: ‘work’ /wɜ:ʔk/; smart /sma:ʔt/; football /fuʔbɔ:l/.

I.8.3.2. Apart:

They can be drawn apart to make a space between them (known as the glottis) through which the air can pass freely: this is their usual position in a time of rest. This process is for voiceless sounds; as for /p/ and /k/ in ‘park’ /pa:k/.

I.8.3.3. Lightly Together:

They can be brought together lightly ‘gently’ so that the air from the lungs will be able to force them apart for a moment, but they will return to the closed position; then the air will force them apart again, and they will close again, and so on. This is for voiced sounds; as /d/ in ‘harder’ /ha:də/.

I.8.4. Resonation Process:

After passing through the vocal cords with or without vibrations, the outgoing breath goes through the pharynx, which is a tube situated immediately above the larynx to connect the latter with the pharyngeal, oral, and nasal cavities (resonators), where this breath is given another shape ‘resonation process (3)’ for oral, nasal or nasalized sounds, the case of vowel articulation before nasal sounds. For some languages, the pharynx is usually classed as an articulator. The best-known language that has consonants with the pharyngeal place of articulation is Arabic. Examples of that are the consonants /h/ (Voiceless **pharyngeal** fricative), as in ‘حليب’ /h/ (ح) /hali:b/ ‘milk’; and ‘عين’ /ʕ/ (ع) /ʕajn/ ‘eye’.

I.8.5. State of the Velum:

The velum 'soft palate' is a thin soft sheet of muscle situated at the upper back part of the mouth in front of the back wall of the pharynx. Its main function is to separate the oral cavity from the nasal cavity; i.e., it creates a tight seal between the two cavities. The velum can have two positions:

I.8.5.1. Lowered, where it stands away from the back wall of the pharynx. In this case, the air passes through the nasal cavity, while the mouth passage remains closed a little moment before it opens, then air escapes from both cavities for the final articulation of the nasal sounds /**m, n, ŋ** /.

I.8.5.2. Raised, so as to press against the posterior back wall of the pharynx. In this case, the nose passage remains closed for a moment to prevent air from going through the nasal cavity; hence, it passes through the oral cavity 'mouth' producing oral sounds which include all sounds but the nasal ones mentioned above.

I.8.6. Articulation Process:

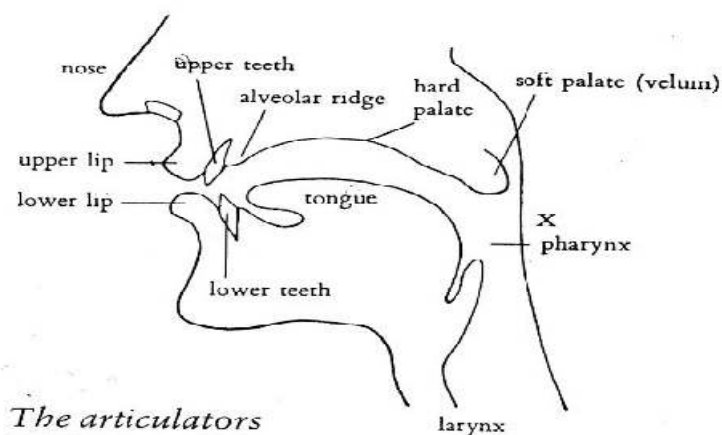
The last stage of sound production occurs in the mouth where sounds take their final shape. After being shaped by the resonators (the 3 cavities: pharynx, mouth, nose), the airstream is obstructed at different points in the mouth. This obstruction varies between complete and partial according to the kind of consonant sound to be articulated by the different speech organs 'articulation process (4)'. The different articulators which provide the sound with its final shape are of two kinds:

I.8.6.1. Active articulators:

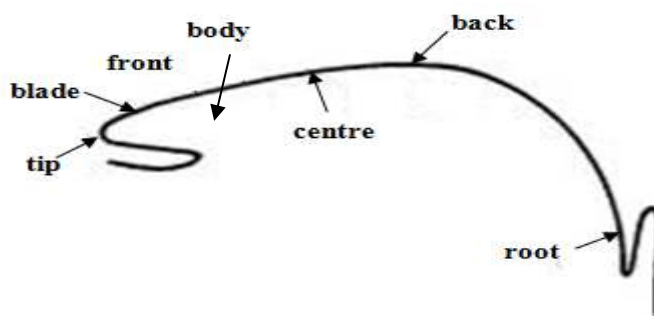
- 1) lips (lower/upper lips)
- 2) tongue (tip, blade, front, part/body, centre, back/dorsum)
- 3) soft palate (velum)

I.8.6.2. Passive articulators:

- 1) teeth (organs' contact is mainly with the upper teeth)
- 2) alveolar / tooth ridge
- 3) hard palate



Active and Passive Articulators above the Larynx



Different Parts of Tongue

SECTION TWO

RP ENGLISH VOWELS

II.1. Vowels: Definition

In ordinary speech, a **vowel** is a voiced sound in which the air passes through the mouth in a continuous stream without any obstruction and narrowing that would produce audible friction (phonetic definition). It is produced with an open vocal tract so that no build-up of air pressure at any point above the glottis.

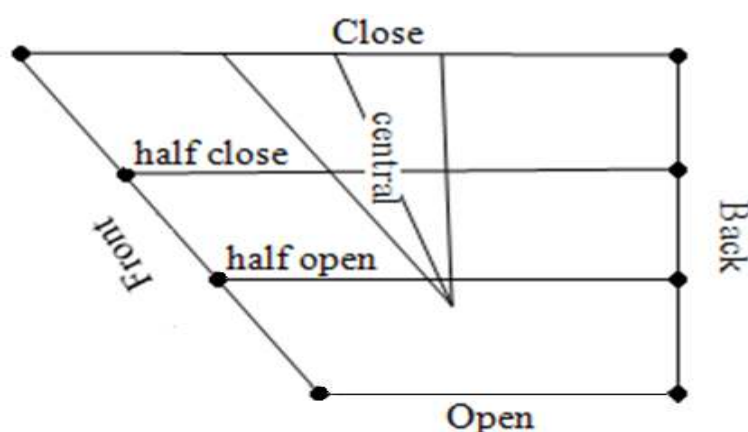
The word ‘vowel’ comes from the Latin word ‘*vocalis*’, meaning ‘speaking’, because in most languages, constructing words is not possible without vowels. Vowels are commonly used to mean both the ‘vowels’ and ‘written symbols’ that represent them.

Phonologically, vowels refer to those speech sounds that occupy the syllable central position; i.e., they form the most important part ‘nucleus/peak’ of the syllable.

It is worth noting the conflict between the phonetic and phonological definition of ‘vowel’. The approximant /j/ and /w/ illustrate this conflict: both sounds are produced without much constriction in the vocal tract (so, phonetically they seem to be vowel-like), but they occur on the edge of syllables, such as at the beginning of the English words ‘yes’, and ‘wet’ (thus, phonologically, they are consonants).

II.2. Classification of vowels

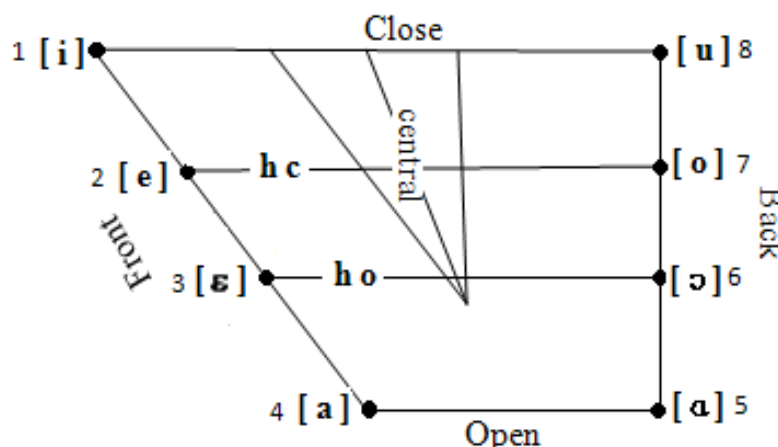
Daniel Jones, English Phonetician (1881 –1967) developed the Cardinal Vowel System (an imaginary scale for measurement) to describe vowels in terms of common features; height (vertical dimension), backness (horizontal dimension), and roundedness (lip position). These three parameters are indicated in the schematic IPA vowel diagram. This diagram referred to as ‘**the vowel quadrilateral**’ is a four-sided chart used as a reference for the description of vowels. In other words, it accounts for the range of vowels that the human vocal apparatus can make. Thus, the basis of the cardinal vowel system is physiological



The parts of the tongue, the position and the shape of lips determine the quality and the shape of vowels. This can be summarized as follows:

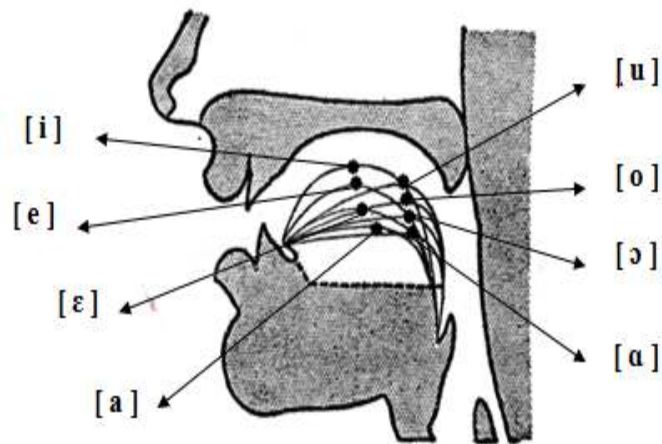
- 1) The front of the tongue is raised as close as possible to the palate without friction being produced, for cardinal vowel [i].
- 2) The whole part of the tongue is as low as possible in the mouth with very slight raising at the extreme back, for cardinal vowel [a].
- 3) Starting from [i] position, the front of the tongue is lowered gradually, the lips remaining spread or neutrally open, while the soft palate is raised. The lowering of the tongue is stopped gradually at three points at which the vowel qualities are seen. From an auditory point of view, there is an equidistant point 'same distance' between the symbols [e e a], which are assigned to these vowel values.
- 4) The back of the tongue is raised from [a] position, the lips are changed progressively from a wide-open shape to a closely rounded one, and the soft palate remains raised. These auditory equidistant points are established from the lowest to the highest position. Their symbols are: [ɔ o u]. Thus, there are **eight (8)** cardinal vowels illustrated on the diagram as follows:

II.2.1. Vowel Diagram: Daniel Jone's Cardinal Vowel Diagram



* Between Cardinal vowels 1&4, there are cardinal vowels 2&3. Between 5&8, there exist 6&7. There are equidistant points between all these cardinal vowels.

The tongue positions of the eight primary cardinal vowels can be illustrated in the following figure:



**Positions of the Eight Primary Cardinal Vowels
(Tongue illustration)**

II.2.2. Criteria needed in the description of vowels

When describing a vowel, the following criteria are needed:

1) Height of the tongue: whether raised or lowered

Front of the tongue raised towards almost to close position of the hard palate. (near cardinal vowel no 1, for /i:/, as in ‘sea’, ‘feel’, ‘read’)

2) Part of the tongue: front, center, back

a) Front vowels occur when the front of the tongue is raised toward the hard palate.

b) Central vowels occur when the center of the tongue is raised toward the hard palate.

c) Back vowels occur when the back of the tongue is raised toward the soft palate.

3) Shape of the lips (the opening formed by the lips): the lips can have three shapes:

a) spread: the corners of the lips are moved away from each other, as for a smile, as in /i:/ in ‘heal’, ‘ease’

a) neutral: the lips are not noticeably rounded or spread, as in /a:/ in ‘calm’, ‘father’

c) rounded: the corners of the lips are brought together towards each other, with the lips pushed forward, as in /u:/ in ‘shoes’, ‘move’

4) Length of the vowel: short, or long

5) State of the velum: always raised

6) Action of the vocal chords: for vibration

7) State of the tongue: **tense**, or **lax**

In general, **tense** vowels are closer than their **lax** counterparts. Tense vowels are sometimes claimed to be articulated with a more advanced *tongue root* than lax vowels, hence, they are longer in duration than lax vowels; therefore, if a word ends with a voiced sound, the vowel preceding it becomes tense; i.e., it tends to be longer and stronger. If a word ends with a voiceless consonant, then the vowel preceding it tends to be more lax or relaxed.

Note: Criterion no 07 does not create opposition. It is just the way the tongue is felt, i.e., it can be **tense** (contracted) or **lax** (not contracted)

8) Contact between the **tongue rims** and the **upper molars** (is made by accident)

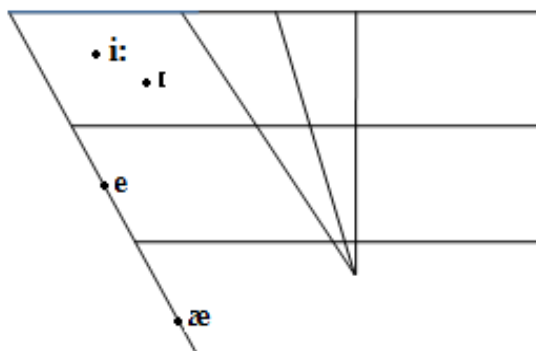
II.3. RP English Vowels: Definition& Description

RP English counts twenty vowels in all: twelve monophthongs ‘pure vowels’ including seven short and five long vowels, as well as eight gliding ones ‘diphthongs’. Other kinds of vowels are the five triphthongs formed from the sequence of three monophthongs ending in schwa.

II.3.1. RP Pure Vowels

As mentioned above, RP English counts twelve vowels in its phonemic inventory: five long vowels and seven short ones; they are as follows:

II.3.1.1. Front Vowels: / i: /, / ɪ /, / e /, / æ /



a) / i: /

Examples: ___ **i**, as in: machine, fatigue, suite, urine, bedim, centime
___ **ie**, as in: piece, shield, believe, retrieve, thief, achieve, sieve, retrieve
___ **ei**, as in: seize, receive, ceiling, receipt, deceive, caffeine
___ **ea**, as in: repeat, reveal, cease, please, increase, beans, lead, appeal
___ **ee**, as in: freedom, fees, redeem, canteen, feed, freedom, bleeding, eel
___ **e**, as in: these, be, economic, cede, be, equal, evil, cedar, edam, elongate
___ **ey**, as in: key

Note: / i: / in 'quay', 'people', 'Beauchamp' /'bi:tʃəm/ (Gimson 1989: 101)

Long: [i:] ___ read, freeze, breathe, flee, please, fees

Reduced [i̯] ___ meet, least, lease, reef, beach

Compare [i:] & [i̯] ___ feed, feet; seize, cease; lead, leak

Note1: Any long vowel is usually reduced before a fortis/voiceless consonant.

Note2: Any reduced long vowel is marked by omitting one point from the two which mark the vowel length [v]

Vocabulary

bedim /be'di:m/:

retrieve /ri'tri:v/: regain ; find & bring back

redeem /ri'di:m/: to regain with money what was given with money (what was given in exchange of money)

eel /i:l/: any of various types of fish that are shaped like snake and are hard to hold

cede /si:d/ to yield (usu. Land or a right) to another country or person, esp. after losing a war

cedar /si:də/: a type of evergreen tree, which keeps its leaves green in winter

edam /i:dəm/: a yellow pressed cheese, mist, smoke, etc.

Description: 1- The long vowel / i: / is articulated with the front of tongue raised to the position approximately below fully close position. **2-** The lips are widely spread with narrow jaw opening **3-** The tongue is tense with the side rims making a firm contact with the upper molars. This contact is made by accident. / i: / is described as a 'high, front, unrounded, long vowel'

Note: When closed by the 'dark' [ɫ], /i:/ becomes diphthongal (a schwa /ə/ is inserted between /i:/ and 'dark' [ɫ], as in: 'feel' [fi:(ə)ɫ]; 'zeal' [zi:(ə)ɫ]; 'heel' [hi:(ə)ɫ]; 'deal' [di:(ə)ɫ].

b) /ɪ/

Examples: ___ **i**, as in: pit, bid, sister, twitch, activity, pick, stick, until, unfit, ethics
___ **e**, as in: judges, reaches, sorted, response, deceive, believe, shouted
___ **ie**, as in: bodies, cities, babies, remedies, forties, sorties, bundies
___ **a**, as in: image, damage, surface, senate, separate, private, intimate
___ **y**, as in: crystal, mystery, lyrics, oxygen, styptic, statistics

Note: the /ɪ/ exists in words like: ‘build’, ‘Sunday’ (end of days of the week), ‘business’, ‘women’, ‘minute’, ‘England’ (Gimson 1989: 103)

i:] & [ɪ] ___ green, grin; steal, still; leave, live
iː] & [ɪ̯] ___ least, list; sleep, slip; each, itch; leap, lip
i:] & [iː] ___ seed, seat; leave, leaf; league, leak
ɪ] & [ɪ̯] ___ kid, kit; lid, lit; rabid, rabbit; fig, fish

Note 1: Any short vowel is usually reduced before a fortis/ voiceless consonant.

Note 2: Any reduced short vowel is marked with a short [̯] on it.

Vocabulary:

styptic /ˈstɪptɪk/: a substance which stops bleeding

Description:1- The short vowel /ɪ/ is pronounced with the part of tongue nearer to the centre than to the front, raised just above half-close position with the jaw narrowly open **2-** The lips are loosely spread. **3-** The tongue is lax (compared with the tension for /i:/) with the side rims making a light contact with the upper molars. /ɪ/ is described as a ‘high, front, unrounded short vowel’.

Variants of /ɪ/

An alternation between the schwa /ə/ and /ɪ/, mainly in unaccented syllables is used among RP English speakers. Thus, the representing symbol /ɪ̯/ is mostly found in both phonemic and phonetic transcriptions.

a) In word-final position, /ə/ takes the place of /ɪ/:

e.g. ___ **ity**: /-əɪ/ instead of /-ɪɪ/ as in: dignity, quality, extremity, quantity
___ **itive**: /-əɪv/ instead of /-ɪv/ as in additive, genitive, sensitive
___ **ily**: /-əli/ instead of /-ɪli/ (especially after /r/) as angrily, primarily, readily, hungrily

_ate: is usually pronounced as /ət/ rather than /ɪt/ as in **private**, **climate**, **private**, **approximate**, **accurate**

_ible: /əbl/ instead of /ɪbl/ as in **adorable**, **inevitable**, **payable**, **excitable**

_em: /əm/ instead of /ɪm/ or /em/ as in **poem**, **anthem**, **system**

b) Sometimes, both /ɪ/ & /ə/ are heard in RP speakers' speech.

e.g. **_ess:** /ɪs/ or /əs/ as in **loudness**, **brightness**, **senseless**, **sadness**, **harshness**

_ace: /ɪs/ or /əs/ as in **necklace**, **menace**, **surface**, **palace**

e.g. **_age:** pronounced mostly as /ɪdʒ/ as in **damage**, **garbage**, **advantage**

Note: In some French loan words such as **barrage**, **camouflage**, the 'age' is pronounced as /**a:(d)ʒ**/

_et: is pronounced as /ɪt/ especially following /**k**, **g**, **tʃ**, **dʒ**/ as in **rocket**, **basket**, **target**, **widget**, **gadget**, **garret**

Note: the endings **_let**, **_ret** often have /ət/, as in **bracelet**, **secret**, **claret**, and **garret**

_be: /ɪ/ is more common than /ə/, as in **because**, **between**, **behalf**; yet /ə/ is more common than /ɪ/ in words like **believe**, **belong**, **behave**.

c) / e /

Examples: **_a**, as in: **many**, **Thames**, **marine**, **ate**

_ai, as in **said**, **again**, **against**, **saith**

_ay, as in **says** /**sez**/, but **not** in 'say' /**seɪ**/

_e, as in: **fed**, **red**, **wet**, **set**, **let**, **met**, **pet**, **set**, **restless**, **wretch**

_ea, as in: **dead**, **health**, **breath**, **wealth**, **dealt**

_ei, as in **Leicester**

_ie, as in **friend**

_u, as in: **bury**

Compare: / ɪ / , / e / **_** **pit**, **pet**; **knit**, **net**; **till**, **tell**; **lit**, **let**

[ɪ], [ɪ̃], [ẽ] **_** **neat**, **knit**, **net**; **reach**, **rich**, **wretch**

[i:], [ɪ], [e] **_** **feel**, **fill**, **fell**; **read**, **rid**, **red**; **feed**, **fid**, **fed**

Vocabulary

saith /**seθ**/ : old use of bible 'says'

wretch /**retʃ**/: a poor or unhappy person

Leicester /**ˈlestə**/:

Description:1- The vowel / **e** / is articulated with the front of the tongue raised between half-open and half-close positions with medium jaw opening **2-** The lips are loosely spread,

but lightly wider apart than for /ɪ/. **3-** The tongue makes a light contact with the upper molars. /e/ is described as a ‘mid front, unrounded short vowel’.

d) /æ/

Examples: __ a, as in: cat, bad, back, carry, jacket, happen, marry, ramble, statue
__ ai, as in: plait, plaid

Compare: /ɪ/, /e/, /æ/ __ shit, shed, shad; lit, led, lad; mid, med, mad; kid, ked, cad
[ɪ], [e], [æ] __ bid, bed, bad; big, beg, bag; tin, ten, tan
[ɪ], [e], [æ] __ miss, mess, mass; pit, pet, pat; writ, ret, rat

Note: [æ:] (before /b, d, g, dʒ/), as in: cab, bad, bag, badge and [æ̃] (before /p, t, k, tʃ/, as in: cap, bat; back; batch

Vocabulary:

shad /ʃæd/: a type of common food fish (related to the herring) of the north Atlantic

ramble /ˈræmbəl/: a long walk for enjoyment, often in the country

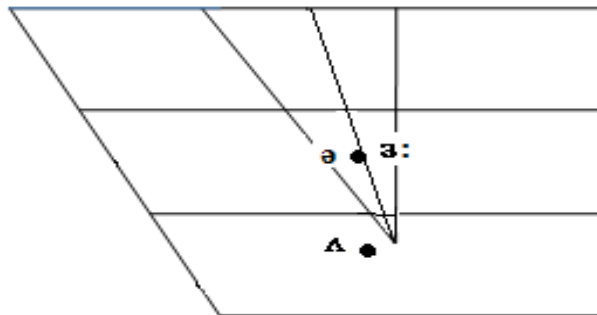
plait/plæt/: a length of something

plaid/plæd/: a long piece of colourful wooden cloth often worn on the shoulders by Scotsmen in ancient times

Description:1- The short vowel /æ/ is articulated with the mouth slightly more open than for /e/. **2-** The front of the tongue is raised just below half-close position, with the side rims making a very slight contact with the back upper molars. **3-** The jaw is widely open and the lips are neutrally spread. /æ/ is described as a ‘front open unrounded short vowel’.

Note: The short vowel /æ/ appears to be lengthened in RP English, mainly before the lenis/voiced consonants /b, d, g, dʒ, m, n/ (dab, cad, bag, badge, ram, man). It seems to be equivalent in quality to the long vowels /i:, a:, ɔ:, ɜ:/. However, like all short vowels, it is reduced before any fortis/voiceless consonants.

II.3.1.2. Central vowels: / ɜ: / , / ə / , / ʌ /



a) /ɜ: /

Examples: __ **ir**, as in **bird**, **dirt**, **firm**, **skirt** **first**, **girl**, **thirty**, **thirsty**, **birthday**, **gird**
__ **ea**, as in: **earth**, **heard**, **learn**, **search**
__ **er**, as in **ear**, **merge**, **her**, **serve**, **berth**, **mercy**, **mercury**, **berserk**, **wert**
__ **ur**, as in **burst**, **fur**, **curd**, **turn**, **church**, **nurse**, **curl**, **burnt**, **purple**
__ **err**, as in: **err**
__ **our**, as in **journey**, **courtesy**, **scourge**
__ **urr**, as in: **purr**
__ **W+ or**, as **word**, **world**, **work**, **worse**, **worthy**, **worship**, **worm**
__ **yr**, as in: **myrtle**

Note: / ɜ: / in 'colonel' /kɜ:nl/

Long [ɜ:], as in: fur, burn, bird, urge

Reduced [ɜ'], as: in first, earth, worse, church

Compare [ɜ:] , [ɜ']: heard, hurt; bird, birth; third, thirst; hers, nurse; Thursday, thirsty; curve, surf

Vocabulary

gird /gɜ:d/ : encircle a person or part of a body with a belt

berth /bɜ:θ/: a place where a ship can stop and be tied up, as in a harbour

berserk/bɜ:'sɜ:k/: mad with violent anger

wert /wɜ:t/: old use of 'you were'

Description:1- The long vowel /ɜ:/ is a central vowel articulated with the centre of the tongue raised between half-close and half-open. **2-** No firm contact is being made between the tongue and the upper molars. **3-** The jaw is medially open and the lips are neutrally spread./ɜ:/is described as a 'mid, central, unrounded, long vowel'.

Variants: / ɜ: / is sometimes reduced to [ə] in unaccented syllables. In the words: ‘amateur’, /'æmətɜ:/ and pennyworth /'penɪwɜ:θ/, the stress is on the first syllable, thus the /ɜ:/ is changed into [ə]; the result would be: ['æmətə] and ['penɪwəθ]

b) / ə /

Examples: __ /ə / may be spelt with most vowel letters and their combinations.

e.g. __ **i**, as in: possible, edible, animal, family, pencil, experiment, decimal, dilemma
__ **e**, as in: gentlemen, wonder, wonderful, enemy, problem, system, veteran
__ **a**, as in: woman, gentleman, dilemma, balloon, again, pleasant, banana, adopt
__ **o**, as in: obtain, oblige, observe, obscure, obedient, salmon, gallon, parrot
__ **u**, as in: suppose, support, album, circumstance, survive, medium, stadium
__ **ar**, as in: particular, beggar, Trafalgar, popular, collar, scholar, muscular
__ **e**, as in: problem, celebrate, enemy, synthesis, system, symmetry, remedy
__ **er**, as in: mother/r, danger, stranger, bearer, bigger, robber, passenger, power
__ **or**, as in: demeanor, actor, protractor, enamor, warrior, collector, devisor
__ **ou**, as in: famous, gorgeous, spacious, enormous, advantageous, conscious
__ **our**, as in: colour, behaviour, endeavour, savour, favour, neighbour, harbour
__ **ure**, as in: figure, departure, creature, closure, caricature, culture, literature
__ **y**, as in: syringe, analysis, Pennsylvania, synonymous, sibyl, Cyrillic

It should be noted that schwa / ə / is used in common unaccented weak forms of such words like: a, an, the, to, for, but, and, etc.

Vocabulary

Demeanor /də'menə/: outward behavior or bearing

sibyl /sɪbəl/: a woman in ancient times supposed to know what's going to happen in the future.

Cyrillic /sə'ɪrɪlɪk/: denoting the alphabet used by many Slavic peoples

Description: 1- / ə / is a quick, relaxed, neutral, central vowel in which the vocal tract is in its neutral position. 2- It frequently occurs in unaccented syllables. 3- The lips are in their neutral position 4- The tongue is raised between half-open and half-close, and the jaw is completely relaxed 5- Its quality varies depending on the adjacent consonant sounds; for example, in the vicinity of velar consonants /k, g/ and /ŋ/, the tongue may be slightly more raised and retracted, as in: ‘long ago’ /lɒŋ ə'gəʊ/. However, in word-final position, the

schwa may be articulated in half-open position as in builder, Colchester, banana, etc. / ə / is described as a ‘mid, central, unrounded, short vowel’.

Note: Sometimes, there is an alternation between the schwa / ə / and the short vowel /ɪ/. This is found in dictionaries in the symbol form of / ɪ̯ /, as in the word ‘sincerity’ /sɪn'serɪti/

c) /ʌ/

- 1) **Examples:** __ u, as in: cut, fun, dull, humble, hunter, punk, sunny, uncultured
 __ o, as in: none, some, among, monetary, month, colourful, monk, London
 __ oo, as in: blood, flood
 __ ou, as in: country, southern, double, couple, trouble, enough, younger
 __ oe, as in: does

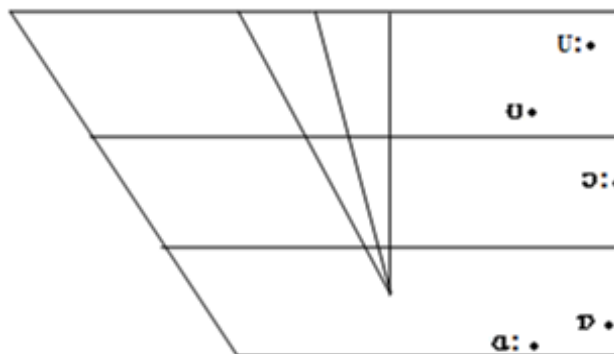
Compare: /æ/, /ʌ/ __ hat, hut; stamp, stump; match, much, catch, cutch
 [ɜː], [ɜː], [ʌ], [ʌ], __ curt, curd; cut, cud; birth, bird; bud, but; dirt, dirge
 Dutch, drudge

Vocabulary:

monk /mʌŋk/: a member of a religious community of men

Description: 1) The short vowel /ʌ/ is articulated with the jaws considerably separated 2) The lips become neutrally open 3) The centre of the tongue is raised just above the fully open position 4) In the process, no contact is being made between the tongue and the upper molars 5) /ʌ/ does not occur in final open syllables./ʌ/ is described as an ‘open, central, neutral, unrounded, short vowel’.

III.3.1.3. Back vowels: /ɑː/, /ɒ/, /ɔː/, /ɔ/, /uː/



a) /ɑ:/

Examples: ___ **a**, as in: **a**fter, **a**rsenal, **a** glance, **a** glass, **a** half, **a** impala, **a** banal, **a** dancer
___ **ar**, as in: **a**rt, **a**rch, **a**rd, **a**rther, **a**rpenter, **a**rkness, **a**rsenal
___ **ear**, as in: **a**rt, **a**rth, **a**rty
___ **er**, as in: **a**rt, **a**rby, **a**rgent
___ **al**, as in: **a**lm, **a**lm, **a**lf, **a**lf, **a**lve
___ **au**, as in: **a**nt, **a**ugh

Note: /ɑ:/ in 'vase', and in recent borrowings from French in which the French –oir [wa:], e.g. 'reservoir'

Long [ɑ:], as in: card, starve, large, hard, banal, garage (Fr. loan word), calm
Reduced [ɑ], as in: March, last, heart, lark, start, park, glass

Compare: [ɑ:], [ɑː] ___ hard, heart; cars, class; starve, staff; Marge, match
[ɑː], [ɑ] ___ heart, hut; march, much; park, puck; barb, buck
[ɑ:], [ɑ] ___ card, cud; hard, hub; cars, cub; bard, bud, barb, bub

Vocabulary:

impala /ɪm'pɑ:lə/ a graceful antelope often seen in large herds in open woodland in southern and East of Africa

Description:1) The long vowel /ɑ:/ is articulated with the jaws considerably separated. **2)** The lips become neutrally open. **3)** The tongue is in its fully neutral position. **4)** In the process, no contact is being made between the tongue and the upper molars. /ɑ:/ is described as an 'open, back, neutral, unrounded, long vowel'.

b) /ɒ/

Examples:

___ **a**, as in: wash, wad, wander, what, want, watch, quality, wallet, swan
___ **au**, as in: restaurant, sausage, Austria, Australia, cauliflower, austerity
___ **o**, as in: shop, sorrow, model, involve, doctor, follow, obvious, policy
___ **ou**, as in: cough, trough /trɒf/, Gloucester /glɒstər/
___ **ow**, as in: knowledge, acknowledge

Compare: [ɔ], [ɑ:] __ cod, card; rod, yard; God, guard; evolve, valve
[ɒ], [ɑ:] __ pot, part; cough, calf; off, half; sot, smart; loch, larch

Vocabulary:

Austerity /ɒ'steriti/: sternness or severity of manner or attitude

Gloucester /'glɒstər/: is a cathedral city and the county town of Gloucestershire in the South West of England

Description:1) The short vowel /ɒ/ is articulated with wide-open jaws and slight open lip-rounding. **2)** The back of the tongue is in its fully open position. **3)** No contact is being made between the tongue and the upper molars. / ɒ / is described as an ‘open, back, rounded, short vowel’.

c) /ɔ:/

Examples: __ a, as in: fall, talk, salty, water, ball, caller, wallet, smaller
__ ar, as in: towards, reward, award, warless, quart
__ au, as in: daughter, sauce, fault, naughty, caudle, maudlin, gaudy
__ aw, as in: raw, hawk, straw, yawn, strawberry, crawling, drawly, lawless
__ oa, as in: abroad, broadly, broadcast
__ oar, as in: hoard, oar, board, soared, soar, roar, coarse
__ or, as in: short, horn, torn, porch, form, dormitory, cordially, floret
__ ore, as in: more, snore, spore, before, shored, adore, cornet, hornet
__ oor, as in: moor, floor, spoor, coordinate, microorganism, doorway
__ ou, as in: sought, ought, fought, wrought
__ our, as in: court, four, source, pouring, courtesy

Note 1: /ɔ:/ in ‘sure’/ʃɜ:/ ; ‘poor’/pɜ:/ or with /ʊə/ ‘sure’/ʃʊə/ or ‘poor’/pʊə/

Note 2: /ɔ:/ does not occur before /ŋ/

Long [ɔ:], as in: saw, war, born, board, dawn

Reduced [ɔ], as in: sort, ought, horse, chalk, quart

Compare: [ɔ:], [ɔ] __ saw, sort; war, wart; board, bought; saws, sauce
[ɒ], [ɔ:] & [ɔ], [ɔ] __ cod, cord; don, dawn; stock, stork
[ɒ], [ɔ], [ɔ], [ɔ:] __ not, nod, north, northern

Vocabulary:

caudle/'kɔ:dl/: near, or concerning the tail of the body

gaudy/'gɔ:di/: too bright in colour

wrought/'rɔ:t/: old use of the past & past participle of 'do'

Description: **1)** The long vowel /ɔ:/ is articulated with medium lip-rounding. **2)** The back of the tongue is raised between half-open and half-close positions. **3)** No contact is being made between the tongue and the upper molars./ɔ:/ is described as a 'mid, back, rounded, long vowel'.

d) /ɔ/

Examples: __ **u**, as in: pull, sugar, cushion, bullring, butcher, fulfill

__ **o**, as in: wolf, woman, bosom, Wollongong /'wɒləŋgɒŋ/

__ **oo**, as in: good, rook, wood, wool, look, took, hooker, wooden, childhood

__ **ou**, as in: group, could, should, would, courier

__ **or**, as in: Worcester? /'wɒstə/; worsted (cloth) /'wɒstɪd/

Compare: [ɔ], [ɔ:] __ could, cord; wood, ward; should, shored; pull, palled

[ʊ], [u] could, foot; hood, hook; good, put

Vocabulary:

Wollongong /'wɒləŋgɒŋ/: a city located in the Illawarra region of New South Wales, Australia

Worcester /'wɒstə/: is a Cathedral city & the ceremonial county Worcestershire, in England, 48 Km south-west of Birmingham

Description:1) The short vowel /ʊ/ is articulated with the part of the tongue nearer to the centre than to the back, which is raised just above half-close position. **2)** The tongue has a lax state (compared with the tenser /u:/. **3)** No firm contact is being made between the tongue and the upper molars. /ʊ/is described as a 'high, back, rounded, short vowel'.

e) /ʊ:/

Examples: __ **oo**, as in: mood, school, food, cartoon, blooming, rooster, poodle, loosen

__ **o**, as in: do, who, two, prove, lose, whom, move, lose, improve, remove

- ___ **ou**, as in: **group, soup, troupe, wound, through, route, crouton, routine**
- ___ **u**, as in: **rude, June, accuse, beautiful, abuse, induce, illusion, include**
- ___ **ew**, as in: **chew, crew, flew, screw, shrewd, brewery, cashew**
- ___ **ue**, as in: **blue, flue, fluent, cruelly, pursue, queue, revue, rescue, subdue**
- ___ **ui**, as in: **juice, cruise, bruit, recruit, bruise, suitcase, sluice, suitor**
- ___ **oe**, as in: **shoe, canoe**
- ___ **ooe**, as in: **cooed, mooed, tattooed, wooed**
- ___ **iew**, as in: **view, review, interview, viewpoint**

Note: In many cases of the spelling u, eu, ew, ue, ui, /ʊ:/ is preceded by /j/, e.g. music, duke, new, few, hue, argue, nuisance, beauty; in some words, both /ʊ:/ and /jʊ:/ are heard, e.g. ‘suit’ /sju:t/ or /su:t/, ‘enthusiasm’ /n'θju:ziæzəm/ or /n'θu:ziæzəm/.

Long [u:], as in two, blue, food, move

Reduced [ʊ], as in boot, fruit, hoof, group, douche, hoop

Compare [u:], [ʊ] ___ shoe, shoot; rude, root; lose, loose; use (v), use (n); nude, newt
Jews, juice
[u:], [ʊ] ___ food, good; pool, pull
[ʊ], [ʊ̯] ___ boot, foot; loop, look
[u:], [ʊ] ; [ʊ], [ʊ̯] ___ food, foot; hood, hook

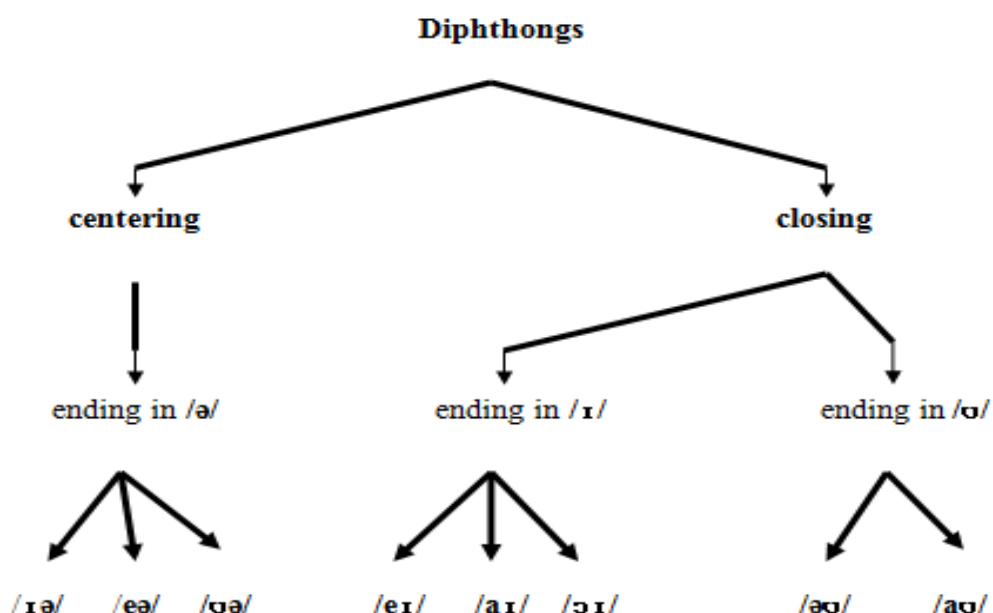
Note: /ʊ:/ does not normally occur before [ŋ]

Description:1) RP long vowel /u:/ is a back close vowel, with a raising relaxed tongue.
2)The articulation of /u:/ is tense compared with that of /ʊ/. **3)** No firm contact is made between the tongue and the upper molars. The lips tend to be closely rounded and centralized. /u:/ is described as a ‘high, back, rounded, long vowel’.

II.3.2. RP English Diphthongs ‘Gliding Vowels’: Definition & Description

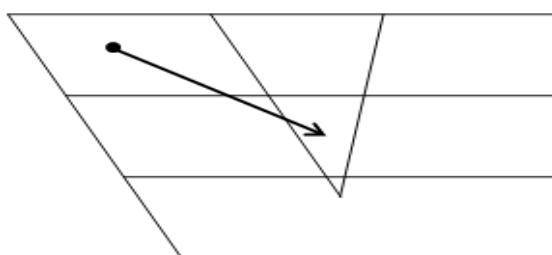
A diphthong /ˈdɪfθɒŋ; dɪp_/ is a sequence of two adjacent vowel sounds within the same syllable. It is also known as a gliding vowel; i.e., it consists of a movement or glide from one vowel to another, and is made by one impulse of breath. Diphthongs contrast with monophthongs where the tongue does not move and the syllable contains only a single vowel which remains constant and does not glide ‘a pure vowel’. In terms of length, diphthongs are like long vowels. The most important thing to know about all diphthongs is

that the first part is longer than the second one. Diphthongs are sometimes referred to as ‘compound vowels’, ‘complex vowels’ or ‘moving vowels’. The sound change that turns a monophthong into a diphthong is referred to as ‘diphthongization’. An example of that is the short vowel /ɒ/ which turns into the diphthong /ɔɪ/ by adding the closing front short vowel /ɪ/; and the vowel /ə/ which turns into /əʊ/ by adding the short back rounded vowel /ʊ/, and so for all the rest. What is worth mentioning is that all RP English diphthongs are of the ‘falling’ type; i.e., the prominence is put on the beginning of the sound. RP English has eight (08) diphthongs divided into five closing diphthongs and three centering ones. They are structured as follows:



II.3.2.1. Centering diphthongs towards the /ə/ (schwa) vowel /ɪə/, /eə/, /ʊə/

a) /ɪə/



Examples: __ **eer**, as in: deer, veer, leer, peered, cheering, career, charioteer, profiteer
 __ **ear**, as in: near, year, fear, theater, appear, gear, smear, weary, disappear
 __ **ere**, as in: here, sere, adherence, atmosphere, sphere, severe, cashmere
 __ **eir**, as in: weird, Madeira
 __ **ier**, as in: burier, fierce, healthier, flakier, heavier, merrier, worrier
 __ **iu**, as in: medium, premium, stadium, podium
 __ **ia**, as in: media, Celia, podia, Claudia, Numidia, onomatopoeia
 __ **eo**, as in: theory, theological, theoretical,
 __ **ea**, as in: idea, ideal, real, beard, realism
 __ **ir**, as in: fakir
 __ **eu**, as in: museum

Note 1: year /jɪə/ or /jɜ:/

Note 2: hero /hɪərəʊ/, feral /fɪərəl/

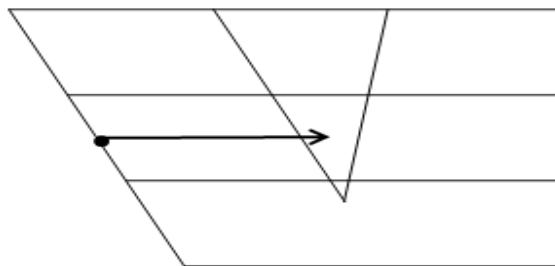
Long [ɪ:ə] __ dear, here, mere, idea, real, cheer, beard

Reduced [ɪə] __ pierce, fierce

Compare [ɪ:ə], [ɪə] __ fears, fierce

Description:1) The diphthong /ɪə/ starts with the tongue moving from the area below close position used for /ɪ/ to the direction of the more open variety of /ə/. **2)** The lips are neutral throughout, with a slight movement from spread to open.

b) /eə/



Examples: __ **are**, as in: dare, rare, share, square, welfare, prepare, hardware, careless
 __ **ar**, as in: Mary, precarious, scarcely, sectarian, egalitarian, declarer
 __ **air**, as in: air, fair, pair, chair, fairly, aircraft, armchair, laird, despair
 __ **ear**, ea, as in: bear, pear, wear, tear (v), bugbear, whereas
 __ **ere**, as in: therefore, anywhere, therein
 __ **eir**, as in: theirs, heir, heirloom

Note1: with /eə/ aorist /'eərɪst/; aerobridge /'eərɒbrɪdʒ/

Note2: No cases of /eə/ + [l]

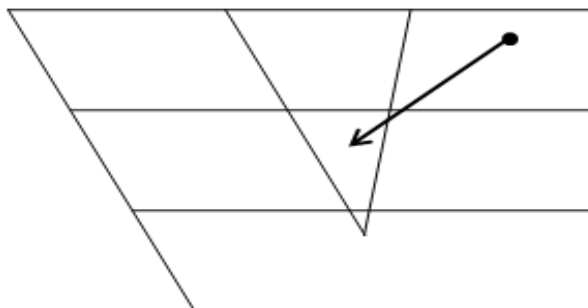
Long [e:ə] __ fair, bare, share, laird, pair, there, chairs, cared

Reduced [eə] __ scarce

Compare [e:ə], [eə] ___ scares, scarce

Description:1) The diphthong /eə/ starts in the half-openfront position, and moves in the direction of the centre towards the /ə/. This is very clear when the diphthong is final in the cases of a syllable closed by a consonant and in an open syllable. **2)** During the realization of /eə/, the lips are neutrally open.

c) /ʊə/



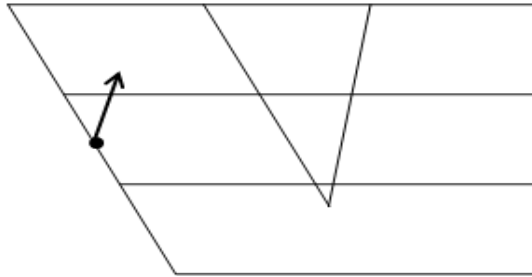
Examples: ___ oer, as in: doer
___ oor, as in: poor, moor
___ our, as in: tour, dour
___ ua, as in: truant, usually
___ ue, as in: fluent, cruelty
___ ur, as in: curious, spurious, during, purity, security
___ ure, as in: pure, endure, cure, sure

Note: /ʊə/ in: jewel /'dʒʊ:əl/

Description:1) The diphthong /ʊə/ glides from the back tongue position of /ʊ/ towards the centre where /ə/ forms the end-point of all three centering diphthongs. **2)** The lips are somewhat rounded at the beginning of the glide to become neutrally spread as the glide progresses.

II.3.2.2. Closing Diphthongs towards /ɪ/: /eɪ/, /aɪ/, /ɔɪ/

a) /eɪ/



- Examples:** __ **a**, as in: state, narrate, female, patient, wasteful, inhalator, information
 __ **ai**, as in: waist, main, wait, aim, again, complain, failure, faithful, straight
 __ **ay**, as in: may, lay, away, always, railway, birthday, nowadays, Norway
 __ **ei**, as in: eight, veil, sleigh, beige, weigh, rein, vein, neigh, feign, neighbour
 __ **ey**, as in: they, prey, whey, hey, grey, convey, survey, purvey, abeyance
 __ **ea**, as in: great, steak, break, breaker
 __ **au**, as in: gauge /geɪdʒ/
 __ **ao**, as in: gaol /geɪl/

Note: halfpenny /'heɪpni/ ; cocaine /kə'keɪn/; eh /eɪ/

Long [e:ɪ] __ aim, main, they, lay, beige, grey, convey

Reduced [eɪ] __ state, narrate, eight, waist, steak, great, break

Compare[e:ɪ] , [eɪ] __ played, plate ; ray, race ; way, waist ; save, safe

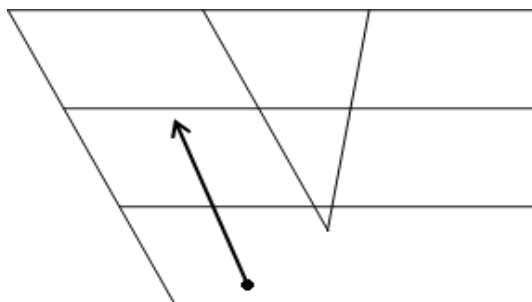
[e̞], [eɪ] __ pet, pate ; chess, chase ; best, baste ; less, lace

[e] , [e:ɪ] __ led, lade ; fell, fail ; red, raid ; men, main

Description:1) The diphthong /eɪ/ glides from slightly below half-close front position and moves in the direction of below close position towards /ɪ/. **2)** The lips are spread throughout.

Note: Before dark [ɫ], the [ɪ] turns into the [ə] as in 'fail' [feɪ(ɪ)əl], yet it keeps its quality before clear [l], as in failure ['feɪljə],

b) /aɪ/



Examples: __ **i**, as in: rite, dime, sine, bite, dive, riding, climate, kiting, slider, writing
 __ **y**, as in: try, cry, dry, type, style, psychic, hyponymy, psychology
 __ **igh**, as in: high, light, knight, fight, slight, fighter, nightmare, frightening
 __ **eigh**, as in: height
 __ **ie**, as in: die, lie, pie, tried, pie, tied, flies, tried, fried, skied
 __ **ye**, as in: dye, rye
 __ **ei**, as in: either
 __ **ai**, as in: aisle
 __ **ye**, as in: bye

Note: /aɪ/ in eye

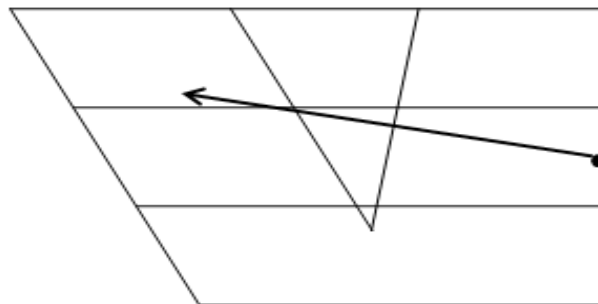
Long: [a:ɪ] __ time, sine, die, mine, ride, hide, eyes
 Reduced [aɪ] __ sight, kite, fight, like, ice, ripe, type

Compare [a:ɪ], [aɪ] __ mile, mice, kind, kite ; eyes, ice ; finding, fighting

Description:1) The diphthong /aɪ/ starts at a point just behind the front open position and glides towards the position of /ɪ/. **2)** The tongue is raised to a level below the position of the cardinal vowel [e]. **3)** The lips change from a neutral to a loosely spread shape.

Note: Before dark [ɫ], the [ɪ] turns into the [ə] as in ‘file’ [fa(ɪ)əɫ], yet it keeps its quality before clear [l], as in piling [ˈpaɪlɪŋ]

c) /ɔɪ/



Examples: __ **oi**, as in: spoil, voice, point, moist, avoid, rejoin, noisy, toilet, boisterous
 __ **oy**, as in: boy, toy, royal, destroy, cowboy, enjoy, loyalty, employ, coyness
 __ **uoy**, as in: buoy

Long: [ɔ:ɪ] __ boy, noise, avoid, join, spoil, boil, employ, destroy
 Reduced: [ɔɪ] __ voice, moist, joist, choice

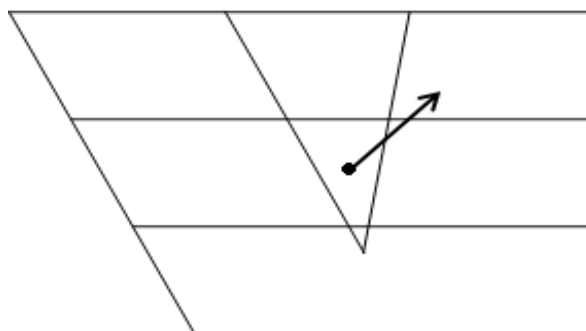
Compare [ɔ:ɪ], [ɔɪ] __ noise, choice ; void, voice ; joys, Joyce

Description:1) For the diphthong /ɔɪ/, the tongue glide begins at a point between the back half-open and open positions and moves in the direction of /ɪ/. **2)** The tongue moves from back to the front. **3)**The lips start as open rounded, then changes into neutral shape.

Note: Before dark [ɫ] the [ɪ] often changes into the [ə] as in e.g. boil [bɔɪ(ɪ)əɫ]; yet it keeps its quality before clear [l], as in spoiling ['spɔɪlɪŋ].

II.3.2.3. Closing diphthongs towards /ʊ/:/əʊ/, /aʊ/

a) /əʊ/



- Examples:** ___ **o**, as in: **so**, **Rome**, **fold**, **bold**, **homeless**, **folder**, **colder**, **clothes**, **imposing**
 ___ **oa**, as in: **soak**, **loam**, **foals**, **loader**, **download**, **croaker**, **roaming**, **goading**
 ___ **oe**, as in: **toe**, **doe**, **sloe**, **foe**, **hoe**, **aloe**, **woe**
 ___ **ou**, as in: **soul**, **though**, **shoulder**
 ___ **ow**, as in: **throw**, **know**, **bowl**, **widow**, **blowing**, **slower**,

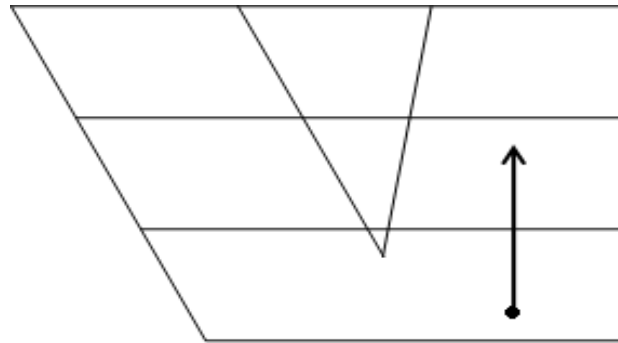
Note: /əʊ/ in mauve ; brooch ; beau ; sew ; don't ; won't (Gimson 1989: 134)

Long: [ə:ʊ] ___ go, toe, home, road, pose
 Reduced: [əʊ] ___ goat, rope, oak, post, both

Compare [ə:ʊ], [əʊ] ___ robe, rope ; toes, toast ; grows, gross ; road, wrote ; cold, colt

Description:1) The diphthong /əʊ/ begins at a mid-position between half-close and half-open and moves towards /ʊ/. **2)** The lips start as neutral for the first part /ə/ and then change to round for the second segment /ʊ/.

b) /aʊ/



Examples: __ **ou**, as in: **doubt, cloud, plough, house, sound, shouted, clouding, louder**
 __ **ow**, as in: **how, town, fowl, allow, crowded, download, flowering, however**

Long: [a:ʊ] __ cloud, plough, allow, town, loud, owl, foul,

Reduced: [aʊ] __ house, shout, about, south, mouse, mouth (n)

Compare [a:ʊ], [aʊ] __ allows, mouse ; found, fount ; house (v), house (n) ; loud, lout

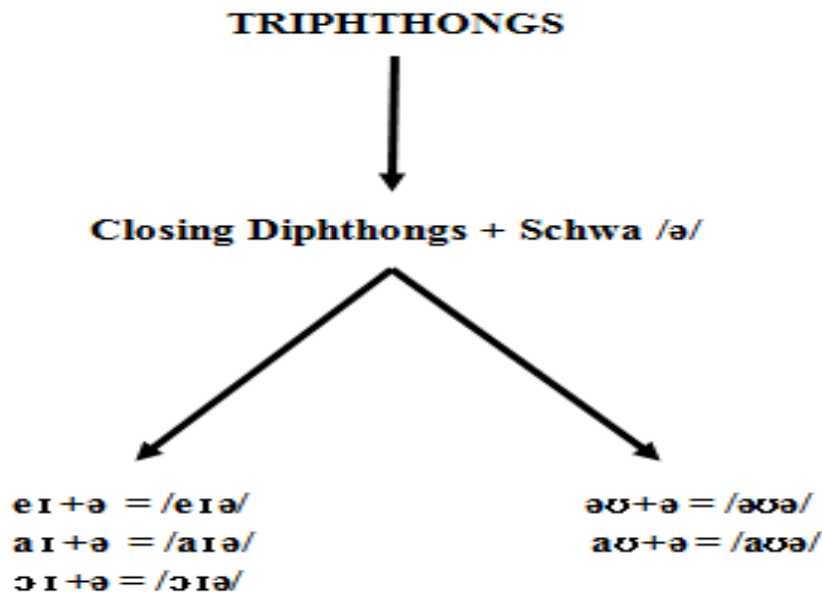
Description:1)The diphthong /aʊ/ starts at a point between the back and front open positions, slightly more fronted than the position for /a:/, and then moves in the direction of /ʊ/. **2)** The tongue is raised at the half-close level. **3)** The lips change from a neutrally open to a weakly rounded position.

Note: In all diphthongs, full length is characterized by adding / : / to those followed by lenis/voiced consonants, as in: ‘ride’[ra:ɪd] as compared to ‘write’[raɪt]. The / :/ is put between the two vowels forming the diphthong.

II.3.3.English Triphthongs: Definition & Description

In phonetics, a **triphthong** (/ˈtrɪfθɒŋ/ or /ˈtrɪpθɒŋ/) (from Greek "triphthongos", literally "with three sounds," or "with three tones") is a monosyllabic vowel combination involving a quick but smooth movement of the articulator from one vowel quality to another that passes over a third, all produced rapidly and without interruption. While "pure" vowels ‘monophthongs’ have one target articulator position, diphthongs have two, and triphthongs three. For instance, a careful pronunciation of the word ‘hour’ begins with a vowel quality similar to /a:/, goes on to a glide towards the back close rounded area (for which we use the symbol /ʊ/), then ends with a mid-central vowel (schwa, /ə/). We use the symbols /aʊə/ to represent the way we pronounce the word ‘hour’.

In English, triphthongs can be looked at as being composed of the five **closing** diphthongs described in the last section, with /ə/ added to the end. Thus we get:

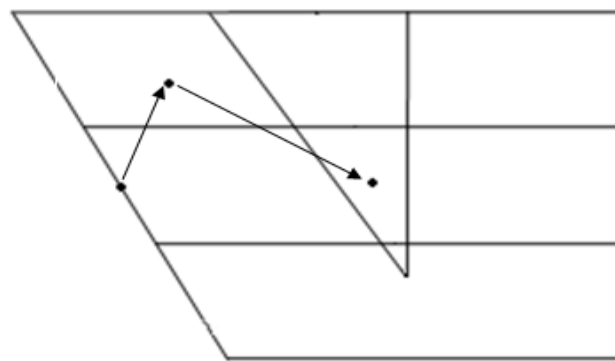


Triphthongs and smoothing

In RP English, when a diphthong is followed by schwa /ə/ ‘**triphthong**’, or possibly by /ɪ/ in unstressed syllables, a series of changes may take place, known as ‘smoothing’. In the same articulation, a diphthong may turn into a monophthong, which is either a long vowel or a short one. This takes place by dropping the second element and lengthening slightly the first element, as the case of /aɪ/ which turns into [a:]; /əʊ/ → /aʊ/ [ɑ:]; /eɪ/ → [eɪ] / [ɛ:]. In the same process, the following schwa may become non-syllabic, and the diphthong is formed with the preceding monophthong. Sometimes, this diphthong can itself be monophthongized. As a result, the original sequence of /aʊ + ə/ can end up as [a:]; and /aɪ + ə/, as [ɑ:]; thus, the word ‘higher’ /haɪə/ can be articulated as [ha:] and ‘flour’ /flaʊə/ as [flɑ:]. The RP form of the word ‘shower’ is /ʃaʊə/, yet in ordinary speech, it is often uttered as [ʃaə], forming two syllables in a sequence of two vowels ‘a diphthong’, or a monophthong [ʃɑ:]; similarly the word ‘fire’ /faɪə/ can be reduced to [faə] or [fa:]. In all these cases, one may deal with what we call vowel shift which leads to what is referred to as monophthongization.

II.3.3.1. Triphthongs /eɪə/: a) Description

Examples: __ **ayer**,
layer, **player**, **slayer**
 __ **yor**,
conveyor,
 __ **aya**,
Himalayas,
jambalaya



as in: **prayer**,
 as in: **mayor**,
purveyor
 as in: **betrayal**,
layabout,

__ **eya**, as in: **conveyance**

__ **ayo**, as in: **bayonet**

__ **ei**, as in: **reification**

__ **ao**, as in: **Laodicean**

__ **ia**, as in: **via**, **liars**, **friable**, **diastema**, **diabolic**, **dialectal**, **adiabatic**

__ **io**, as in: **lion**, **diocese**, **pioneer**, **violin**, **biotechnology**

Compare: [eɪ], [eɪə] __ **pray**, **prayer**; **lay**, **layer**; **slay**, **slayer**

Description:1) In the articulation of the triphthongs /eɪə/, the tongue moves from slightly below half-close front position in the direction of below close position towards /ɪ/, then to the centre where /ə/ forms the endpoint. **2)** The lips change from spread to neutral position.

b) Smoothing of [eɪə]

Note: In RP English, in the case study of the triphthongs [eɪə], it can be noted that it is not always fully pronounced since the second element, which is [ɪ] is very often weakened considerably or left out completely. Hence, [eɪə] is uttered as the diphthong [eə] or as the

long vowel [ɜ:], and that sounds very natural among native speakers of English. Similarly, the word ‘slayer’ /sleɪə/ is pronounced as [sləə] or [slɜ:], and ‘prayer’ /preɪə/ as [preə] or [slɜ:].

Vocabulary:

‘**slayer**’ /sleɪə/: killer, esp. violently

‘**purveyor**’ /pɜ:’veɪə/: a seller or firm that supplies food to a large group

‘**layabout**’ /leɪə’baʊt/: a person who habitually does little or no work

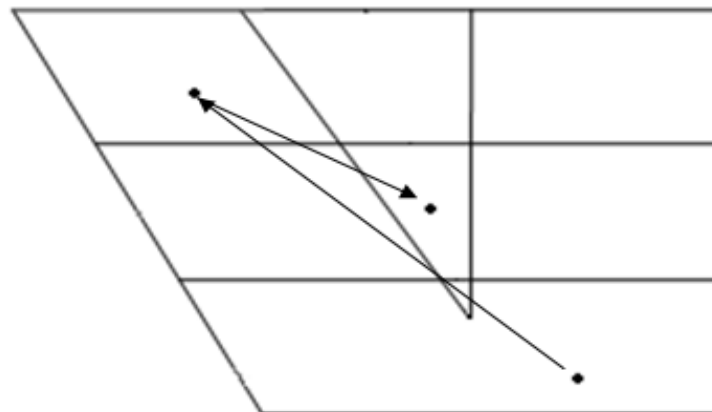
‘**conveyor**’ /kən’veɪə/: a person or thing that transport goods or anything-else

‘**bayonet**’ /’beɪənət_ _et/: a long knife fixed to the end of a soldier’s gun (rifle)

‘**reification**’ /reɪəfɪ’keɪʃən/: the act of representing an abstraction as a physical thing; objectification

‘**Laodicean**’ /leɪə’dəsi:n/: a person with a halfhearted attitude toward religion or politics

II.3.3.2. Triphthongs /aɪə/: a) Description



Examples: __ire, as in: fire, admire, aspire, satire, esquire, require, empire, entire
 __ia, as in: liar, trial, viable, diary, dialogue, reliance, diagnosis, triangle
 __ier, as in: fiery, hierocracy, hierophant, hierarchy, supplier,
 __ie, as in: diet, variety, scientific, dietitian, varietal, societal
 __yer, as in: flyer, lyre, dryers, fryers
 __io, as in: lion, zwitterions, Orion, iodine, calliope
 __ir, as in: iron, Epirus

Compare: [aɪ], [aɪə] __ high, higher; lie, lyre; fly, flyer; try, trial; pie, empire

Description:1) In the articulation of the triphthongs /aɪə/, the tongue starts at a point just behind the front open position and glides towards the position of /ɪ/, and then it is raised to the centre where /ə/ forms the endpoint. **2)** The lips change from an open to a neutral shape.

Vocabulary:

‘**satire**’ /sæ'taɪə/: (usu. in literature, theatre or work of art), the use of humour, irony; exaggeration, or ridicule to expose and criticize people's stupidity or vices.

‘**esquire**’ /ɪs'kwɪə/: a title appended (added) to a lawyer's name

‘**viable**’ /vaɪəbl/: capable of working successfully; feasible

‘**fieri**’ /faɪəri/: consisting of fire or burning strongly and brightly

‘**hierophant**’ /haɪərəfænt/: a person, especially a priest in ancient Greece, who interprets sacred mysteries or esoteric (mystic) principles

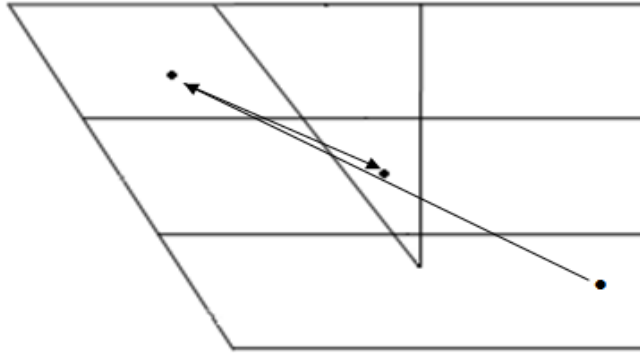
‘**iodine**’ /aɪə'di:n/: the chemical element of atomic number 53, a nonmetallic element forming black crystals and a violet vapour

‘**calliope**’ /kə'laɪəpi:/: a keyboard instrument resembling an organ but with the notes produced by stream whistles, used chiefly on showboats and in travelling fairs

b) Smoothing of /aɪə/

Note: In RP English, the full articulation of the triphthong [aɪə] sounds unnatural by the natives. Like other Triphthongs, [aɪə] is not always fully pronounced since the second two elements, which are [ɪə] are left out completely and replaced by the long vowel [a:]. Hence, [aɪə] is uttered as [a:]. The word ‘fire’ /faɪə/ is pronounced as [fa:]; and ‘require’ /rɪ'kwɪə/ as [rɪ'kwɑ:].

II.3.3.3. Triphthongs/ɔɪə/: a) Description



Examples: __oy, as in: loyal, coyer, royal, joyous, enjoyable, annoyance, flamboyant
 __oi, as in: coir, uncoil, Illinoisan,

Compare: [ɔɪ], [ɔɪə] __ Roy, royal; joy, joyous; enjoy, enjoyable; coin, uncoil

Description:1) In the articulation of the triphthongs /ɔɪə/, the tongue starts at a point between the back half-open and open positions and moves in the direction of /ɪ/, and then it is lowered to the centre where /ə/ forms the endpoint. **2)** The lips change from a rounded to a neutral shape.

Vocabulary:

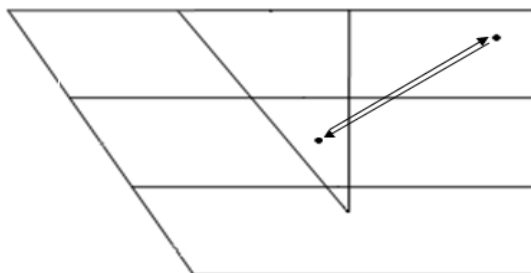
- ‘coyer’ /kɔɪə/: (esp. with reference to a woman) making a pretense of shyness or modesty that is intended to be alluring ; timid ; shy ; bashful
- ‘flamboyant’ /flæm'boɪə/: (of a person or their behaviour), tending to attract attention because of their exuberance, confidence, and stylishness
- ‘coir’ /kɔɪə/: fiber from the outer husk (skin) of the coconut, used for making ropes and matting
- ‘uncoil’ /ʌŋ'kɔɪə/: solve ; resolve ; fix ; settle
- ‘Illinoisan’ /ɪlə'nɔɪə/: of or relating to characteristics of the US state of Illinois or its inhabitants
- ‘Roy’ /rɔɪ/: a city in northeastern Utah, a Southwestern suburb of Ogden, population 35.672.

b) Smoothing of /ɔɪə/

The smoothing of the triphthong /ɔɪə/ is somehow controversial. Contrary to the other types of triphthongs, it happens less frequently. For only some people, the /ɔɪə/ is not totally pronounced when the second element /ɪ/ is left out for the sequence/ɔə/ to remain

instead. Hence, /ɔɪə/ is uttered as [əə]. The word ‘loyal’ /ləɪəl/ is realized as [ləəl]; similarly, the word ‘coin’ /kɔɪən/ is uttered as [kəən].

II.3.3.4. Triphthongs/əʊə/: a) Description



Examples : __

slower, lower, mower, widower, borrower

ower, as in: grower,

Compare: [əʊ] ,[əʊə]:grow, grower ; low, lower ; slow, lower ; widow, widower

Vocabulary:

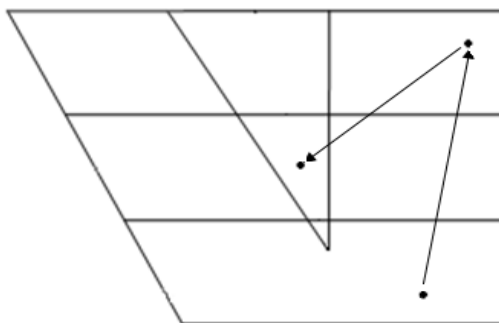
‘**mower**’ /'məʊə/: a machine for cutting grass in gardens, having blades that turn round as it moves ; reaper ; binder

Description:1) In the articulation of the triphthongs /əʊə/, the part of tongue begins at a mid-position between half-close and half-open and moves towards /ʊ/, and then glides back in the direction of the centre for /ə/ as an endpoint. **2)** The lips start as neutral for the first part /ə/, change to round for the second segment /ʊ/, and then change back to their neutral shape.

b) Smoothing of /əʊə/

What is worth mentioning is that /əʊə/ is very often realized as the monophthong [ɜ:]. The vowel /ʊ/ is left out for the sequence [əə] to take place instead, which is the same as [ɜ:], hence, /əʊə/ is uttered as [ɜ:]. The word ‘slower’ /sləʊə/ is pronounced as [slɜ:]; similarly, the word ‘widower’ /wɪ'dəʊə/ is uttered as [wɪ'dɜ:].

II.3.3.5. Triphthongs/aʊə/: a) Description



- Examples :** __ **ower**, as in: **power, flower, shower, powerful, glowering**
__ **owe**, as in: **dowel, vowel**,
__ **ou**, as in: **foul**
__ **our**, as in: **flour, hour, lour, glour, stourbridge**,
__ **owa**, as in: **coward, dowager**
__ **owr**, as in: **dowry**,

Note: bow and scrape /'baʊən(d)əskreɪp/ (in context) ; gaur /gaʊə/

Compare: [aʊ] ,[aʊə]: how, hour ; shout, shower ; town, tower ; powder, power

Description:1) In the articulation of the triphthongs /aʊə/, the body of tongue starts at a point between the back and front open positions and then moves in the direction of back close for /ʊ/ before it is lowered towards the centre for /ə/ as an endpoint. **2)** The lips change from a neutrally open to a strongly rounded position, and then to the neutral position.

Vocabulary:

'glowering' /'gləʊərɪŋ /: have an angry or sullen look on one's face ; scowl

'dowel' /daʊə/: a peg of wood, metal, or plastic without a distinct head, used for holding together components of a structure

'lour' /laʊə/: to look in a dissatisfied bad-tempered manner ; frown

'stourbridge' /'staʊəbrɪdʒ /: a market town in the West Midlands county of England

'dowager' /'daʊədʒə/: a widow with a title or property derived from her late husband

'dowry' /'daʊəri/: property or money brought by a bride to her husband on their marriage

'bow and scrape' /'baʊən(d)əskreɪp/: to make a deep bow with the right leg drawn back (thus 'scraping' the floor), left hand pressed across the abdomen, right held aside

'gaur' /gaʊə/: a large wild ox native to India and Malaysia

b) Smoothing of /aʊə/

The triphthongs /aʊə/ is often realized as the monophthong [a:]. This use sounds natural among the native speakers of British and American English alike. The diphthong /ʊə/ is left out for the lengthening of /a/ to occur instead. Hence, /aʊə/ is uttered as [a:]. The word ‘flower’ /flaʊə/ then is realized as [fla:]; similarly, the word ‘hour’/aʊə/ is uttered as [a:]. In some cases, the triphthong /aʊə/ might be produced as [aə] by dropping only the monophthong /ʊ/, so that the word ‘tower’ is realized as [taə], without lengthening the /a/.

Note: the smoothing of triphthongs sometimes results in new homophones. This is the case for /aʊə/ and /aɪə/, which might be produced as [aə], thus the words ‘tower’ and ‘tyre’ both get the same phonetic realization; i.e., [taə]. This can bring some confusion, mainly if the listener is not aware of this linguistic phenomenon.

SECTION THREE

RP ENGLISH CONSONANTS

III.1. Consonants: Definition

Unlike vowels which are all free voiced sounds, **consonant sounds** are those made with obstruction of air at the level of the vocal tract. This obstruction may be complete or partial. Complete, when the two organs make a blockage so as the stream of air is compressed for a short time before it is released. Partial, when the two organs are sufficiently approaching each other to let the air escape through a narrowing they make.

Phonologically speaking, consonants are those segments that play the role of syllable margin; i.e., they occupy the edges of the syllable. They never occupy the centre of the syllable, which is left to another category of sounds namely vowels.

III.2. Classification of RP English Consonants

With the three parameters: voicing, place of articulation and manner of articulation (**V.P.M**), it is possible to identify (almost) all the phonemic consonants of **RP** English.

III.2.1. Place of Articulation

Also known as ‘point of articulation’, where the contact ‘obstruction’ is made by an active and a passive articulator at the level of the vocal tract. The nine places of articulation are:

1. **Bilabial** consonants: lower lip with upper lip: /p, b, m, w/
2. **Labiodental** consonants: Lower lip with upper teeth: /f, v/
3. **Interdental / dental** consonants: Blade of tongue with upper teeth: /θ, ð /
4. **Alveolar** consonants: Front of tongue with the alveolar ridge: /t, d, s, z, n, l/
5. **Post-alveolar** consonants: Body of tongue with the part behind the alveolar ridge: /tr, dr, r /
6. **Palato-alveolar** consonants: Part of tongue and tongue-rims with central palate/ hard palate: /ʃ, ʒ, tʃ, dʒ/
7. **Palatal** consonant: back of tongue is raised against the central palate (the middle part of the roof of the mouth): /j/
8. **Velar** consonants: Back of tongue with soft palate: /k, g, ŋ/
9. **Glottal** consonants: the 2 actions of the vocal chords in producing the two sounds /ʔ, h/ inside the glottis

III.2.2. Manner of Articulation

The process by which the moving column of air is shaped is called the manner of articulation. These are six manners of articulation in RP English:

1. Plosives: / p, t, k, b, d, g, ʔ/ (also called “oral stops”)
2. Fricatives: / f, v, θ, ð, s, z, ʃ, ʒ, h/
3. Affricates: / tʃ, dʒ, tr, dr/
4. Nasals: / m, n, ŋ/ (also called “nasal stops”)
5. Lateral: / l /
6. Approximants: / w, j, r /

III.2.3. Voicing: Phonation process of speech

In the larynx, voicing introduces vibration into the resonating column of air. The vocal chords take three positions: 1- apart 2- lightly together and 3- tightly together.

(as mentioned earlier). In the following table of consonant phonemes, the voiced sounds are in ‘**bold-faced**’ font; however, the voiceless sounds are in ‘light-faced’ font.

III.2.4. Table of Consonants

A consonant chart lists all RP English consonant sounds under the columns representing places of articulation, while the rows are labeled by the manner of articulation. The voiced sounds are in **bold-faced** font.

Place of articulation →	bilabial	labio-dental	inter/dental	alveolar	Post-alveolar	Palato-alveolar	palatal	velar	glottal
Manner of articulation ↓									
Plosives	p b			t d				kg	ʔ
Fricatives		f v	θ ð	s z		ʃ ʒ			h
Affricates					tr dr	tʃ dʒ			
Nasals	m			n				ŋ	
Lateral				l					
Approximants	w				r		j		

Chart representing the English consonant phonemes

III.3. Phonetic Transcription

Phonetic transcription aims to transcribe the phonology of a language. It may also be used to go further and specify the precise phonetic realization of the different phonemes. In all systems of transcription, we may therefore distinguish between two types of transcription: broad transcription and narrow transcription.

III.3.1. Broad transcription indicates only the most noticeable phonetic features of an utterance. It is often found in a dictionary. One particular form of ‘broad transcription’ is **phonemic transcription**, which disregards all allophonic differences and represents only the phonemic structure. The transcribed phonemes are put between two slashes / / . For example, the word ‘important’ is transcribed phonemically as /**ɪm'pɔ:tənt**/.

III.3.2. Narrow transcription encodes more information about the phonetic variations of the specific allophones (different realizations of the same phoneme) referred to as ‘sounds/phones/allophones’ in the utterance. This kind of transcription that aims to provide as much information as possible about the sounds that actually occur in a given context is called **phonetic transcription**. Such a transcription is conventionally put in square brackets []. Various diacritics or additional symbols can be used to make the difference between broad & narrow transcription. For instance, while the phoneme /p/ is represented by the symbol /p/, its aspirated allophone will be rendered by the same symbol followed by a small [^h], i.e., [p^h], while the unaspirated one by [p[̄]], mainly after initial /s/ [sp[̄]]. The chosen symbol to represent the phoneme will always be the one representing its most widespread allophone. This accounts for the fact that the unaspirated rather than the aspirated allophone of /p/ is represented by its symbol. [p[̄]].

To make a distinction between the two transcriptions, for example, one particular pronunciation of the English word ‘little’ may be transcribed using the IPA as /'lɪtəl/ or ['lɪt̚]; the broad, phonemic transcription, placed between slashes, indicates merely that the word ends with the phoneme /l/, but the narrow, allophonic transcription, placed between square brackets, indicates that this final /l/ (is dark (velarized) [l̚] and in the same time syllabic; i.e., the back of tongue is drawn far up towards the velum ‘soft palate’.

Note: An **utterance** is the smallest unit of speech. It is a continuous piece of speech beginning and ending with a clear pause. In other words, it is something uttered (spoken) followed by silence or a change of the speaker. It could be anything from “Ugh!” to a full sentence.

III.4. Manner of Articulation

The manner of articulation is how the articulators, namely the different organs of speech, such as the lips, the parts of the tongue, the teeth, etc. interact within a given language to produce speech sounds. This includes the two parameters of the way the organs approach each other either in a close enough situation to make a complete stricture, as for plosive sounds, or held sufficiently very near each other (but not to cause a firm contact) to make a narrowing through which the escaping airstream produces a particular sound.

III.4.1. Plosive Sounds

Plosives, also known as (**oral stops**) are sounds in which there is a complete closure in the mouth so that the air is blocked for a fraction of a second; the pressure increases behind the place where it is blocked and then released with a small burst of sound called 'plosion' (it sounds like a very small explosion). The blocking (stop) is usually done using the lips, the vocal cords (in the larynx), or the tongue.

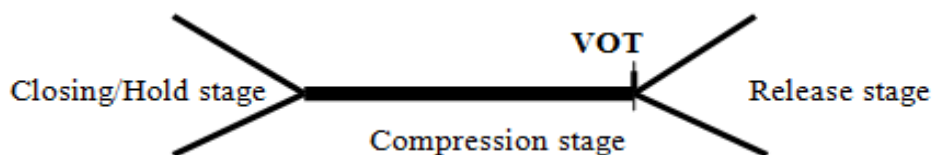
III.4.1.1. Plosive Articulation Stages

In the articulation of the plosive sounds, three (3) phases can be distinguished:

a) Closing/hold stage: the airway closes so that no air can escape. In this case, the articulating organs move together to form the obstruction.

b) Compression stage: during which lung action compresses the air (causing a slight pressure to build up). This stage may or may not be accompanied by voice.

c) Release/explosion stage: during which the closure is opened (the organs forming the closure part rapidly). The released airflow produces a sudden impulse causing an audible sound (burst), i.e., a plosion. The three phases of plosive productions can be illustrated in the following figure:



III.4.1.2. Voice Onset Time (VOT)

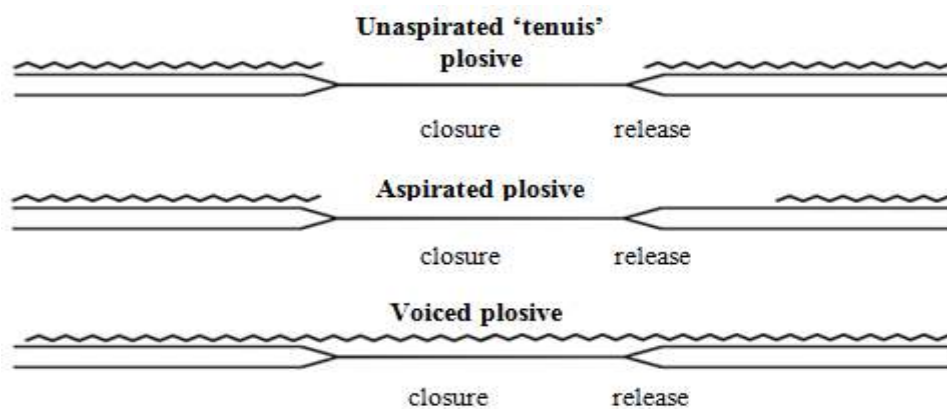
VOT is a feature that characterizes all oral stop consonants 'plosives'. It is known as the time which passes between the release of the stop consonant and the onset 'beginning' of voicing (the vibration of the vocal chords). Three main phonation types of stops can be examined at the level of their VOT:

- 1) Unaspirated voiceless stops 'tenuis' stops, which have their VOT at or near zero.

This means that the voicing of the following sonorant, namely ‘vowels’ begins at or near zero when the stop is released. The following word contains an unaspirated voiceless stop: ‘speak’ [sp[̄]i:k’]

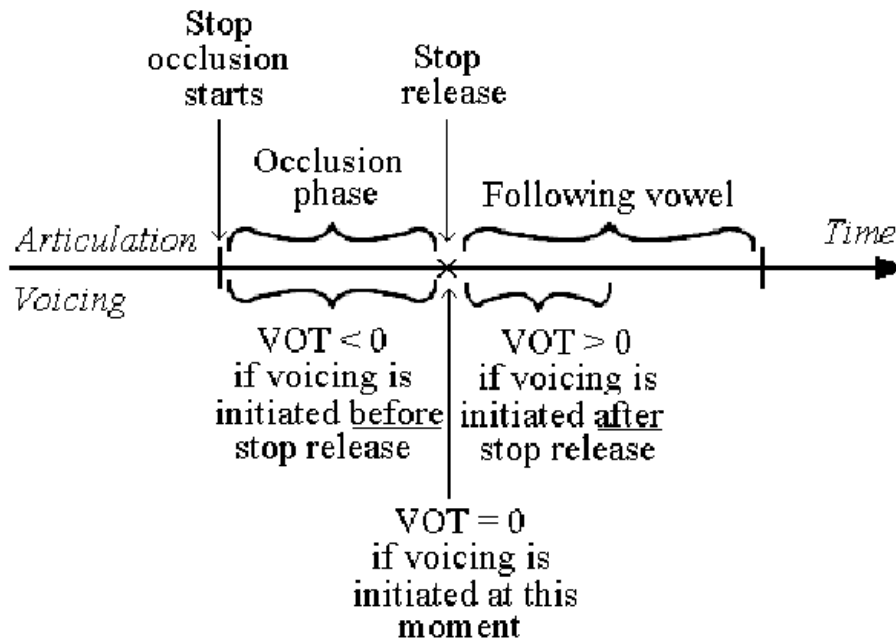
2) Aspirated stops which are followed by a sonorant have their VOT in a great amount. This is referred to as ‘positive VOT’ and is a practical measure of aspiration: the longer the VOT, the stronger aspiration. An example of that is the word ‘important’ [ɪm'p^hɔ:tənt’].

3) Voiced stops have a VOT less than zero. It is referred to as ‘negative VOT’. This means that the vocal chords start vibrating before the stop sound is released. This voicing differs according to its situation in the environment: ‘partially voiced’ initially; ‘fully voiced’ in medial position and ‘devoiced’ in word-final position. The following words containing the voiced alveolar stop /d/ illustrate the point: ‘dam’ [dæm]; bedding [bedɪŋ]; road’ [rə:ɒd]. The three points above (1,2,3) are illustrated and metered as follows:



Measuring Articulatory Voice Onset Time (VOT)

The following intellectual chart was made by Caroline Traube (2005), through which she presents voice onset time as a parameter of speech that designates the time interval between consonant onset and the onset of the periodical vocal chords vibration.



By Caroline Traube (2005 :105)

III.4.1.3. RP English Plosive Consonants: Description of sound production

Phonetically speaking, a plosive, also known as a ‘stop’ or ‘oral occlusive’, where the blockage is not in the nasal passage, is a consonant in which the vocal tract is blocked (the organs of speech make a stricture when approaching each other) for the airflow to cease completely for a moment. This constriction ‘occlusion’ may be made by the lips for /p/ and /b/; the tip or blade of tongue for /t/ and /d/; the back of tongue ‘dorsum’ for /k/ and /g/ and the glottis for /ʔ/.

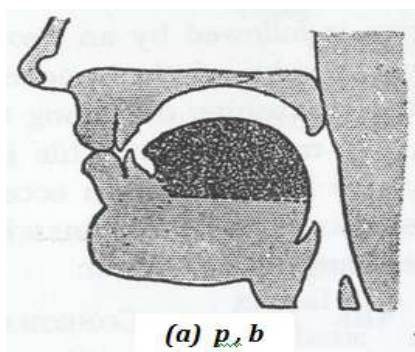
Place of articulation: 1) bilabial / p, b / , 2) alveolar / t, d / , 3) velar / k, g /
 4) glottal / ʔ /

Manner of Articulation

(1) /p, b/

For bilabial /p, b/, the soft palate ‘velum’ is raised to touch the pharynx’s back wall and shuts off the nasal cavity. The two lips meet to form a complete closure followed

bycompression of air just behind it. The vocal chords may strongly or partially vibrate for /b/ during the compression stage according to its situation in the utterance, i.e., initially, medially, or finally. In the release stage, the lip closure gets open and the air escapes with force creating a ‘burst’ called plosion.



/p/ __ fortis ; (spelt: **p**, **ph**)

Word initial __ **p**arty, **p**it, **p**unk, **p**eople, **p**asta, **p**ort, **p**ortfolio, **p**ajamas

Word medial __ **i**mp**o**rtant, **t**ou**p**ee, **t**o**p**most, **p**aper, ‘she**p**herd’ /ʃ**e**pəd/), **i**mp**o**ssible

Word final __ **l**eap, **t**yp**e**, **t**ip, **r**o**p**e, **c**o**p**e, **d**evelop, **s**tereotyp**e**

/b/ __ lenis ; (spelt, **b**)

Word initial __ **b**ase, **b**ullet, **b**andit, **b**eautiful, **b**oarding, **b**aseball

Word medial __ **a**bo**r**tion, **u**n**b**earable, **r**u**b**ber, **r**ain**b**ow, **R**obinson,

Word final __ **r**o**b**e, **d**ri**b**, **s**t**a**b, **g**r**a**b, **d**r**a**b

Compare: /p/ and /b/ __ park, bark ; pat, bat ; pet, bet ; pert, bird ; port, board

__ impark, embark ; comport, onboard ; superb, suburb

__ snap, scab ; rope, robe ; drip, drib ; stoop, rube

Vocabulary:

‘**punk**’/pʌŋk/: a worthless person ; (adj.) in poor or bad conditions

‘**drib**’/drɪb/: a drop of liquid; droplet

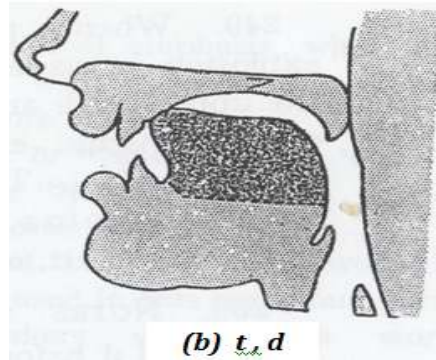
‘**drab**’/dræb/: a slovenly woman ; lacking brightness or interest ; drearily dull

‘**drip**’/drɪp/: a small drop of liquid ; a weak and ineffectual person

(2) /t, d/

For alveolar /t, d/, the soft palate ‘velum’ is raised to touch the back wall of the pharynx and hence shuts off the nasal cavity. The tip and rims of the tongue and the upper alveolar ridge and side teeth form a complete closure followed by compression of air just behind it.

The vocal chords may strongly or partially vibrate for /d/ during the compression stage according to its situation in the utterance. In the release stage, the tongue closure gets open and the air escapes with force creating a burst of air



/t/ __ fortis ; (spelt: **t**, **tt**, **th**, **d**)

Word initial __ **t**ale, **t**eam, **T**hames, **t**omato, **T**uesday, **t**winkle, **t**ea-shirt, **t**ackle, **t**asty

Word medial __ intake, **t**asty, **suttee**, **nutty**, undertake, entitle

Word final __ light, fight, write, insight, rate, looked /lʊkt/, generate, highlight

/d/ __ lenis ; (spelt, **d**, **dd**)

Word initial __ **d**ouble, **d**irty, **d**eliver, **d**izzy, **d**oomsday, **d**ally, **d**anger

Word medial __ widow, window, **daddy**, hiding, **caddy**, endure, **added**, endeavour

Word final __ rod, **odd**, hired, unfold, god, told, sold, called, breed, seed

Compare: /t/ and /d/ __ top, drop; tap, dap; tip, dip; trunk, drunk; tear, deer

__ untie, indie; bitten, bidden; Saturday, Sunday

__ wrote, road; heart, hard; court, cord; note, node

Vocabulary:

‘**suttee**’/ˈsʌti:/: widow ; relict

‘**dizzy**’/ˈdɪzi/: having or involving a sensation of spinning around and losing one's balance

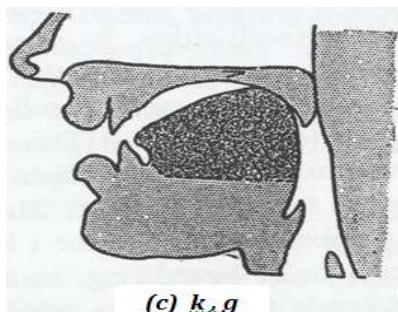
‘**dally**’/ˈdæli/: act or move slowly

‘**breed**’/bri:d/: cause (an animal) to produce offspring, typically in a controlled and organized way

(3) /k, g/

For alveolar /k, g/, the soft palate is raised to touch the pharynx’s back wall and shuts off the nasal cavity. The back of tongue moves to the soft palate and makes a complete closure followed by compression of air just behind it. The vocal chords may strongly or partially

vibrate for /g/ during the compression stage according to its situation in the utterance. In the release stage, the tongue closure gets open and the air escapes with force creating a burst of air.



/k/ __ fortis ; (spelt: **k, c, cc, ch, q**)

Word initial __ **k**idney, **q**uite, **c**areless, **ch**aos, **q**uickly, **c**areful, **C**atty

Word medial __ **u**ntaken, **u**nkindly, **f**orecast, **a**ccording, **u**ndertaken, **i**ncorporate

Word final __ **b**ack, **t**alk, **s**tork, **u**nlike, **q**uake, **l**ake, **f**ake, **s**hrink, **ch**alk

/g/ __ lenis ; (spelt: **g, gg**)

Word initial __ **g**uilty, **g**host, **g**lorious, **g**lobe, **g**lutting, **g**lad, **g**lamour, **g**reedy

Word medial __ **b**igger, **b**ingo, **d**ragon, **b**urger, **w**agon, **l**uggage, **t**arget, **b**egin

Word final __ **r**ug, **t**ag, **l**eg, **g**roundhog, **f**og, **b**ulldog, **v**ague, **i**ceberg

Compare: /k/ and /g/ __ cop, god; cat, gad; kill, gill; crump, grump; curl, girl
 __ making, begin; darken, dragon; staking, dragging
 __ leak, league; sack, sag ; smock, smog ; brick, brig

Vocabulary:

‘**glutting**’/glʌtɪŋ/: supply or fill to excess; overload

‘**dally**’/dæli/: act or move slowly

‘**gad**’/gæd/: go around from one place to another, in the pursuit of pleasure or entertainment

‘**crump**’/krʌmp/: make a loud sound, esp. by exploding bomb or shell

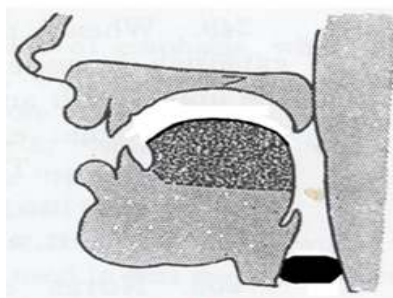
‘**leak**’/li:k/: (of a container) accidentally loose contents, esp. liquid or gas through a hole or a

‘**sag**’/sæɡ/: sink downward underweight or pressure or through lack of strength

(4) /ʔ/

For the articulation of the glottal stop /ʔ/, the obstruction to the airstream is formed by the closure of the vocal chords when they are tightly together and hence interrupt the passage of air into the supra-glottal organs. Silence characterizes the compression stage of its

articulation. Then the air pressure below the glottis is released by a sudden separation of the vocal chords. The plosive is voiceless and must be assigned to the ‘fortis’ category, especially when reinforcing a voiceless plosive in word-final position.



(d) ?

Usage: What is worth to mention is that the glottal plosive is not a significant sound in the RP system (**Gimson 1989: 168**) though it is frequently used by PR English speakers. Generally, this sound finds its occurrence as a syllable boundary marker, when the initial sound of the second syllable is a vowel; or in the case of the reinforcement of the final fortis plosives /**p**, /**t**, /**k**/ and even the palato-alveolar affricate /**tʃ**/. The glottal plosive can squarely substitute final / **t** /. This, of course, depends on its use by the different speakers. In case of the final consonant cluster /-sk/, the glottal stop /**ʔ**/ is articulated just before /s/, thus, the word ‘task’ is uttered as [t^ha:ʔsk^h].

In brief, the following are the most important features of the glottal stop:

- 1- It is occlusive made by obstructing the airstream in the vocal tract with no nasal resonance.
- 2- It is voiceless which means that its production is without the vibration of the vocal chords; since they are tightly together preventing any vibration.
- 3- It is considered an oral consonant as the airstream escapes through the ‘oral’ cavity only.
- 4- It is produced with an egressive pulmonic airstream (from the lungs)

III.4.1.4. RP English Plosive Consonants: Allophones/Variants

1- The difference between all plosive consonant sounds is in terms of voicing: this can be calculated in the release stage of each one. /**p**/, /**t**/, /**k**/ are voiceless, /**b**/, /**d**/, /**g**/ are voiced.

/ʔ/ is a voiceless glottal plosive made in the larynx. The overall distinctive features of the two sections are classified as follows:

$$\left\{ \begin{array}{l} + \text{stop} \\ + \text{oral} \\ \pm \text{voice} \end{array} \right\}$$

The glottal stop /ʔ/, lacking its opposition can be classified under the same arrangement; i.e., $\left\{ \begin{array}{l} + \text{stop} + \text{oral} - \text{voice} \end{array} \right\}$

2- Plosives may be bilabial /p, b/ 'pitiful' /pɪtɪfəl/, 'bark' /bɑ:k/, alveolar /t, d/ 'task' /tɑ:sk/, 'dirty' /dɜ:ti/ or velar /k, g/ 'cartoon' /kɑ:'tu:n/, 'guardian' /'gɑ:dɪən/, or glottal /ʔ/. The word 'football' can be pronounced without interruption in the middle as in /fʊtbɔ:l/, or with a complete closure of the glottis instead of /t/: /'fʊʔbɔ:l/.

3- Force of articulation: /p, t, k/ are pronounced with more muscular energy and stronger breath effort than /b, d, g/. /p, t, k/ are known as relatively strong or 'fortis'; /b, d, g/ are known as relatively weak or 'lenis'. (fortis/lenis as **phonological** categories)

4-a) The English voiceless plosives are aspirated initially in accented 'stressed' syllables; i.e., (the plosion is accompanied by a puff of air) in initial position as in: 'pin' [p^hɪ n], 'tin' [t^hɪn], 'kin' [k^hɪn]; or medial position as in: 'important' [ɪm'p^hɔ:t'ənt'], intelligent [ɪn'telɪdʒənt'], incorporate [ɪn'kɔ:pəreɪt'].

b) This aspiration is relatively weak when preceding a vowel in unaccented syllables, as in 'polite' [p'ə'laɪt'], and in word-final position, as in 'top' [t^hɒp]. We say that the consonant is ejective produced with 'glottalic' egressive airstream; i.e., it is made with the air remaining in the mouth, contrary to 'aspiration', which is the puff of air accompanying fortis plosive release stages in accented syllables, and which comes 'egressively' from the lungs. Weak aspiration (ejection) is marked with a kind of apostrophe (').

c) When /s/ precedes /p, t, k/ initially in a syllable, there is practically no aspiration, even when the syllable carries a strong accent. 'spark' [sp[̄]a:k']; 'upstairs' [ʌp'st[̄]eəz]; skirt [sk[̄]ɜ:t'] .

Compare: 'park' [p^ha:k'], & 'spark' [sp[̄]a:k'].

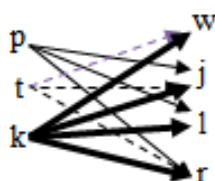
5- When /l, r, w, j / follow initial /p, t, k/, the aspiration is manifested in the devoicing of [l, ɹ, w, ʃ], as in ‘plate’ [p^hleɪt^h], ‘try’ [t^hɹaɪ], ‘quiet’ [k^hwaɪət^h], ‘pure’ [p^hʃuə].

Voiced [l, r, w, j]

Devoiced [l̥, ɹ̥, w̥, ʃ̥] or in the form of [l̥, ɹ̥, w̥, ʃ̥]

Note: the sign [̥] put under the consonants marks the great loss of voicing of the stated sounds after initial /p, t, k/

The combination ‘consonant clusters’ of /p,t,k/ and /w,j,l,r/ can be set as follows:



The result is that: a) initial /p/ can be followed by /j/, /l/ and /r/, as in : pure, play, pride

b) initial /t/ can be followed by /w/, /j/ and /r/, as in : twice, tune, tree

c) initial /k/ can be followed by /w/, /j/, /l/ and /r/, as in : quite, cure, clay, crown

Note: In English, /w/ does not occur after initial /p/; similarly /l/ is not permitted after initial /t/. Hence, the consonant clusters /pw/ and /tl/ do not occur in word initial position in accented syllables.

6- Final /p, t, k/ can be reinforced by a glottal closure [ʔ], as in the case of ‘stripe’ [straɪʔp^h]. ‘smart’ [sma:ʔt^h], ‘fork’ [fɔ:ʔk^h], This glottal stop can be placed before the voiceless consonant preceding the final voiceless consonant clusters, as in ‘typed’ [t^haɪʔpt^h]; ‘first’ [fɜ:ʔst^h]; ‘craft’ [kɹ a:ʔft^h]; ‘parked’ [p^ha:ʔkt^h].

Note 1: the use of the ‘glottal stop’ before final fortis plosives is optional; it is not ‘compulsory’. The word ‘typed’ can be articulated with the glottal stop: [t^haɪʔpt^h] or without it; i.e., [t^haɪpt^h].

Note 2: there is no opposition made with the glottal stop [ʔ], which is regarded as a voiceless consonant.

7- The length of the different vowels (short, long, diphthongs) in syllables differs greatly before the preceding consonants: syllables closed by fortis consonants /**p, t, k**/ are shorter than those which are open (ending in vowels), or closed by lenis consonants, as in: ‘hat’ [hæʔtʰ], ‘smart’ [smaʔtʰ], ‘wrote’ [rəʊʔtʰ], as compared with ‘had’ [hæd], ‘hard’ [hɑ:d], & ‘road’ [rə:ʊd]

a- Reduced/shortened short vowels are marked with a small (^v) put on all the short vowels which are followed by fortis consonants, except on the ‘Schwa’ / ə /, because it is itself a quick relaxed neutral reduced vowel which allows unstressed syllables to be said in a quick manner.

b- Followed by fortis consonants, long vowels are reduced and marked with the omission of the lower point which exists in the form of ‘colon’ that characterizes the length of long vowels /:/. Thus, there remains only the upper point; i.e., / ^ /.

c- No mark is added to the reduced diphthongs which would keep the same symbol. It is the two points / : / put between the two vowels in the fully long diphthong which makes the difference. The distinguishing example of this case is the articulation of the word ‘wrote’ [rəʊʔtʰ] as compared to ‘road’ [rə:ʊd].

8-a) The /**p**/ has no audible release when followed by another plosive, as in: captain [kʰæptʰən]/, ‘wiped’ [waɪʔptʰ]. The release of the second plosive is greatly heard.

b) The /**p**/ gets a nasal resonance when followed by a nasal consonant, as in: ‘topmost’ [tʰɒpʰməʊʔst], ‘happen’ [hæpʰən], ‘cheap meat’ [tʃi:pʰmi:ʔtʰ].

c) The /**p**/ gets a lateral resonance when followed by a lateral consonant, as in: ‘apple’ [æpʰəl], ‘couple’ [kʰʌpʰəl], ‘please’ [pli:z].

d) No audible /**p**/ in certain words: ‘pneumatic’ [nju:mætʰɪʔkʰ], ‘psychology’ [saɪkʰɒlədʒi], re’ceipt [ri:si:ʔtʰ], ‘cupboard’ [kʰʌbəd].

Note: In the word ‘cupboard’ the influence of the audible release stage of the second plosive /**b**/ makes the preceding plosive /**p**/ inaudible.

9- When /**p, b**/ are followed by the labio-dental sounds /**f, v**/, the stop is made by a labio-dental rather than a bilabial closure, as in: ‘obvious’ [ɒbʰviəs], or in context: ‘cup full’ [kʌpʰfʊl]. The labiodental plosives are marked as [**p̪**] and [**b̪**].

Note: ‘in context’ means the assimilation of two sounds occurring in the margins of two words; i.e., within two-word boundaries, as the case for ‘cupfull of water’ [kʌpfʊləv'wɔ:tə], and ‘robe very nice’ [rə:ʊ**b** veri 'naɪs].

10-a) The lenis sounds /b, d, g / are fully voiced when they occur intervocalically ‘between two vowels’, as in the words ‘leader’ [ˈli:də] ; ‘eager’ [ˈi:gə]. ‘labour’ [ˈleɪbə], or in context ‘to be’ [tə bi:]; ‘grab in’ [græbɪn]; ‘God is’ [gɒdɪz]; ‘bag on’ [bægɒn].

b) Following or preceding silence, /b, d, g / may be partially voiced initially, as in: ‘bill’ [bɪl], ‘dam’ [dæm], ‘game’ [geɪm]

c) Completely devoiced / voiceless, as in: ‘rob’ [rɒb̥], ‘bad’ [bæd̥], ‘frog’ [frɒg̥].

11-a) /b/ is lost in word final position, after the bilabial nasal /m/as in ‘climb’ [klaɪm], ‘lamb’ [læm] ‘comb’ [kʰəʊm].

b) /b/ has no audible release when followed by another plosive, as in ‘obtain’ [əb̥t̪ˈheɪn], ‘rubbed’ [rʌb̥d̪], subconscious [sʌb̥k̪ˈnɪʃəs], object [ɒb̥dʒiˈkt̪].

c) /b/ gets a nasal resonance when followed by a nasal consonant, as in: ‘submerge’ [səb̥mɜ:dʒ], ‘ribbon’ [ˈrɪb̥ən]; ridden [ˈrɪd̪n]. During the production of /p/ and /b/ followed by the nasal consonants /m, n/, the soft palate is lowered to a greater or lesser extent, allowing the airstream to pass through the nasal cavity, hence a nasalized plosive is heard in the process.

d) /b/ gets a lateral resonance when followed by a lateral consonant, as in: ‘bubble’ [bʌb̥əl], ‘blow’ [bləʊ].

12) /k/ has no audible release when followed by another plosive, as in ‘object’ [ɒb̥dʒiˈkt̪]; attract [əˈtrækt̪].

13) Word final /t/ and /d/ are assimilated to [tʃ] and [dʒ], before /j/ initial in the following word, as in: ‘next year’ [nekstʃjɜ:]; ‘would you’ [wʊdʒjə]. In this case /j/ has an effect on the preceding sounds /t/ and /d/, and hence changes the two sounds into /tʃ/ and /dʒ/. This is referred to as ‘regressive assimilation’

III.4.1.5. English Plosives: Practice

(1)1- Circle the words that contain a bilabial plosive:

tomb, peace, bomb, rubber, supper, letter, order, done, bigger, tongue

2- Circle the words that contain an alveolar plosive:

bomb, utter, said, butter, rapid, organ, ton, built, glass, lacked, dirty, shirt, ride

3- Circle the words that contain a velar plosive:

organ, bulb, open, skin, gain, biker, hid, bread, guide, curtain, cartoons, pig, pick

4- Circle the words that contain a fortis plosive:

bead, set, buy, go, crow, girl, door, but, dirty, paper, gate, dog, going, doll

5- Circle the words that contain a lenis plosive:

apple, bar, goat, queen, car, door, tour, sad, gas, gun, write, rode, stupidity

6- Circle the words that contain a strongly aspirated plosive:

sky, bell, car, time, spy, slate, dime, poor, forty, attack, import, stick, pie

7- Circle the words that contain a weakly aspirated plosive:

supper, park, lucky, letter, cool, time, happy, apart, soup, neck

8- Circle the words that contain an unaspirated plosive:

scar, key, store, stay, tone, pie, stone, cold, spy, steak, take, span, slate

9- Circle the words that contain a fully long vowel or diphthong:

tripe, seat, tribe, seed, failure, water, league, leak, paper, labour, bound

10- Circle the words that contain a reduced (shortened) long vowel or diphthong:

tribe, warder, water, labour, tripe, seat, leak, seed, ride, write, rate

11- Circle the words that have a plosive released through another plosive:

captain, bets, good boy, actor, locked, bottle, ripe cheese

(2)a-Initially in stressed syllable, /**p, t, k**/ are strongly aspirated, i.e., the plosive is accompanied by a puff of air called 'aspiration'. [p^h,t^h, k^h]

Examples: suppose [], intelligent [], account []

b- Initially in unstressed syllables, /**p, t, k**/ are weakly aspirated before a vowel. The fortis plosives are also weakly aspirated in final positions. The sound is 'ejective / implosive'.

[p', t', k']

Examples: supper [], lucky [], tip [], night []

c- After /s/, /p, t, k/ are unaspirated. [p̄ , t̄ , k̄]

Examples: spy[], stay[], sky[] steaming[]

d- When /l, r, w, j/ follow initial /p, t, k/, the aspiration is manifested in the devoicing of

/l, r, w, j/; the symbols are as follows: [l̄ , r̄ , w̄ , ç]

Examples: please [], try [], quiet [], Pure []

e- Final /p, t, k/ can be reinforced by a glottal closure (stop) /ʔ/ in syllable final position.

f- the /p/ is silent in certain words.

Examples: psychology [], psychiatric [], receipt []

g- Syllables closed by fortis consonants /p, t, k/ are shorter than those which are open or closed by lenis consonants.

1- Before final fortis consonants:

Examples:1- (closed by a short vowel): top [], hat [], duck []

a- (closed by a long vowel): cheap [], first [], fork []

b- (closed by a diphthong): tape [], wrote [], shout [],

2- Before final lenis consonants:

Examples:1- (closed by a short vowel): rob [], had [], bag []

a- (closed by a long vowel): barber [], hard [], league []

b- (Closed by a diphthong): tribe [], found [], vague []

h- The /b/ gets a nasal resonance when followed by a nasal consonant.

Examples: carbon [], submerge [], ebon []

i- The /b/ gets a lateral resonance when followed by a lateral consonant.

Examples: couple [], blame [] blow []

j- The /b/ is fully voiced inter-vocally (between 2 vowels).

Examples: rubber [], labour [], harbour []

k- When /p, b/ are followed by the labio-dental /f, v/, the stop is made by a labio-dental rather than a bilabial closure. [p̣], [ḅ]

Examples: helpful [], obvious []

l- The /p, b/ have no audible release before another plosive consonant. The release of the second plosive is greatly heard.

Examples: September [], obtainable [], subdivide []

m- The /k/ has no audible release when followed by another plosive, as in 'interact'

Examples: []; actor []

Place of Articulation:

- (3) 1-For /p/ and /b/, the active articulator is.....and the passive articulator is.....
 2- For /k/ and /g/, the active articulator isand the passive articulator is
 3- For /t/ and /d/, the active articulator isand the passive articulator is
 4- For /ʔ/

(04) Give the VPM of the following sounds

Consonant	Voicing	Place of articulation	Manner of articulation
/p/			
/t/			
/k/			
/b/			
/d/			
/g/			
/ʔ/			

(05) The following words contain several plosives. They are given in spelling and in transcription. Can you pronounce them?

- 1- potato /pə 'teɪtəʊ / 2- topic /'tɒpɪk/ 3- petticoat /'petɪkəʊt/
 4- partake /pa: 'teɪk/5- cupboard /'kʌbəd/ 6- decapitated / dɪ'kæpɪteɪtɪd/
 7- pocket /'pɒkɪt/ 8- about /ə'baʊt/9- carpet /'kɑ:pɪt/
 10- bodyguard /'bɒdɪgɑ:d/ 11- tobacco /tə'bækəʊ/ 12- decode /dɪ:'kəʊd/

(06) Write in letters the following transcribed words:

- 1- /dɪ'beɪt/ 2- /beɪkt/..... 3- /'kɒpɪd/
 4- /'dedɪkeɪtɪd/ 5- /'æpɪtaɪt/..... 6- /'fɒrɪst/.....
 7- /klaɪm/..... 8- /'saɪkɪk/..... 9- /'prɪtɪ/.....

(07) Transcribe the following words phonetically: (Use all the *diacritics* needed).

- 1- doctor][2- paper][3- ridiculous][
 4- tomb][5- speed][6- clay][
 7- target][8- fight][9- school][
 10- have to][11- of cats][12- of dogs][

(08) Provide the correct pronunciation of the final ‘ed’ in the following regular verbs:

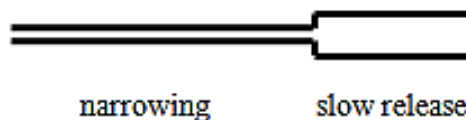
parked, divided, arrived, sneezed, started, washed, watched, frightened, married
 needed, walked, shouted, hurried, roomed, ruined, reminded, remembered, talked

/d/	/t/	/ɪd/

III.4.3. English Fricative Consonants: Description of sound production

Fricatives are oral sounds made as a result of approaching two speech organs close together. This means that they are held sufficiently very near each other (but not to cause a firm contact) to make a narrowing through which the escaping airstream produces a hissing noise/sound called ‘friction’.

In other words: The soft palate is raised to touch the back wall of the pharynx. The two articulators are gently brought together and air is pushed through a narrowing. The result is a hissing sound called ‘friction’. The contact can be made by the lower lip with the upper teeth for / **f**, **v** /; the blade of tongue with the bottom edge of the upper teeth for / **θ**, **ð** /; the front of tongue with the alveolar ridge for / **s**, **z** /; and the body of tongue and the tongue rims with the part just behind the alveolar ridge for / **ʃ**, **ʒ** /. However, the glottal fricative / **h** / differs, to some extent, in the manner of articulation of the other fricative consonants. / **h** / is produced inside the larynx in the wide space called ‘glottis’, without the vibration of the vocal chords.

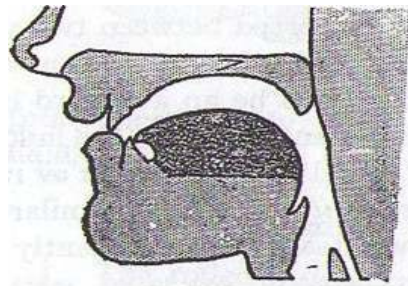


Place of articulation: 1) labio-dental / **f**, **v** / ; 2) dental / **θ**, **ð** / ; 3) alveolar / **s**, **z** /
 4) palato-alveolar / **ʃ**, **ʒ** / ; 5) glottal / **h** /

Manner of articulation:

(1) / f, v /

1)Description: A labio-dental / f, v /: (from **labial**lip and **dental**teeth) fricatives are sounds in which the contact is made by approaching the lower lip and the upper teeth to constrict the airflow coming out of the lungs creating turbulence for the air, but not stopping its passage out of the mouth. In this case, the soft palate ‘velum’ is raised to close the nasal cavity ‘resonator’, so as the air escapes through the mouth. English has two labio-dental fricatives: /f/ in which the vocal chords do not vibrate (voiceless) in all environments, as in: *fight, laughter, and safe*, and /v/ in which they may or may not vibrate according to its situation in the utterance, as in: *vote, reveal* and *save*



a) f, v

/ f/ __ fortis (spelt: **f, ff, ph, gh**)

Word initial __ **fudge, fellow, fitness, fill, faker, phone, philosophy, Philadelphia**

Word medial __ **affect, defend, selfish, unfair, infinitesimal, laughing, affirmation**

Word final __ **life, wolf, calf, laugh, Gulf, shelf, enough, staff, snuff, rough, staph**

/ v/ __ lenis (spelt, **v, f, ph, w**)

Word initial __ **vast, veil, voice, video, valleys, Volkswagen, wagon (Fr.) /vægən/**

Word medial __ **even, nervous, endeavor, invite, nephew, invalid, unveil**

Word final __ **starve, of, calve, grove, drive, strive, five, olive, hive, enclave**

Compare: /f/ and /v/ __ fan, van; fast, vast; foul, vowel, ferry, very; fender, vender

__ infant, invent; confuse, convince; rifle, rival; sniffle, snivel

__ leaf, leave; safe, save; proof, prove; life, live; grief, greave

Vocabulary:

‘**fudge**’/fʌdʒ/: a soft candy made from sugar, bitter, and milk or cream

'in'finitesimal' /,ɪnfɪnɪtəsɪəl/: extremely small

'veil'/veɪl/: a piece of fine material worn by women to protect or conceal the face

'strive' /straɪv/: make great effort to obtain or achieve something

'ferry'/feri/: a boat or ship for conveying (transporting) passengers and goods, especially over a relatively short distance and as a regular service

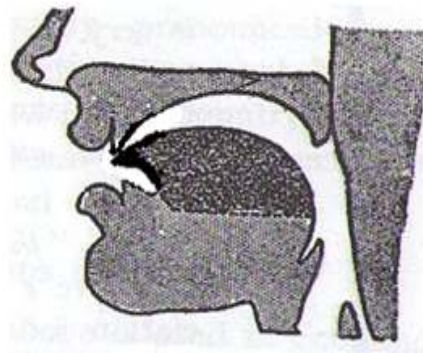
'fender'/fendə/: a thing used to keep something off or prevent a collision, in

particular **'sniffle'**/snɪfəl/: sniff slightly or repeatedly, typically because of a cold or fit of

crying **'greave'**/gri:v/: a piece of armor (metal covering) used to protect the skin

(1) /θ, ð/

2)Description:A dental/lingua-dental (from **lingua**tongue and **dental**teeth) fricative is a sound in which the flow of air out of the body is constricted by a near touch of the tongue blade to the bottom edge of the front upper teeth, creating a narrow opening through which the air passes. English has two dental fricatives — voiceless /θ/ as in: *think*, *worthy* and *bath*, and __voiced /ð/ as in: *this*, *within*, and *with*. During the articulation process, the vocal chords may strongly or partially vibrate for / ð / according to its situation in the utterance. In the meantime, the velum is raised to remain away from the back wall of the pharynx for an oral sound.



(b)θ, ð

/ θ / __ fortis (always spelt **th**)

Word initial __ **thief**, **thin**, **thirsty**, **thumb**, **through**, **thunder**, **throughout**, **thermometer**

Word medial __ **ethics**, **method**, **author**, **lengthy**, **athletics**, **enthusiasm**, **anthropology**

Word final __ **heath**, **smith**, **breath**, **path**, **cloth**, **north**, **booth**

/ ð / __ lenis (always spelt **th**)

Word initial __ **there**, **then**, **though**, **they**, **their**, **those**, **therefore**, **therein**, **Theremin**

Word medial __ **breathing**, **leather**, **gather**, **father**, **although**, **other**, **whether**, **northerly**

Word final __ **with**, **seethe**, **soothe**, **lathe**, **bathe**, **clothe**, **breathe**, **teethe**, **mouth** (v)

Compare: /θ/ and /ð/ __ ether either; loath, loathe; mouth (n), mouth (v); teeth (n), teethe (v) ; thigh, thy

Note1: Sometimes, there are difficulties to find a great number of minimal pairs which differ only by /θ/ & /ð/ in different environments

Note2: the substitution of /θ/ for /ð/ and vice-versa do not bring about serious changes in meaning. It may be regarded as a kind of distortion in pronunciation only.

Vocabulary:

‘**ethics**’ /eθɪks/: moral principles that govern a person's or group's behaviour

‘**heath**’ /hi:θ/ : an area of open uncultivated land

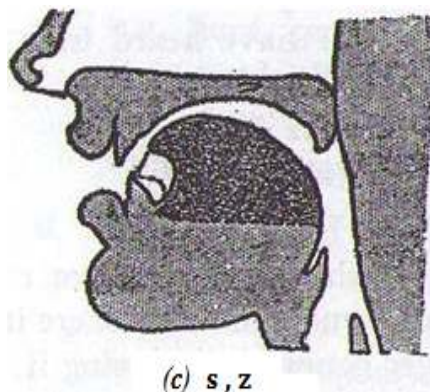
‘**seethe**’ /si:ð/: (of a liquid) bubble up as a result of being boiled

‘**soothe**’ /su:ð/: to gently calm (a person or their feelings) ; to make less angry, excited or anxious

‘**lathe**’ /leɪð/: a machine for shaping wood, metal or other material

(2) /s, z/

3)Description: An alveolar / lingua-alveolar (from *lingua* tongue and *alveola*, the ridge just behind the front upper teeth) fricative is a sound in which the flow of air out of the body is constricted by approaching the tongue to the alveolar ridge — the part of roof just behind the upper front teeth, creating a narrow opening through which the air passes. English has two lingua-alveolar fricatives — voiceless /s/ as in *say*, *racing* and *class*, and /z/ in which the vocal chords may or may not vibrate according to its situation in the utterance, as in: *zebra*, *razor* and *freeze*.



/ s / __ fortis (spelt s, ss, c, sc)

Word initial __ sink, sister, science, sudden, sincere, psychology, symbolize,
Word medial __ nieces, message, scissors, inside, axes, bracelet, concert, whistle
Word final __ piece, lass, purse, spice, chaos, burse, reduce, furious, exercise

/z/ __ lenis (spelt s, z, zz)

Word initial __ zap, zeal, zine, zero, zinc, zebra, zealous, zeroed
Word medial __ amazing, , creasy, crazy, citizen, freezing, fuzzy, buzzard
Word final __ peas, jazz, raise, cruse, please, fosters, ringers, topaz,

Note:doomsday

Compare: /s/ and /z/ __ sink, zinc; insert, desert; rice, rise; price, fries; peace, peas

Vocabulary:

‘lass’ /læs/: a young girl

‘zeal’ /zi:l/: great energy or enthusiasm in pursuit of a cause or an objective

‘zine’ /zi:n/: a magazine especially a fanzine (a magazine for fan)

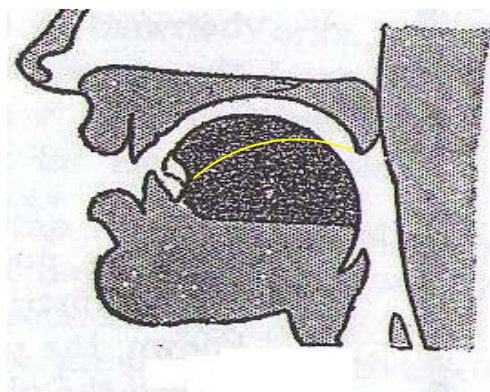
‘zeroed’ /zi:'rəʊd/: Adjust an instrument to zero

‘buzzard’ /'bʌzəd/: a large hawk-like bird of grey with broad wings and a rounded tail

‘doomsday’ /'dʊmzdeɪ/: the last day of the world's day ; judgment day

(4)ʃ, ʒ /

4) A palate-alveolar/lingua-palatal (from **lingua**tongue and **palate**the top of the mouth) fricative is a sound in which the flow of air out of the body is constricted by approaching the body of tongue to the hard palate — the central part of the roof behind the alveolar ridge creating a narrow opening through which the air passes. English has two lingua-palatal fricatives — voiceless / ʃ / as in: *shoe, pressure*, and *dash*, and / ʒ / in which the vocal chords may or may not vibrate according to its situation in the utterance, as in: *gigolo, vision* and *confusion*.



(d) ʃ, ʒ

/ʃ/ __ fortis (spelt **sh,ch, sch, s, ss, ti, sci, c, x**)

Word initial __ **s**chedule, **sh**elf, **sh**oe, **sh**ee**p**, **sh**ield, **s**ugar, **sh**oulders, **sh**outing, **sh**yness

Word medial __ ancient, **f**ashion, **R**ussian, **a**n**x**ious, **c**on**s**cience, **m**ach**i**ner**y**, **i**n**f**lation

Word final __ **c**rash, **f**lash, **d**ash, **d**ish, **W**elsh, **r**ubb**i**sh, **s**elf**i**sh, **d**imin**i**sh, **d**istin**g**uish

/ʒ/ __ lenis (spelt **si-, s, z,**)

Word initial __ **g**endarme, **j**us, **g**igue, **g**en**r**e, **j**acquerie, **j**abot

Word medial __ **c**on**s**clusion, **e**x**p**osure, **v**isual, **c**on**f**usion, **o**ccasion, **m**eas**u**rement

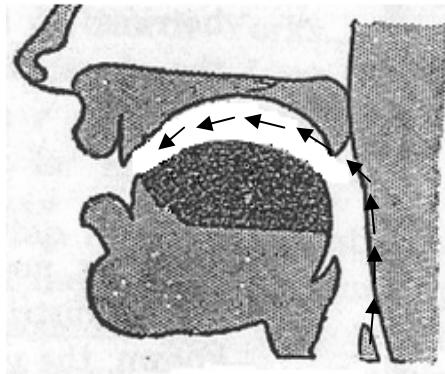
Word final __ **b**eige, **r**ou**g**e, **c**ollage, **p**restige, **m**assage, **m**irage, **g**arage, **s**abotage

Note 1: The sound /ʒ/ is used initially and finally in French loan words only

Note 2: /dʒ/ can be used as an alternative to /ʒ/ in the two stated environments

(5) /h/

5) A glottal fricative, sometimes referred to as ‘voiceless glottal transition’ is a sound in which the flow of air out of the body passes freely inside the glottis when the vocal chords are apart to create a narrow opening through which this air passes with friction before entering the mouth. English has the voiceless glottal fricative /h/ as in: *happy* and *whose*



(e) /h/

/h/ __ fortis (spelt **h, wh**)

Word initial __ **h**eight, **h**ello, **w**hose, **h**andy, **h**andsome, **w**h**o**ever, **h**owever, **h**umanity

Word medial __ **a**head, **r**eheat, **f**ore**h**ead, **b**ee**h**ive, **b**ehav**i**our, **i**n**h**alation, **i**n**h**abitant,

Word final __ /h/ does not occur word finally.

Note 1: In certain words, /h/ is pronounced somewhat like the glottal stop /ʔ/, as in: **h**onour, **h**onest, **h**eir

Note 2: /h/ is silent especially in medial positions as in: **g**host, **R**hythm, **g**hetto, **R**hubarb, **e**xhilarate, **e**xhibition, **v**ehicle, **s**hepherd, **D**urham, **B**irmingham

Vocabulary:

‘**heir**’/eə/: the person who has the lawful right to receive the property of an older member of the family who dies

‘**Rhubarb**’/’ru:ba:b/: (*inf.*) the sound of many people talking at the same time

‘**Durham**’/’dʌrəm/: A city in Northern English on the River wear. It’s famous for its 11th century cathedral

‘**Birmingham**’/’bɜ:mɪŋəm/: an industrial and the second largest city after London. It is located in west central England.

III.4.3.1. English Fricatives: Allophones / Variants

1) Force of articulation: / **f, θ, s, ʃ** / are pronounced with more muscular energy and stronger breath effort than / **v, ð, z, ʒ** /. / **f, θ, s, ʃ** / are known as relatively strong or ‘**fortis**’; / **v, ð, z, ʒ** / are known as relatively weak or ‘**lenis**’. (fortis/lenis as **phonological** categories)

2) The lenis sounds / **v, ð, z, ʒ** / are fully voiced when they occur intervocalically ‘between two vowels’, as in the words ‘river’ [’rɪvə]; ‘either’ [’aɪðə]; ‘freezer’ [’fri:zə]; ‘pleasure’ [’pleʒə], or in context ‘leave it’ [li:’vi:t]; ‘with them’ [wɪðem]; ‘those are’ [ðəʊzə:].

Note: final /**ʒ**/ can rarely be used intervocalically in context because final /**ʒ**/ usually alternates with /**dʒ**/

3) The length of the different vowels (short, long, diphthongs) in syllables differs greatly before the preceding consonants: syllables closed by fortis consonants / **f, θ, s, ʃ** / are shorter than those which are open (ending in vowels) or closed by lenis consonants / **v, ð, z, ʒ** /, as in: ‘tough’ [tʰʌf], ‘teeth’ [tʰi:θ], ‘horse’ [hɔ:s], as compared with ‘love’ [lʌv]; ‘teethe’ [tʰi:ð], & ‘cause’ [kɔ:z].

Note: a- Similar to the case of plosives, the reduced short vowels, long vowels and diphthongs submit the same marks before fortis fricatives.

4) /**ʃ, ʒ**/ never occur in word-final position after a diphthong and in this case, discussion of length is excluded.

- 5) Word final /v/ may assimilate to [f] before a fortis consonant initial in the following word, as in: have to [hæftə], love to [lʌftə], have some [hæfsəm], etc
- 6) In familiar speech the /v/ may be elided in the case of the unaccented form of 'have' and 'of', as in: 'a lot of money' [ə 'lɒt ə 'mʌni], and 'I could have bought it' [ai k'əd ə 'bɔ:t it]. In this case, the /v/ is turned into schwa /ə/.
- 7) /f/ has taken the place of /ju:/ in the word 'lieutenant' /lef'tenənt/, yet in American English it is pronounced as /l(j)u: 'tenənt/.
- 8) /θ, ð/ offer difficulties of articulation when followed by /s, z/, thus they are sometimes elided, as the case of 'clothes' /klaʊz/, 'months' /mʌns/, or /mʌnts/.
- 9) In sequence of the type /s, z/ followed by unaccented /ð/, the preceding alveolar articulation may influence the dental fricative in rapid speech. For example: 'Is there any?' [izzə'reni]; 'what's the time?' [wɒts zə 'taɪm]; 'all the way' [ɔ: də 'weɪ]; 'In the morning' [ɪn nə 'mɔ:nɪŋ].
- 10) /s/ is often replaced by a weaker articulation of [z], as in the case of 'horse riding' /hɔ:z 'raɪdɪŋ/
- 11) Word final /s/ and /z/ are assimilated to /ʃ/ and /ʒ/ before /j/, as in: 'miss you' [mɪʃ jə]; 'please you' [pli:ʒjə]. In this case /j/ has an effect on the preceding sounds /s/ and /z/, and hence changes the two sounds into /ʃ/ and /ʒ/. This is referred to as 'regressive assimilation'
- 12) The lack of words distinguishable by /ʃ/ & /ʒ/ results in possible alternation between these two sounds, as in 'Asia' /eɪʃə, eɪʒə/; 'version' /vɜ:ʃən, vɜ:ʒən/.
- 13) In word final position, where /ʒ/ exists only in French loan words, a variant with /dʒ/ is always possible, as in: 'rouge' /ru:ʒ, ru:dʒ/; 'garage' /gæɾɑ:ʒ, gæɾɪdʒ/

III.4.3.2. English Fricatives: Practice

- 01) Circle the words that contain a labiodentals fricative:

Surface, leisure, laughter, believe, fission, seize, teethe, wives, either

02) Circle the words that contain a dental fricative:

so, lace, although, azure, thick, that, fall, think, theory, vision, ether

03) Circle the words that contain an alveolar fricative:

fool, head, slim, zebra, fish, fees, cats, loath, zero, scarce, fight

04) Circle the words that contain a palate- alveolar fricative:

sure, feeling, veil, loathe, fission, vision, razor, dash, pigeon

05) Circle the words that contain a glottal fricative:

heart, heir, behind, honest, behave, honor, exhaust, unharmed, exhibit, perhaps, ahead, exhilarate, unhappy, inhaled

06) Circle the words that contain a fortis fricative:

fight, large, rich, race, think, this, hard, shoe, eyes, ice, rice

07) Circle the words that contain a lenis fricative:

zeal, sort, thank, though, pleasure, rush, save, laugh, sink, ethics

08) Circle the words that contain a fully voiced fricative:

breather, service, laughing, s serve, teethe, seizes, leisure, pressure

09) Circle the words that contain a fully long vowel or diphthong:

Race, large, laugh, erase, five, search, larch, wreath, writhe

10) Circle the words that contain a reduced (shortened) long vowel or diphthong:

mouse, enlarge, rice, rise, lace, raise, fife, surf, march, search

(2) For each of the following words, write down the phonetic symbol for every consonant that occurs in initial position (as in 1-).

- 1- park / p/ 2- knit / / 3- bet / / 4- chain / / 5- goal / /
6- June / / 7- mine / / 8- car / / 9- ring / / 10- think / /
11- spoon / / 12- zero / / 13- water / / 14- yelp / / 15- kilt / /

(3) 1- For /s/ and /z/, the active articulator is.....and the passive articulator is.....

2- For /θ/ and /ð/, the active articulator isand the passive articulator is

3- For /ʃ/ and /ʒ/, the active articulator isand the passive articulator is

4- For /f/ and /v/, the active articulator isand the passive articulator is

5- For /h/

(4) Provide a *phonemic* transcription to the following words:

see / / beats / / said / / heart / / flower / /
 North / / shoe / / chalk / / fur / / hoe / /
 seen / / food / / zebra / / serve / / short / /
 steed / / pleasure / / shroud / / charged / /
 teeth / / lose / / sneeze / / church / / faint / /
 tenth / / breath / / serve / / cheese / / harm / /
 breathe / / freeze / / wash / / sward / / teeth / /

(5) Transcribe the following words phonetically: (Use all the *diacritics* needed).

- 1- sneeze][2- please][3- ridiculous][
- 4- insane][5- speed][6- psychology][
- 7- nurse][8- fight][9- school][
- 10- have some][11- have dogs][12- has got][
- 13- has cats][14- lot of birds][15- lot of facts][

(6) Useful practice using /θ/ & /ð/ sounds in context:

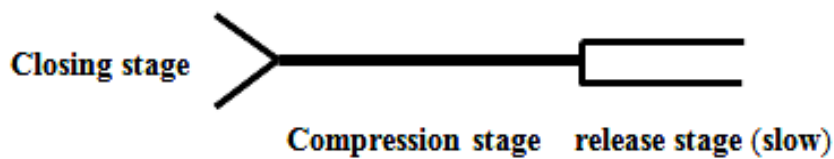
- * This is **the third myth** that **they** have **thought** of **together**
- * I **think** my **brother** visited the **theatre** **this Thursday**
- * **Three thousand smooth teeth** together in **this healthy** mouth
- * In **this weather**, **wealthy** people **breathe** **through** **their** mouths

(7) Give the VPM of the following sounds:

Consonant	Voicing	Place of articulation	Manner of articulation
/s/			
/h/			
/z/			
/θ /			
/z/			
/ʃ/			
/f/			
/ð/			
/v/			

III.4.3. English Affricate Consonants: Definition

Affricates are consonants that begin as stops (most often an alveolar, such as /t/ or /d/) but release as a fricative. During the articulation of the English affricates, the soft palate is always raised. The two organs of speech ‘articulators’ come together and make a complete closure before they compress air for a moment. Instead of having a sudden release as for plosives, the articulators peel apart slowly causing friction.

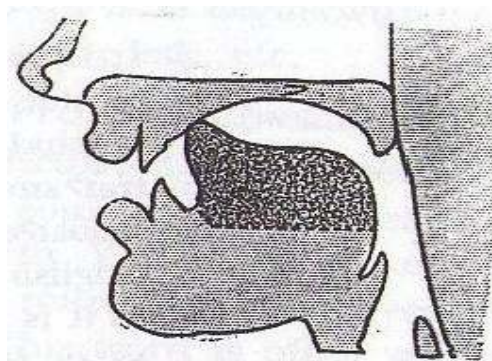


Place of articulation: 1) post alveolar: /tr, dr/ 2) palato-alveolar: /tʃ, dʒ/

III.4.3.1. English Affricate Consonants: Description and sound production

Manner of articulation:

(1) Post alveolar affricates /tr, dr/: In producing the two sounds, the velum is raised to close the nasal passage. The tip and rims of tongue move towards the rear edge of the alveolar ridge and the upper side teeth to form the closure, meanwhile the centre of the tongue is hollowed in readiness for the /r/ type friction, resulting from the slow release of the stop. During the stop and fricative stages, the vocal chords are wide apart for /tr/; however, in the case of /dr/, voice is present throughout the affricate when medial, but may be associated only with the fricative element when initial.



a) /tr, dr/

/ **tr** / ___ fortis (spelt **tr**, **train** ; **tur**, naturally often /'nætɹəlɪ/, and /trɪ/ factory & /tɹɪ/

Word initial ___ **t**ree, **t**reat, **t**ry, **t**rainer, **t**rowel, **t**ractor, **t**riangle, **t**remendous, **t**ranquility

Word medial (initial in the syllable) ___ **at**ttract, **en**trance, **poet**ry, **pet**rol, **port**ray

Word final ___ /**tr**/ does not occur in syllable final position.

/**dr**/ ___ lenis (spelt **dr** /draɪ/ & /dɹɪ/ boundry

Word initial ___ **d**ry, **d**rought, **d**reary, **d**reamy, **d**river, **d**rawing, **d**ressing, **d**rinkable

Word medial (initial in the syllable) ___ **ad**dress, **and**roid, **hind**rance, **And**ree, **laundr**y

Word final ___ /**dr**/ does not occur in syllable final position.

Compare /**tr**, **dr**/ ___ try, dry ; trips, dribs ; trucker, drunker ; tread, dread; troupe, droop ;

/**tr**/, /**tʃ**/ ___ trees, cheese ; trick, chick ; trance, chance ; trump, chump

/**dr**/, /**dʒ**/ ___ drive. Jive; dreamy, jimmy; Andrew, Anjou

Vocabulary:

trowel /'traʊəl/: a tool with a flat blade for spreading cement, plaster, etc

portray /pɔ:'treɪ/: depict (someone or something) in a work of art or literature.

dreary /'dʒɹɪəri/: sad and depressing ; lifeless

android /'ʌdrɔɪd /: an open-source operating system used for smart phones and tablet computers

laundry /'lɔ:dri/: a place or business where clothes, etc., are washed and ironed

dribs / drɪbs/: (informal) small and unimportant amounts of something such as money

tread /tred/: a manner or the sound of someone walking

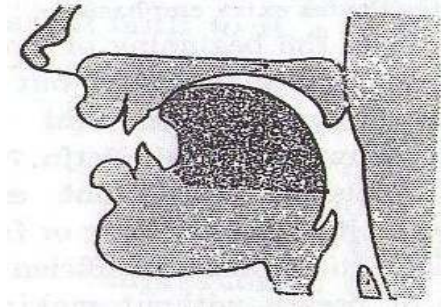
dread /dred/: great fear

droop /dru:p/: bend or hang downward limply (lacking strength or stiffness)

trance /tra:s/: a sleep-like condition of the mind in which one does not notice the things around him

chump /tʃʌmp/: a foolish or easily deceived person

(2)**Palato-alveolar affricates** / **tʃ**, **dʒ** /: During the articulation of these two sounds, the velum is raised to close the nasal cavity. The contact made by the tip, blade, and rims of the tongue with the upper molars and the alveolar ridge form an obstacle to the air-stream. At the same time, the front of the tongue is raised towards the hard palate in readiness for a slow fricative release. During both stop and fricative stages, the vocal chords are wide apart for / **tʃ** /, but may be vibrating for all or part of /**dʒ**/ according to the situation in the utterance, as in: 'Jane' / **dʒ**em/, adjust /ə' **dʒ**ʌst/, fridge /frɪ**dʒ**/.



b) / tʃ, dʒ /

/ tʃ/ __ fortis (spelt **ch**, **tch**, **t+ ure**, **t+eous**, and **t+ ion** when tis precededby s)

Word initial ____ **chase**, **cheat**, **cheese**, **chatting**, **charity**, **checkers**, **chewing**, **chimney**
 Word medial (intervocalic) ____ **achieve**, **texture**, **features**, **righteous**, , **question**, **butcher**
 Word final ____ **touch**, **porch**, **fetch**, **switch**, **wretch**, **catch**, **much**, **coach**, **pitch**

/dʒ/ __ lenis (spelt **j**, **g**, **dg**, sometimes **gg**, **dj**, **de**, **di**, **ch**)

Word initial ____ **jail**, **gendarme**, **gender**, **jealous**, **Jeremy**
 Word medial ____ **ledger**, **margin**, **suggest**, **grandeur**, **urgent**, **adjacent**, **agenda**, **soldier**
 Word final ____ **bridge**, **beige**, **lounge**, **judge**, **huge**, **sponge**, **Norwich**, **sandwich**

Compare / tʃ, dʒ/ __ **char**, **jar**; **cherty**, **jetty**; **choke**, **joke**; **cheese**, **geez**; **chick**, **jig**
 __ **riches**, **bridges**; **teachers**, **features**; **butcher**, **huger**; **culture**, **indulger**
 __ **teach**, **ridge**; **lunch**, **lunge**; **fletch**, **fledge**; **clutch**, **kludge**; **Mitch**, **midge**

Vocabulary:

wretch/ retʃ/: an unfortunate or unhappy person

ledger /'ledʒə/: a book or other collection of financial accounts of a particular type

grandeur /'grændʒə/: splendor and impressiveness, especially of appearance or style

geez /dʒi:z/: often Am.Eng. Expressions of surprise

jig /dʒɪg/: **1-** a lively dance with leaping movements; **2-**a device that holds a piece of work and guides the tools operating on it

indulger/ ɪn'dʌldʒə/: usually a person who yields, perhaps too much to the desire of someone, especially habitually

lunge /lʌndʒ/: to make a sudden forceful forward movement, esp. with the arms

III.4.3.2. English Affricates:Practice

1- a- Circle the word that contains an affricate sound:

- speak, speech, reach, orange, round, try, church, dreary, chocolate, house,
- station, reach, trouble, stiff, Andrew, clouds, prayer, drunker, gear, cheese,
- crush, stream, drive, working, chase, Android, tracks, sandwich, chalk, dry

b- Put the words ‘in activity one’ containing an affricate under the corresponding headings:

Post-alveolar affricate	Palato-alveolar affricate

2- a- Circle the words that contain a palato-alveolar affricate:

- choose, June, shine, trumpet, drink, treatment, hedge, catch, actress, Andrew

b- Circle the words that contain a post-alveolar affricate:

- dreadful, joke, extreme, reach, rigid, truth, adroit, contracted, butcher, attracted

c- Circle the words that contain a fortis affricate:

- genius, chance, trace, dresses, lunch, huge, addressed, attribute, reproach, sponge

d- Circle the words that contain a lenis affricate:

- dreamer, jaundice, transport, achieve, address, oblige, branch, drove, change

e- Circle the words that contain a fully voiced affricate:

- merger, joking, murderer, changing, drove, huge, tragic, addressed, drugs, fragile

f- Circle the words that contain a fully long vowel or diphthong before a final lenis affricate:

- chance, badge, perch, reach, torch, cage, search, indulge, urge, march, age

g- Circle the words that contain a reduced ‘shortened’ vowel or diphthong before a final fortisaffricate:

- crouch, merge, surge, teach, torch, cage, search, brooch, large, coach, rage, speech

3- Give the **VPM** of the following sounds

Sound	Voicing	Place of Articulation	Manner of articulation
/ dʒ /			
/ tr /			
/ tr /			
/ tʃ /			

4- Transcribe the following words phonetically: (Use all the *diacritics* needed).

- 1- merge][2- dreary][3- rigidity][
4- brooch][5- sponge][6- crutch][
7- torch][8- traffic][9- chocolate][
10- genius][11- travel][12- tragic][

III.4.4. English Nasal Consonants: Description and sound production

A nasal, also known as a ‘nasal occlusive’ is a consonant produced when two organs meet at a certain point in the vocal tract: **1-** lower lip with upper lip for /**m**/. **2-** tip and blade of tongue with the alveolar ridge for /**n**/. **3-** back of tongue with the soft palate for /**ŋ**/. The organs meet and make a blockage, and in the meantime the velum is lowered, allowing air to escape freely through the nose. The oral cavity still acts as a resonance chamber for the sound.

In English the difference between nasals and plosives can be seen in terms of the position of the soft palate (velum), which is lowered for the former and raised in the case of the latter. /**m**/, /**n**/, /**ŋ**/ are usually voiced.

Note: Like /**h**/, nasal sounds do not have significant voiceless/voiced or fortis/lenis oppositions.

Acoustically, nasals are regarded as 1) ‘sonorants’, which means that no obstacle is made to the flow of air that escapes freely out of the nasal cavity. 2) ‘obstruents’ in the articulation, since the air is blocked by the different organs in the mouth. This duality explains that the air has two forms: a sonorant ‘free’ airflow through the mouth along with a complete obstruction in the mouth. Thus, nasal occlusives are both sonorants and obstruents.

Place and manner of articulation:

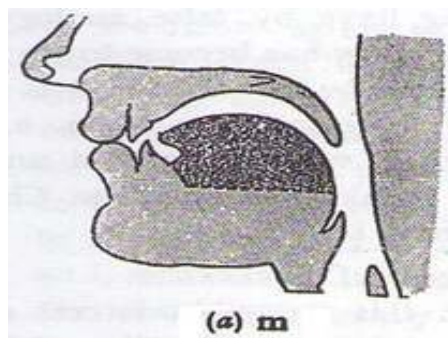
1- For / **m** /, the air is blocked by closing the two lips for a ‘bilabial’ sound

2- For / **n** /, the air is blocked by pressing the blade of tongue against the alveolar ridge for an ‘alveolar’ sound.

3- For / **ŋ** /, the air is blocked by pressing the back of the tongue ‘dorsum’ against the soft palate for a ‘velar’ sound.

Manner of articulation:

(1) **Bilabial nasal / m /**: In the articulation of the bilabial nasal /**m**/, the lips form the same closure as for the bilabial plosives /**p**, **b**/. In this process, the soft palate is lowered so that the air escapes through the nasal cavity to give /**m**/ a nasal resonance. The tongue will either remain in its neutral position or retain the position of the following adjacent vowel or lateral sound /**l**/. The shape of lips depends on the adjacent vowels. They may be spread as in: meet [mi:t] ; neutral as in: ‘mat’ [mæt] ; rounded in: malt [mɔ:lt] .The lips separate rapidly to give /**m**/ its last shape. /**m**/ is a voiced sound except when it is preceded by a voiceless consonant, such as /s/, /p/ and /t/ (in context). In this case, it loses its voicing feature and becomes partially devoiced[**m̥**] . /**m**/ in English occurs in all environments: initially, medially, and finally.



Bilabial Nasal / m /: spelt with **m**, meat ; **mm**, summer ; **mb**, comb ; **mn**, autumn

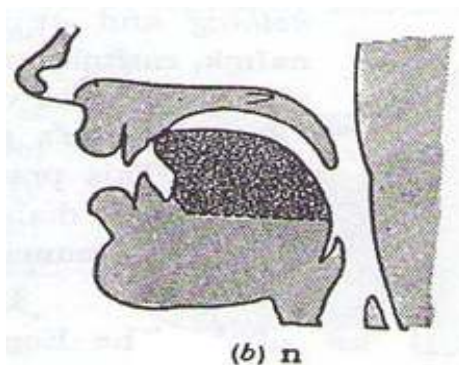
Word initial ___ **m**ilk, **m**arry, **m**ortal, **m**ovable, **M**ercedes, **m**ercury, **m**essenger

Word medial ___ **T**omas, **t**omato, **i**mmortal, **i**mmature, **u**n**m**ovable, **i**mmoral, **s**k**i**m**m**ing

Word final ___ **R**ome, **d**orm, **c**omb, **s**torm, **s**tadium, **s**pectrum, **s**yndrome, **s**trontium

(2) **Alveolar nasal / n /**: During the process of the articulation of the bilabial nasal /**n**/, the blade of tongue is raised to form a closure with the alveolar ridge in the same way it is made for the alveolar plosives /t, d/. The soft palate is lowered and air is pushed through the nasal cavity to provide /**n**/ with a nasal resonance. The two organs that meet to produce this sound make a rapid separation giving it its final shape. The shape of lips depends on the following adjacent vowels and the lateral /**l**/. They may be spread as in: neet [ni:t] ; neutral in : natural ['nætʃərəl] ; rounded in: ‘noon’ [nʊ:n] . /**n**/ is a voiced sound except

when it is preceded by a voiceless consonant, such as / s / and / t /. In this case, it loses its voicing feature and becomes partially devoiced[ɲ]. Like the bilabial nasal /m/, the alveolar nasal /n/ in English occurs in all environments: initially, medially, and finally.



Alveolar Nasal / n /: spelt with **n**, name ; **nn**, funny ; **kn**, know ; **gn**, resign; **pn**, pneumatic

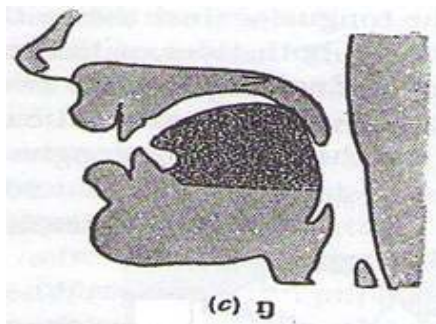
Word initial ___ **n**ice, **kn**ife, **N**ancy, **n**avy, **n**ursery, **N**etherland, **n**evertheless, **p**neumonia

Word medial ___ **f**unny, **a**nnoy, **s**adness, **d**ining, **r**eigning, **d**iagnose, **a**cknowledgment

Word final ___ **r**ain, **r**eign, **r**efrain, **c**otton, **s**ustain, **b**utton, **e**nshrine, **f**righten, **B**righten

(3)Velar Nasal / ŋ/: is articulated as a result of the obstruction made by the back of the tongue when rising towards the soft palate which is, in the meantime, lowered to let the air escape through the nasal cavity for a nasal resonance, the same as for the velar plosives /k/ and /g/. The type of closure of the stated organs depends on the preceding vowel. The shape of lips also depends on the adjacent vowels. For example, they are spread in ‘sing’ [sɪŋ] ; yet relatively open in [sɒŋ] . Velar nasal [ŋ] results from word-final -ng as in ‘bring’ [brɪŋ] , and when followed by the velar plosives / k / and / g /, as in ‘uncle’ [ʌŋkl] and ‘angle’[æŋɡəl] ,and in the case of the substitution of final /g/, as in ‘king’ [kɪŋ] , or in word boundaries when final /n/ in the first word is followed by an initial /k/ or /g/ in the second word, as in ‘ten kilos’ [tʰeŋ k'ɪləʊz] or ‘nine gifts’ [naɪŋ ɡɪfts] .

Note: /ŋ/ usually occurs after the short vowels: / ɪ, æ, ʌ, ɒ /; rarely after / e, ə /. It does not occur in word-initial position. Phonologically, it is in complementary distribution with the sound /h/, which does not occur in word-final position



Velar Nasal/ ŋ /: spelt with **ng**, king; **nk**, sink

Word initial ___ / **ŋ** / does not occur in word initial position

Word medial ___ singer, thinker, income, ringing, amongst, including, engagement

Word final ___ bring, string, taken, sprinkle, frying, arriving, enhancing, stimulating

Word final syllable ___ (occasionally) bacon, taken, organ (Gimson: 1989:199)

Compare /n, ŋ / ___ thin, thing; sin, sing; sun, sung; win, wing; band, banged; wind, winged; fan, fang; gone, gong; ton, tongue, bonze, bongs; pond, ponged; stun, stung

Vocabulary:

strontium / 'strɒntɪəm/: a type of soft metal that is a simple substance

pneumonia/njʊ:'mæʊniə/: a serious disease of lungs with inflammation and difficulty in breathing

enshrine/ɪn'ʃraɪn/: place a precious thing in an appropriate receptacle

sprinkle / 'sprɪŋkəl /: scatter or pour small drops or particles of a substance over an object or surface

banged / bæŋd/: hit forcefully and noisily

fang/ fæŋ/: a long sharp tooth, as of a dog or a poisonous snake

III.4.4.1. English Nasal Consonants: Allophones / Variants

Allophones: 1- /m/ is partially devoiced [m̥] when it is preceded by a voiceless consonant: initially, as in 'smoke' [sm̥əʊk] ; medially, in 'topmost' [t'ɒp'm̥əʊst] ; finally, as in: 'happen' [hæp̥m̥]. The devoiced /m/ is marked as [m̥]

2- When /m/ is followed by a labio-dental fricative sound /f, v/, the front closure becomes labio-dental rather than bilabial. The labio-dental nasal sound is marked as [m̪], as in the words: 'circumvent' [sɜ:kəm̪'vent] ; 'nymph', [nɪm̪f] ; 'emphatic' [ɪm̪'fætɪk]

]‘triumph’[traɪəʃf] ; ‘comfort’ [kʌmfət] ; or in context: ‘warm vest’[wɔ:ŋvəst] ‘bomb vessels’[bɒŋvesəlz] ‘come forward’[kʌŋfɔ:wəd]

Note: The **labio-dental** sound [ŋ] is made with an obstructing (occlusive) airflow in the vocal tract. This blocked airflow is directed back through the nose. In its articulation, the lower lip makes a firm contact with the upper teeth as a result of the following adjacent sound. (see the examples above).

3- /m/ frequently results in context from a final /n/ of the isolate word form before a following bilabial, e.g., one minute [wʌm'mɪnət], more and more [mɔ:r əm 'mɔ:], ten men [tʰem'men], sandwich ['sæmwɪdʒ].

Note: In the word ‘sandwich’, the /d/ is omitted because it forms a sort of gemination with /n/ in sequence (the two sounds are homorganic), hence /n/ becomes in a position directly before the bilabial /w/ which affects it and transforms it into /m/.

4- Sometimes /m/ is a realization of word final /ən/ or /n/ following /p/ or /b/, e.g., happen ['hæpm], ribbon ['ribm], or in context, as in: type and print [tʰaɪp m 'prɪnt].

Note: When /m/ is followed by /b/ in word final position, this last is lost, as in: comb /klamb/, lamb /læm/, though kept medially, as in: timber /'tɪmbə/, or inserted as in thimble /'θɪmbəl/, slumber /'slʌmbə/, bramble /'bræmbəl/.

Allophones: 2- Like in the case of /m/, when /n/ is followed by a labio-dental sound /f/ or /v/, it can be realized as a labio-dental [ŋ] as in ‘infant’ ['ɪmfən], ‘invoice’ [ɪŋ'vɔɪs], ‘invent’ [ɪŋ'vent]; or in context, as in: ‘on fire’ [ɒŋ'faɪə], ‘in vain’, [ɪŋ'veɪn].

2- /n/ is realized with a lingua-dental closure [ɲ] before the dental sounds /θ, ð/, as in ‘tenth’ [teɲθ], ‘when they’ [weɲ'ðeɪ], and sometimes when following /θ, ð/, as in ‘earthen’ [ɜ:θəɲ / 'ɜ:ðəɲ], ‘southern’ ['sʌðəɲ].

3- Before /r/, /n/ may have a post-alveolar contact, as in: unreal [ʌn'rɪəl]; ‘enrich’ [ɪn'rɪʃ], ‘unrest’ [ʌn'rest], ‘unreliable’ [ʌnrɪ'laɪəbəl],

4- Word final /n/ frequently assimilates to a following word initial bilabial or velar consonant, being realized as [m] or [ŋ], e.g., ‘ten people’ [t'em'pʰɪ:pəl], ‘ten boys’ [tem

bɔɪz] , ‘ten men’ [tʰem men], ten past[t'em 'pʰa:st] , crown box [kraʊm 'bɒks] ; ‘ten kilos’ [t'eŋ'kɪləʊz] , ‘nine gifts’ [naɪŋ'gɪfts]

5-/n/ is devoiced after a voiceless consonant and in particular after initial /s/. The devoiced alveolar nasal is described as [ɲ] as in:

‘snarl’ [sɲa:l] , ‘snoops’ [sɲʊ:ps] , ‘snail’ [sɲeɪl] , ‘snapshot’ [sɲæpfɒt]

III.4.4.2. English Syllabic Nasals

Meaning of syllabic consonant: A consonant is often syllabic when it occupies the centre of the syllable (it forms the syllable on its own), or is the nucleus of a syllable (which is usually occupied by a vowel). It replaces the ‘schwa’ vowel / ə / in a syllable. This takes place so as to make the syllable shorter and simpler. Syllabic nasals are often final when preceded by obstruents such as stops and fricatives in words like system, sudden, taken, organ, rhythm, risen and seven, transcribed respectively and diacritically as:[sɪstɹ̩] ,

[sʌdɹ̩] , [t'eɪkɹ̩] , [ɔ:gɹ̩] , [rɪðm̩] , [rɪzɹ̩] , [sevɹ̩]. All syllabic consonants are marked with a small vertical mark below.

Note: Syllabic consonants occur in unstressed syllables only, following the alveolar consonant sounds /t,d/ and /s,z/, the labio-dentals /f,v/, the inter-dentals /θ,ð/, the palato-alveolars /ʃ,ʒ/ and the velars /k,g/.

Note: Dark [ɪ] in ‘snail’ [sɲeɪl] is not marked yet. Its diacritics will be given in ‘lateral’ sound descriptions

a) Bilabial syllabic [m̩]

When /m/ becomes the nucleus of the syllable, it is said to be syllabic. It can be syllabic after obstruents such as stops and fricatives, as in the words ‘happen’ , ‘Autum’ ‘rhythm’ , transcribed respectively as [hæpɹ̩] , [ɔ:tɹ̩] and [rɪðm̩] or in context in: ‘at most’ [æt'm̩əʊst] , ‘upper most’ [ʌp'm̩əʊst], though /ʌpə'məʊst/ (with /ə/) would be more common. The bilabial syllabic consonant is marked as [m̩] .

b) Alveolar syllabic [ŋ]

1) Of the three syllable nasals, the most frequently found is [ŋ]. Syllabic [ŋ] is most common in unstressed (unaccented) syllables after alveolar plosives /t, d/, as in ‘often’ [ˈɒftŋ], ‘eaten’ [iːtŋ], ‘sudden’ [ˈsʌdŋ]; bilabial /p, b/, as in: ‘happen’ [ˈhæpŋ], ‘ribbon’ [ˈrɪbŋ] and fricatives /f, s, z, v/, as in ‘often’ [ɒftŋ], ‘hasten’ [ˈheɪsŋ], ‘risen’ [ˈraɪzŋ], ‘seven’ [ˈsevŋ]. In the case of /p/, /b/ and /t/, /d/ followed by [ŋ] the plosive is nasally released by lowering the soft palate, so that the air escapes through the nasal cavity. In this case, [p], [b], [t], [d] are said to be nasalized.

Note: the word 'often' has two pronunciations. It is articulated with or without the alveolar sound [t].

2) After bilabial consonants, in words like ‘happen’, ‘happening’, ‘ribbon’, both syllabic [ŋ] and /ən/ are considered equally acceptable. Hence, they are transcribed as follows: [ˈhæpŋ], [ˈhæpŋɪŋ], [ˈrɪbŋ]; or /ˈhæpən/, /ˈhæpənɪŋ/, /ˈrɪbən/

3) After velar consonants in words like ‘thicken’, ‘waken’, ‘waggon’, syllabic [ŋ] is possible, but /ən/ is also acceptable. Therefore, ‘thicken’ and ‘waken’ are respectively transcribed as: [ˈθɪkŋ], [ˈweɪkŋ], [ˈwægŋ] or [ˈθɪkən], [ˈweɪkən], [ˈwægən]

4) After /f/ or /v/, syllabic [ŋ] is more common than /ən/, thus ‘seven’, ‘heaven’, ‘often’ are usually pronounced as [ˈsevŋ], [ˈhevŋ], [ˈɒftŋ].

Note: there is no Syllabic [ŋ] after /l/, or /tʃ, dʒ/, so that, for example, ‘fallen’ must be pronounced /ˈfɔːləŋ/, ‘fortune’ as /ˈfɔːtʃən/ and ‘region’ as /ˈriːdʒən/.

c) Velar syllabic /ŋ/

As mentioned earlier, velar /ŋ/ can be placed in word medial and final position with the exclusion of initial position. /ŋ/ can be syllabic in final position when preceded by a velar consonant /k, g/, as in ‘broken’ [ˈbrʌkŋ], ‘bacan’ [ˈbeɪkŋ], ‘organ’ [ˈɔːgŋ]

III.4.4.3. English Nasal Consonants: Practice

(1)- a- Circle the words that contain a bilabial nasal:

- thing, needles, lamb, male, bomb, anxiety, bunch, mode, plumber, shame, fame

b- Circle the words that contain an alveolar nasal:

- winter, tongue, comb, melon, saint, bank, sinner, summer, oven, sinking, know

c- Circle the words that contain a velar nasal:

- think, main, hen, hum, wrong, anthem, distinct, England, months, strength, king

d- Circle the words that contain a final velar / ŋ /:

- ring, think, thing, thin, king, sing, sun, son, among, tongue, arriving, longing

f- Circle the words that contain a velar / ŋ /+ /k/:

- think, thing, sink, Zink, sing, hang, long, ring, link, pink, fink, shrink, wrinkle

g- Circle the words that contain a velar / ŋ /+ /g/:

- ring, wrangle, wrangler, mingle, meaning, combining, longer, ping, pinging

h- Circle the words that contain a /ŋg / in medial position:

- hanging, finger, singer, hanger, linger, mingle, longer, singular, longing, single

i- Circle the words that contain a devoiced nasal:

- rhythm, sneeze, smashed, prism, snow, annoy, among, smoke, snore, smell

j- Circle the words that contain a fully-voiced nasal:

- small, attain, amid, snake, smell, mileage, bombing, nature, long, longing, hammer

k- Circle the words that contain a syllabic alveolar [ŋ] :

- sudden, announced, London, haven, abandon, bacon, oven, wanton, listen, organ

l- Circle the words that contain a syllabic bilabial [m] :

- happen, comb, ribbon, among, hammy, often, rhythm, system, mechanism, tomb

m- Circle the words that contain a syllabic / ŋ /:

- organ, cushion, heaven, often, Morgan, seven, bacon, dozen, broken, shrunken

(2)-a- For / m /, the active articulator is.....and the passive articulator is

b- For / n /, the active articulator isand the passive articulator is

c- For / ŋ /, the active articulator isand the passive articulator is

(3)- Put the words containing nasal consonants under their appropriate headings:
 hammer, snake, ring, timber, long, singer, shrink, bacon, prison, fortune, wrinkle
 spindle, canny, lamb, mummy, bramble, income, dozen, mortal, knower, knotty

Bilabial Nasal	Alveolar Nasal	Velar Nasal

(4)- Give the VPM of the following sounds:

Sound	Voicing	Place of Articulation	Manner of articulation
/ n /			
/ ŋ /			
/ m /			

(5) For each of the following words, write down the phonetic symbol for every the corresponding nasal consonant:

- 1- bacon / / 2- knit / / 3- nasal / / 4- chain / / 5- rhythm / /
 6- June / / 7- mine / / 8- month / / 9- ring / / 10- think / /
 11- spoon / / 12- mutton / / 13- ribbon / / 14- cousin / / 15- maiden / /

(6)- Transcribe the following words phonetically: (Use all the *diacritics* needed).

- 1- organ][2- name][3- sneeze][
 4- broken][5- income][6- happen][
 7- reading][8- often (1)][9- often (2)][
 10- Morgan][11- heaven][12- ribbon][
 13- bacon][14- seven][15- reason][

III.4.5. English Lateral Consonants: Description and sound production

A Lateral is a consonant sound produced by raising the tip of the tongue to touch the alveolar ridge area forming a partial closure. In the meantime, the airstream proceeds

along the sides of the tongue, which prevents it from going through the middle of the mouth. The [l] sound is articulated laterally, and hence it is known as ‘lateral’. English lateral sounds are usually voiced and frictionless; i.e., produced without friction. During the articulation of this sound, the lips are usually shaped by the effect of the adjacent vowels.

III.4.5.1. English Lateral Consonants: Allophones/ Variants

Within the /l/ phoneme three main allophones occur:

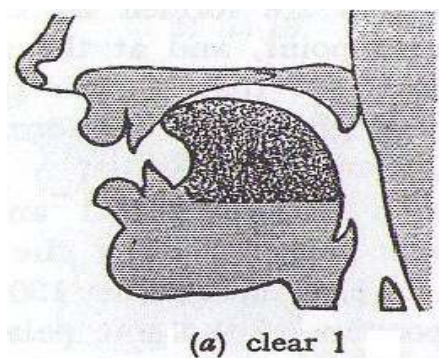
(1) Clear [l] is articulated laterally, that is, instead of the breath passing down the centre of the mouth; it passes around the sides of an obstruction set up in the centre by pressing the tip and blade of the tongue against the alveolar ridge. The sides of the remainder of the tongue are not in contact with the sides of the palate, so air can pass between the sides of the tongue and the palate round the central obstruction and so out of the mouth. In the meantime, the soft palate (velum) is raised to touch the back wall of the pharynx. Clear [l] can get a relatively front vowel resonance before vowels and / j /. The English lateral [l] occurs in all environments.

Clear /l/ occurs **a)** initially before any vowel, as in: late; lemon; learn; loud; Lancashire...

b) Intervocally (between two vowels), as in: silly; wallet; melon, yellow; bulling...

c) In word-boundaries, as in the case of: will it; fall over; fill all; battle-like...

Note: There is only one voiced alveolar lateral phoneme in English. There is no fortis/lenis opposition.



English Lateral /l/ is regularly spelt: **l, ll**, as in lemon, lateness, plate, smell, shuttle

Word initial ___ lock, loom, lexis, left, loose, lately, London, Larson, Lancashire
 Word medial ___ regally, yellow, fellow, really, highly, ridiculous, heavily, selection,
 twelve, explain, elbow, illegality
 Word final, intervocalic in context ___ shall it, feel it, fall out, all over, fall out, will it

Note: Clear /l/ never occurs in a sequence after initial stressed /t/

Vocabulary:

Larson /'la:sən/: a name of a person

Lancashire /'læŋkəʃə/: A town in North West of England

regally/'ri:gəli/ in a very splendid manner

(2) **Devoiced/voiceless [l̥]:a)** this sound is articulated laterally and undergoes the same process as for clear [l]. [l̥] very often appears after initial /p, k/ and is affected by the aspiration that follows these two sounds [p^h, k^h] when accented in the syllable; i.e., the aspiration is manifested in a way that it makes the voiced [l] lose some voicing to become devoiced, as in: ___ plane [pleɪn] plastic, employ, clever, enclose, inclusion

b) Less/weakly devoiced [l] after an unstressed fortis plosive /p, t, k/, as in: applicant [ˈæpɪkənt] accomplish, inclination, clarification, settler [ˈsetl̥ə]; or after /s, f, θ, ʃ/, as in: slapping [ˈslæpɪŋ], fluent, athlete, Welsh. This kind of lateral is marked with [̥].

Vocabulary:

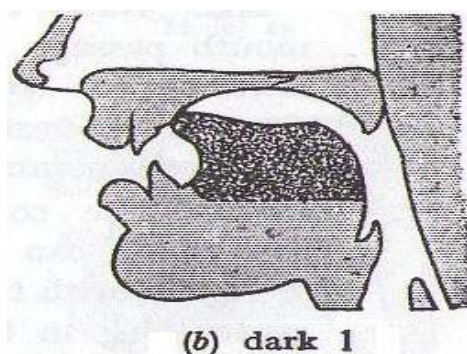
slapping/'slæpɪŋ/: hitting or striking with the palm of the hand or flat object

Welsh /welʃ/: People, or the language of the people living in Wales.

(3) **Dark [ɫ]** is articulated laterally, for the breath instead of passing down the centre of the mouth, it passes around the sides of an obstruction set up in the centre by pressing the tip and blade of tongue against the alveolar ridge, except for the dental fricatives where the contact is made with the tip and blade of tongue against the upper teeth, as in ‘filth’ [fɪɫθ] and ‘will they’ [wɪɫ ðeɪ]. In the process, the back of tongue is raised towards the soft palate ‘velarization’. In the same way, as in the articulation of clear [l], the air passes between the sides of the tongue and the palate round the central obstruction and so out of

the mouth. The tongue rims make a slow contact with the upper molars and the velum is raised to touch the back wall of the pharynx. English dark lateral sound is usually voiced and frictionless. Dark [ɫ] is articulated with relatively back vowel resonance, before a consonant and as a syllabic sound following a consonant.

Note: Contrary to the case of clear [l], dark [ɫ] is not submitted to any devoicing.



What makes dark [ɫ] different from clear [l] is an extra-raising of the tongue to the same position it has for a high back vowel. Its occurrence is usually in word-final position after a vowel sound, or after a vowel before a consonant

- a) Word-final, after a vowel ___ bill, animal, spaniel, musical, natural, magical, basketball
- b) After a vowel, before a consonant ___ filth, build, silk, shield, field, insult, killed, Sheffield

Note: Contrary to the case of clear [l], dark [ɫ] is not submitted to any devoicing.

Vocabulary:

filth/fɪlθ/: dirt

Sheffield /ˈʃefi:ld/: is a town in south Yorkshire, England. Its name derives from the River Sheaf which runs through the city

(4)**Syllabic** [ɫ̩]: this sound undergoes the same process as for dark [ɫ]; i.e. articulated with relatively back-vowel resonance. The only difference is that it occurs in word-final position, usually after the stop and fricative consonant sounds. In this case, it is less desirable to have the schwa vowel /ə/ between the stop and the syllabic [ɫ̩] as soon as the lips are opened the syllabic [ɫ̩] is sounded immediately, as in ___ apple, table, little, eagle,

couple, bible, chuckle, giggle, camel, final, zonal, baffle, travel, castle, puzzle, bushel, or with /əl /, as in: ___awful, oval, parcel, special, usual, spaniel, satchel, beautiful, travel, whistle, dazzle, channel...

Vocabulary:

chuckle /'ʃʌkəl /: lough quietly or inwardly

giggle/'gɪgəl/: lough lightly in a nervous, affected or silly manner

spaniel/'spæniəl/: any of various breeds of small short-legged dogs with long drooping ears and long wavy hair

dazzle/'dæzəl/: to cause to be unable to see by throwing a strong light in the eyes

III.4.5.2. English Lateral Consonants: Practice

(A) 1- Circle the words that contain a ‘lateral’ consonant: [l, l̥, ɫ, ɭ]

right, walk, bell, old, billion, talk, ugly, deal, folk, battle

2- Circle the words that contain a ‘clear’ [l̥]:

low, medial, allow, crawl, all over, melt, slight, lonely, settle, wealth

3- Circle the words that contain a ‘dark’ [ɫ]:

melt, lull, simple, blow, million, mingling, healthy, silly, alphabet, lively

4- Circle the words that contain a voiced alveolar lateral [l]:

plate, allow, oblige, glide, clearance, medal, club, , plague, blue, eagle

5- Circle the words that contain a devoiced alveolar lateral [l̥]:

place, glow, clean, splash, cleared, glamour, plight, plosive, alive, field

6- Circle the words that contain a syllabic [ɫ̩]:

soul, simple, camel, filled, film, Oswald, useful, satchel, fool

(B) Transcribe the following words phonetically: (Use all the *diacritics* needed).

1- feel][2- bottom][3- button][

4- little][5- silly][6- lemon][

7- medal][8- filled][9- plague][

10- clement][11-melt][12- clearance][

13- simple][14- million][15- blowing][

(C) Give the VPM of /l/

Consonant	Voicing	Place of Articulation	Manner of Articulation
/l/			

III.4.6. English Approximants: Description & Sound Production

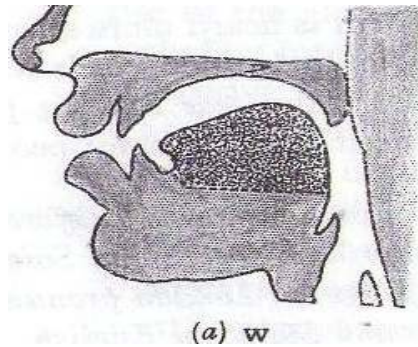
Approximant Consonants are referred to as "frictionless continuants", "semivowels", and "glides". They include /w/, /r/, /j/, with /w/ and /j/ a subclass called "semivowels", which are very similar to close vowels such as /u/ and /i/ but are produced as rapid glides, and /r/ a subclass called "liquid", which has a constriction of the airflow but not one that is sufficiently obstructive to produce friction. They involve the articulators approaching each other, but not narrowly enough nor with enough articulatory precision to create turbulent airflow. Therefore, they fall between fricatives, which do produce a turbulent airstream, and vowels, which produce no turbulence. This class of approximants includes [ɹ] (as in *rest*), and semivowels like [j] and [w] (as in *yes* and *west*, respectively). Approximants occur before vowels without any intervening consonants, as in: red, wet, yet. They are all voiced. They do not have significant voiceless/voiced or fortis/lenis oppositions. Phonologically speaking, they function as the syllable boundary rather than the nucleus of a syllable.

III.4.6.1. English Approximant Consonants: Allophones/ Variants

III.4.6.1.1. Labial-velar semi-vowel / w /

Description: The /w/ is articulated by the tongue moving from back half-close to close position. The lips take the rounding shape according to the degree of openness of the following sound. The back of tongue moves upward towards the velum, which is in its raised position for an oral sound. The vocal chords vibrate for /w/ initially, intervocalically and after a voiced consonant. To produce /w/, the lips are rounded more closely when followed by /u:/, /u/, or /ɔ:/, as in (woo, wood, water) than when preceding a more open or front vowel, as in (weed, wit, west).

Consonants get lip-rounding initially in accented syllables before the labio-velar approximant /w/, as in: twin, quite, swing, language. This rounding is lesser in quality, mainly in word-boundaries, as in: take one, get water, cold winter, torn wallet, this one...



I) Labial-velar semi-vowel / w / is regularly spelt: **w, wh** ; or **u** after **q, g** ___ west, which, quick, language. Note, /w/ is found in words like ‘one’, ‘once’, ‘choir’, ‘suite’.

(1) Voiced [w] a) initially ___ wet, weed, wag, whisper, wallet, wardrobe, windy, Waterloo

b) Inter-vocally ___ away, always, forward, aware, reward, awareness

c) Following voiced (lenis) consonants ___ dwelt, language, inward, dwelling

(2) Completely devoiced [ʍ], following accented /t, k/ ___ twig, twelve, twice, queen, quell, acquaint, quality

(3) Slightly devoiced [w̥] following **a) /sk/** ___ square, squash, squirrel, squeeze, squad

b) Accented fortis (voiceless) fricative, mostly starting with /s/ ___ thwart, swarthy, sweets, sweater, swept

c) Unaccented /p, t, k/ ___ upward, outward, equal, *or in context:* pump water, that wallet, pick one, write white!

Note: /w/ does not occur in word-final position.

Vocabulary:

wag /wæg/: a single rapid movement from side to side; clown, buffoon

Waterloo /wɔ:tə'lu:/: an experience which (justly) crushes one after a time of unusual success

awkward /'ɔ:kwəd/: difficult to use ; difficult to deal with

dwelling /'dwelɪŋ/: a house, apartment, or other place of residence

twig /twɪg/: a slender woody shoot growing from a branch or stem of a tree or shrub

quell /kwel/: put an end to (a rebellion or other disorder), typically by the use of force

squash /skwɒʃ/: to crush or squeeze (something) with force so that it becomes flat, soft, or out of shape

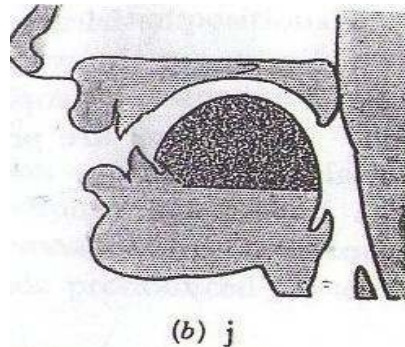
squeeze /skwi:z/: flatter by pressure; firmly press something usually with one's fingers

squad /slwɒd/: a group of people working as a team

thwart /θwɔ:t/: prevent someone from accomplishing something
swarthy /'swɔ:tɪ/: of the skin or face (dark-coloured)

III.4.6.1.2. Unrounded palatal semi-vowel approximant /j/

Description: The articulation of the palatal approximant /j/ is made with the front of the tongue raised towards the hard palate, leaving immediately this position to take up that of the following vowel. The /j/ is articulated with neutral or spread lips. They can also be articulated with lip-rounding depending on the degree of the lip-rounding of the following vowel, as in: you, yawn. The /j/ is produced without friction, and with a vibration of the vocal chords. In the process, the velum is in its raised position



Unrounded palatal semi-vowel /j/ is regularly spelt with y, i , u, ew, eu, eau, ui ___ as in: yellow, mute, new, feud, beauty, cute

1) Voiced [j] a) initially ___ yeast, youth, yellow, yesterday, yacht, Europe, Yorkshire, youngster

b) following lenis consonants ___ duty, music, value, residue, senior, familiar, behaviour, manure, onion, abuse

2) Completely devoiced [ɥ] following accented / p, t, k, h, f / (only before / u: /, / uə / ___ pew [p u ɥ], tune, queue, cure, pure, huge, accuse, secure, peculiar, attuned

3) Slightly devoiced [j] a) following /sp/, /st/, /sk/ ___ spurious, stew, askew, or in context: ask you [a:sk ju:]

b) Following fortis fricatives ___ enthusiasm, pursue, refuse, issue [ɪs ju:]

c) Following unaccented /p, t, k/ ___ opulent, spatula, oculist; help you, quick yield (Gimson 1989: 213)

Note: the unrounded palatal / j / does not occur inter-vocally; i.e., between two vowels, neither does it have a place in word-final position.

Vocabulary:

feud /fju:d/: a prolonged and bitter quarrel or dispute, usu. Between two people, families, or clans

yacht /jɒt/: a medium-sized sailboat equipped for cruising or racing

Yorkshire /'jɔ:kʃə/: is a historic county of Northern England and the largest in the United Kingdom

residue /'rezədjʊ:/: a small amount of something that remains after the main part has gone or been taken or used.

attuned /ə'tju:nd/: ready for use

spurious /'spju:riəs/: false or fake

askew /ə'skju:/: not in the straight or right position

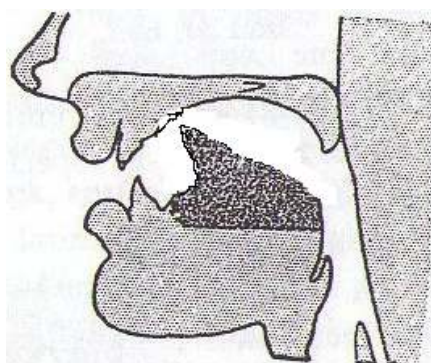
opulent /'ɒpjulənt/: extremely wealthy

spatula /'spætjulə/: a kind of flat spoon

oculist /'ɒkjulɪst/: ophthalmologist

III.4.6.1.3. Post-alveolar approximant (Frictionless continuant) /r/

Description:during the articulation of / r /, the tip of the tongue is raised towards the rear part of the alveolar ridge, yet without a firm contact. The back rims of the tongue make a soft touch with the upper molars and in the meantime the soft palate is raised to shut off the nasal resonator for an oral sound. The central part of the tongue, where the air escapes freely without friction, is lowered with a general contraction. The shape of the lips is determined by the adjacent vowel; thus it varies from neutral to spread for the words 'rat' /ræt/, 'reed' /ri:d/, and rounded for the word 'rude'/ru:d/.



(c) / r /

Post-alveolar approximant (Frictionless continuant) /r/ is regularly spelt **r**, ‘reckon’; **rr**, ‘burry’; **wr**, ‘write’; **rh**, ‘rhyme’

1) Voiced [r]: **a)** Word initial ___ room, write, restore, rhythm, regiment, reincarnation

b) Word medial (intervocalic) ___ cereal, parrot, fairy, furious, material, hurricane

Note: /r/ does not occur in word final position, except in situation of context; i.e., in word boundaries before a vowel in the following word. (See linking [R])

2) Devoiced [ɹ]: **a)** in consonant cluster (following fortis accented plosives): prison, private, tractor, tremendous, crime, crown, express, surprise, attraction, extremely, decrease, increase

b) following fortis fricatives ___ freeze, frighten, shrink, shrewish, shrine, throwing, thrilling

c) following unaccented fortis plosives ___ apron, apropos, transport, tremendous, cretonne

d) following fortis plosives preceded by accented /s/ in the same syllable:

/spr, str, skr/ ___ spring, sprightly, stream, string, strawberry, scribe, scrofula, screaming

Variants of /r/:

There are more phonetic variants of /r/ phoneme than of any other English consonant.

1) Alveolar tap [ɾ]: This sound is articulated with the tongue tip raised towards the alveolar ridge. The air stream is directed along the centre of the tongue, rather than to its sides. The alveolar tap [ɾ] can be found:

(a) after fortis fricative /θ/ ___ thread, throng, thriller, throughout, threaten

b) occasionally after /ð/ ___ in context as in: there is /ðɹɪz/; with respect [wɪðɹɪ'speʔkt]

c) intervocalically when the first vowel is in a stressed syllable ___ terror, hurry, mirror

2) Alveolar flap [D]: (mainly in North American English) usually occurs in unstressed syllables when the alveolar plosives /t/ and /d/ are intervocalic. It very often appears before /r/, especially at the end of words. During the articulation process, the tongue rims move upward and push smoothly against the sides of the upper molars, and in the meantime, a curve in the back part of the tongue is made. Examples of the alveolar flap [D]: are ___

water [wɔːDə], greater, daughter, started, notice, united, bedding, readable, or in context ____ beat it [biːDɪt], caught it. /t/ is also pronounced as a flap [D] before a syllabic [ɹ], as in: bottle [bɒD | ɹ]

Note: the transcription is realized as [D] because the /t/ & /d/ are articulated with a very soft /d/. It's worth mentioning that [D] is the allophone of both /t/ & /d/ in American English.

3) Lingual trill/roll [r]: is a type of consonantal sound used in some spoken languages. It may take a dental, alveolar, or post-alveolar place of articulation. It is often pronounced with the tip of tongue touching the alveolar ridge in a rapid succession of taps. This sound may also be heard among RP English speakers, but “usually in highly stylized speech” (Gimson: 1989:209). This sound can also be found in the Scots’ speech. These Scottish words are examples of lingua trill: rye [raɪ], ire [aɪr].

4) Intrusive [R]: involves the appearance of the rhotic consonant (/r/-like sound represented by the symbol [R]), which corresponds to the phoneme / r / between two consecutive morphemes where it would not normally be pronounced. It is the insertion of an ‘imaginary’ / r / between a word ending in a vowel sound, and another one immediately following and beginning with another one. The following examples illustrate the point ____ Shah of Persia [ʃaːRəfɜːʃə], saw a film [sɔːRəfɪlm], China and Japan [tʃaɪnəRdʒəpʰæn], law and order [lɔːRən'ɔːdə], America is a big country [ə'merɪkəRɪz əbɪg'kʰʌntri], a banana is a yellow fruit, Pamela Anderson.

5) Linking [R]: occurs when a word ends in ‘r’ or ‘re’ and is immediately followed by a word beginning with a vowel. In this case, it becomes between two vowels ‘intervocalic’. [R] occurs only after /ə, ɑː, ɔː, ɜː, ɪə, eə, ʊə/, as in: ____ mother-in-law [mʌðəRɪn'lɔː], Tower of London, in your eyes, never again, remember it, far away, answer it, more of it, clear as water, hare and tortoise [heəRn'tʰɔːtəs], there are four owls in her old barn.

Note: The difference between intrusive [R] and linking [R] in British English is that the former does not contain a silent /r/ at the end of the first word, yet the latter does include one at the end and is pronounced only when followed by a vowel in the following word.

6) Voiced post-alveolar fricative[ɹ]: The approximant / r / gets a sort of hissing sound ‘friction’ when it is preceded by the voiced alveolar plosive / d /; thus it becomes fricative, as in: dream [dɹi:m], dramatic, dreadful, android, drought. This case is also in rapid speech, at syllable or word boundaries, as in: headrest, hairdresser, bedroom, wide road [waɪdɹəʊd].

7) Voiceless post-alveolar fricative[ɹ̥]: The approximant / r / also become fricative after the voiceless alveolar plosive / t /, as in: tree [tɹi:]: treasure, treasury, tranquility, transportation, entrance, introductory, controversial

8) Labialized post-alveolar approximant [ɹʷ]: / r / is sometimes labialized ‘articulated with the lips’ at the beginning of a word, as in reed [ɹʷi:d], ring [ɹʷɪŋ], tree [tɹʷi:]

Note: labialization is a secondary articulatory feature of sounds in a number of languages. Labialized sounds involve the action of the lips at the same time when the remainder of the organs of speech produces other sounds. This term is restricted to consonants only.

9) Retroflex[ɻ] is a kind of consonantal sound used in some languages. It is articulated by the tip of the tongue in a curled-up position moving towards the post-alveolar area without being palatalized. The narrowing produced by the two organs is not enough to produce a turbulent airstream. This sound is produced by directing the airstream along the centre of the tongue, rather than to its sides. The tongue contact can be ‘apical’; i.e., the tip of the tongue makes an obstruction with the rear part of the alveolar ridge. **Retroflex**[ɻ] sound is articulated in words like: ring [ɻɪŋ], rainbow [ɻeɪnbəʊ], mirror [meɪɻə]

Vocabulary:

'reincarnation' /reɪnkɑ:r'neɪʃən/ : rebirth of a soul in a new body

'hurricane' /'hʌrɪkən/: a storm with a strong fast wind

'shrewish' /'ʃru:ɪʃ/: typical of a bad-tempered woman

'thrilling' /'θrɪlɪŋ/: causing excitement and pleasure; exciting; spectacular

'apron' /'eɪprən/ : a protective or decorative garment worn over the front of one's clothes and tied at the back to keep them clean while working

'apropos' /æprə'pəʊ/: very suitable for the time and conditions

'cretonne' /'kretən/or /kre'tɒn/: a heavy cotton fabric with printed patterns on it, used for furniture covers, etc.

'scribe' /skraɪb/: a person who used to copy out documents, especially one employed to do this before printing was invented.

'scrofula' /'skrɒfjələ/: a disease in which organs in the neck become swollen

'rye' /raɪ/: a type of grass plant grown in cold countries
'ire' [aɪr]: anger; tantrum /'tæntɹəm/

Useful Definitions:

1) Germinate Consonants: is the articulation of consonants for a longer period of time than that of a singleton consonant. This is generally made in word-boundaries when the last consonant sound of the first word is homorganic with the initial consonant in the second word, which is often perceived as a doubled consonant, as in: 'white **dog**', 'good**n**ight', 'top**m**ost', 'nine **dogs**'. Some phonological theories use 'doubling' as a synonym of 'gemination' .

2) Homorganic sounds: are produced in the same place of articulation, as the case for bilabial , labio-dental, dental, alveolar sounds, etc.

III.4.6.3. English Approximant Consonants: Practice

1) 1) Circle the words that contain an approximant: /w/, /j/, /r/

verse, worse, sorry, man, peel, variety, failure, tube, yesterday

2) Circle the words that contain a voiced labio-velar approximant or semi-vowel /w/:

yesterday, away, wrath, write, Wednesday, twilight, Gwyneth, quite, dwell

3) Circle the words that contain a completely devoiced [ʍ]:

quiet, trouble, twice, queen, dwarf, twin, twist, quick

4) Circle the words that contain a voiced palatal approximant or semi-vowel [j]:

union, Europe, human, Tunis, huge, university, beyond, curious, beauty, failure

5) Circle the words that contain a completely devoiced [ç]:

humour, yours, puce, security, curious, beauty, huge, peculiar, accuse

6) Circle the words that contain a slightly devoiced [w̥]:

twelfth, square, water, sweater, equality, screen, twice, squabble

7) Circle the words that contain a post- alveolar approximant [r]:

witty, rights, yellow, ready, world, arrow, strike, crown, describe

8) Circle the words that contain a voiced post- alveolar approximant [ɹ]:

light, right, white, around, brown, growth, way, wet, yet, room

9) Circle the words that contain a devoiced post-alveolar approximant [ɹ̥]:

present, raisin, trial, friend, string, throw, synchronic, horrific, train, word

10) Circle the words that contain a tap [ɾ]:

drown, through, vary, around, thread, mirror, erase, burry, yield, scream

11) Circle the words that contain a voiced fricative [ʒ]:

training, striding, driving, crying, undressed, draw, speeder, dryness

12) Circle the words that contain an alveolar flap [ɾ]:

but I do, bedroom, starting, burrier, seated, parody, strawberry, thirty, attic

13) Underline the linking [R] in the following phrases:

very far, far away, bread and butter, a comma after it, here and there, far east, far off

14) Underline the parts that make the intrusive [R] in the following phrases:

Silvia at home, you and me, a day in life, tuna oil, China and Japan, Pamela Andy

II) Transcribe the following words phonetically

verse [] worse [] sorry []
tube [] variety [] failure []
away [] wrath [] write []
quiet [] twice [] queen []
twin [] dwarf [] quick []
Europe [] human [] huge []
beauty [] universe [] beyond []

SECTION FOUR

ENGLISH PHONOTACTICS

IV.1. English Phonotactics: Definition

Phonotactics is a branch of phonology that deals with restrictions in a language on the permissible combinations of phonemes. Phonotactics defines permissible syllable structure, consonant clusters, by means of *phonotactic constraints*; i.e., what is permitted and what is not permitted as consonant clusters, onsets, and codas in syllables in any language. What

is permissible in a language syllable may not be so in another. Phonotactic constraints are then language specific. For example, in Japanese, the /st/ as a consonant cluster does not occur in all environments. Similarly, in English /tʃ/ and /pw/ are not permitted initially in accented syllables.

IV.2. English Consonant clusters:

The English syllable (and word) *twelfths* /twɛlfθs/ is divided into the onset /tw/, the nucleus /ɛ/ and the coda /lfθs/; thus, it can be described as CCVCCCC (C = consonant, V = vowel). On this basis it is possible to form rules for which representations of phoneme classes may fill the cluster. For instance, English allows at most three consonants in an onset, but among native words under standard accents, phonemes in a three-consonantal onset are limited to the following scheme:

/s/ + stop + approximant:

- /s/ + /t/ + /ɹ/ in : *stream*
- /s/ + /t/ + /j/ (not in most accents of American English) in: *stew*
- /s/ + /p/ + /j ɹ l/ in : *sputum, sprawl, splat*
- /s/ + /k/ + /j ɹ l w/ in : *skew, scream, sclerosis, squirrel*

Constraints on English Phonotactics include:

- All syllables have a nucleus
- No geminate consonants
- No onset /ŋ/ ;i.e., /ŋ/ does not occur in word-initial position
- No /h/ in the syllable coda (except in Hiberno-English),i.e., /h/ does not occur in word-final position
- No affricates or /h/ in complex onsets, i.e., no consonant clusters + an affricate or /h/ in word-initial position
- The first consonant in a complex onset must be an obstruent (e.g. *stop*). Combinations such as **ntat* or **rkoop*, with a sonorant, are not allowed)
- The second consonant in a complex onset must not be a voiced obstruent (e.g. **zdop* does not occur)
- If the first consonant in a ‘complex onset’(sequence of an obstruent & a liquid) is not /s/, the second must be a liquid or a glide, as in: quarrel, proud, trouble

- The second consonant in a complex coda must not be /r/, /ŋ/, /ʒ/, or /ð/ (*asthma*, typically pronounced /'æzmə/ or /'æsmə/).
- An obstruent following /m/ or /ŋ/ in a coda must be homorganic with the nasal sound
- Two obstruents in the same coda must share voicing (compare *kids*/kɪdz/ with *kits* /kɪts/).

IV.3. English Syllable Structure:

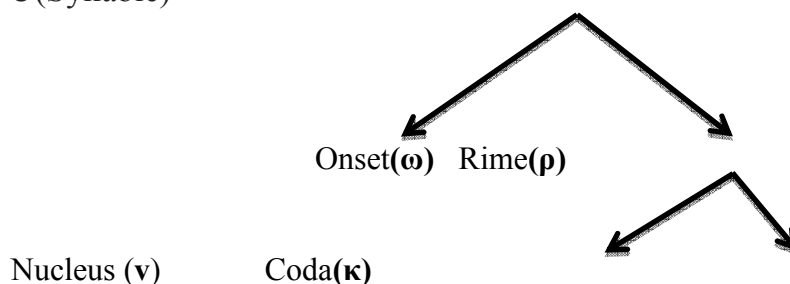
A syllable is a unit of organization for a sequence of speech sounds. For example, the word 'water' is composed of two syllables: *wa* and *ter*. A syllable is typically made up of a syllable nucleus (a vowel) with optional initial and final margins (typically, consonants).

Syllables are often considered the phonological "building blocks" of words. They can influence the rhythm of a language, its prosody, its poetic meter and its stress patterns.

A word that consists of a single syllable is called a **monosyllabic** word. A word with two syllables is referred to as **disyllabic** word; and the one with three syllables is called **trisyllabic** word, which may refer either to a word of more than three syllables or to any word of more than one syllable. Linguists like to use the Greek Letter sigma (σ) to label the whole syllable.

In most theories of phonology, the general structure of a syllable consists of three segments:

σ (Syllable)



IV.3.1. Onset (ω): (optional)

The *onset* is the consonant sound or sounds that form a cluster at the beginning of a syllable, occurring before the nucleus. Most syllables have an onset. Some languages restrict onsets to be only a single consonant; while others allow multi-consonant onsets according to various rules. For example, in English, onsets such as *pr-*, *pl-* and *tr-* are possible but *tl-* is not, and *sk-* is possible but *ks-* is not. In Greek, however, both *ks-* and *tl-* are possible onsets, while contrarily in Classical Arabic no multi-consonant onsets are allowed at all, as in: 'كتب' /kataba/ CVCVCV. In English, except for /ŋ/, all consonants can appear as onsets. In the following examples the onsets are in bold type: **fat**, **speak**, **string**.

Note: If the first syllable of a word begins with a vowel, this syllable has a **zero** onset, as in 'apply', 'artist'

IV.3.2. Nucleus (v): (obligatory)

The *nucleus* is usually the vowel in the middle of a syllable. It is the core (body) or essential part. It is the **vowel**, which is obligatory. For example: 'mad' /mæd/, 'mate' /meɪt/, 'start' /stɑ:t/. Generally, every syllable requires a nucleus (sometimes called the '*peak*'), and the minimal syllable consists only of a nucleus, as in the English words "eye" /aɪ/ or "owe" /əʊ/. The syllable nucleus is usually a vowel, in the form of a monophthong, diphthong, or triphthong, but sometimes is a syllabic consonant. By far the most common syllabic consonants are sonorants like [l], [m], [n] or [ŋ].

IV.3.3. Coda (κ): (optional)

The **coda** comprises the consonant sounds of a syllable that follow the nucleus. It is usually one or more **consonants**. The coda may exist in some syllables, as in: 'mean' /n/, 'fight' /t/, 'red' /d/, or may not, as in: 'door', 'star', 'hay'.

Some syllables consist only of a nucleus with no coda, as in: 'are', and 'owe'. Some languages' phonotactics limit syllable codas to a small group of single consonants, whereas others allow a number of consonant clusters.

A coda in syllable of the form V, in 'are' CV, in 'play' CCV, in 'try' etc. (V = vowel, C = consonant) is called an **open syllable** (or *free syllable*), while a syllable that has a coda (VC, CVC, CVCC, etc.) is called a **closed syllable** (or *checked syllable*). Almost all languages allow open syllables, but some, such as Hawaiian, do not have closed syllables.

Here are some English single-syllable words that have both a nucleus and a coda (i.e. closed syllables), where v denotes "nucleus" and κ "coda":

- * *in*: $v = /ɪ/, \kappa = /n/$ * *cup*: $v = /ʌ/, \kappa = /p/$ * *tall*: $v = /ɔː/, \kappa = /l/$
- * *milk*: $v = /ɪ/, \kappa = /lk/$ * *tints*: $v = /ɪ/, \kappa = /nts/$ * *fifths*: $v = /ɪ/, \kappa = /fθs/$
- * *sixths*: $v = /ɪ/, \kappa = /ksθs/$ * *twelfths*: $v = /ɛ/, \kappa = /lfθs/$ * *strengths*: $v = /ɛ/, \kappa = /ŋθs/$

(Wikipedia 1: 2020)

IV.3.4. Rime (Rhyme) (ρ) (obligatory)

The rime is the right part which contrasts with onset, and splits into nucleus and coda. The **rime** or **rhyme** of a syllable consists of a nucleus and an optional coda.

The rime is the part of a syllable stretching from the first vowel to the end. For example, /æ/ is the rime of all of the words *at*, *sat*, and *flat*.

"Rime" and "rhyme" are variants of the same word, but the rarer form "rime" is sometimes used to mean specifically "syllable rime" to differentiate it from the concept of poetic rhyme. This distinction is not made by some linguists and does not appear in most dictionaries.

IV.3.5. Body or core

The body is the left branch, contrasts with coda, and splits into onset and nucleus

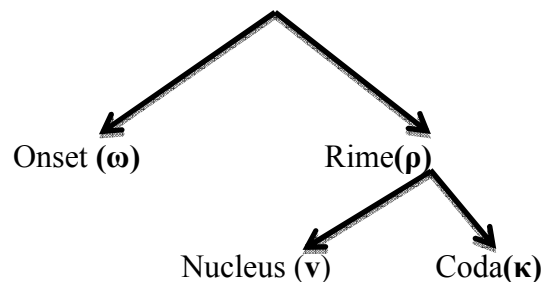
IV.3.6. Tone (τ)

The tone may be carried by the syllable as a whole or by the rime

IV.3.7. Syllable tree diagrams

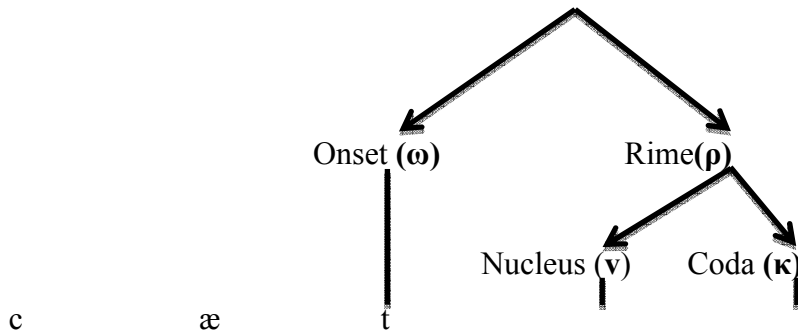
In some theories of phonology, these syllable structures are displayed as **tree diagrams** (similar to the trees found in some types of syntax).

σ



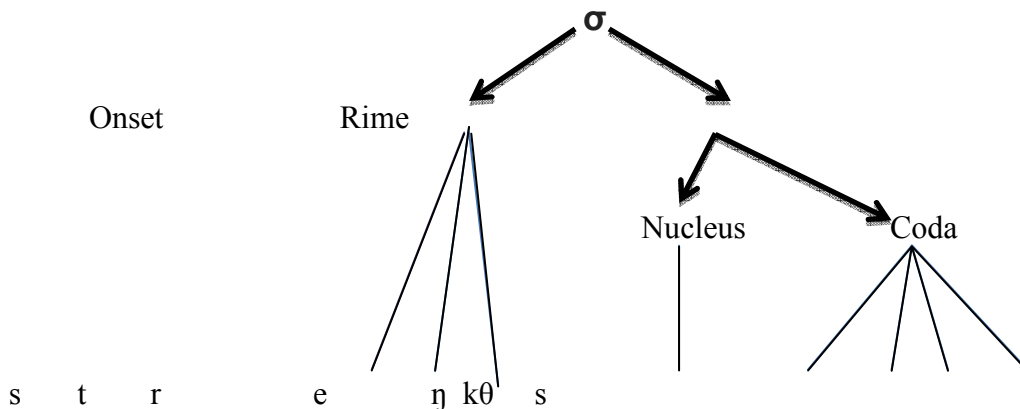
In the one-syllable English word ‘cat’, the nucleus is /æ/, the onset /k/, the coda /t/, and the rime /æt/. This syllable can be abstracted as a *consonant-vowel-consonant* syllable, abbreviated *CVC*. The syllable structure of the word ‘cat’ can be structured as follows:

σ



Hierarchical model for ‘cat’

The diagram below shows the structure of the word ‘strengths’



Hierarchical model for ‘strengths’

IV.4. Word Stress: Definition

When we talk about stress, we talk about the intensity of the syllable. It means that there is more air in the syllable. The syllable on which there is stress is perceived as a greater loudness. The two parts of speech of the word ‘insult’ (n) /'ɪnsʌlt/ and ‘insult’ (v) /ɪn'sʌlt/ are distinguished by pitch pattern. Pitch means high and low frequency. It is the sensation of sound. It is with stress that pitch is rendered. Stress and pitch make the syllable prominent. We have stress when we have energy. The voiced sounds, for example,

result in a great intensity of sound on syllables. Such intensity is perceived by the listener as greater loudness. In all, a stressed syllable should be louder, higher and longer in duration than the remaining unstressed syllables.


In the following words, stress is on the penultimate syllable (syllable before the last one) according to the given terminations of nouns and adjectives:

- __eous e.g. advantageous /ædvən'teɪdʒəs /
- __ial e.g. proverbial /prə'vɜ:bɪəl/
- __ic e.g. Phonetic /fə'netɪk/
- __ion e.g. perfection /pə'fekʃn/
- __ity e.g. tranquility /træŋ'kwɪlɪtɪ/
- __ive e.g. reflexive /re'fleksɪv/
- __graphy e.g. photography /fə'tɒgrəfi/

IV.4.1. Stress in disyllabic Words: Either the 1st or the 2nd is stressed

IV.4.1.1. in Verbs:

contains a long vowel or diphthong

- 1) 2nd syllable is stressed if it 
- ends with more than 1 consonant

In these examples, the 2nd syllable is stressed

apply /ə'plɑɪ/

attract / ə'trækt/

it contains a short vowel

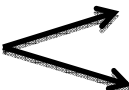
- 2) Final syllable is not stressed if 
- there is 1 or no final consonant
- It contains the diphthong /əʊ/

In these examples, the 1st syllable is stressed

enter / 'entə /
open / 'əʊpən /
follow / 'fɒləʊ /

IV.4.1.2. inAdjectives:

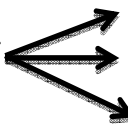
it contains a long vowel or diphthong

- 1) 2nd syllable adjective is stressed if  ends with more than 1 consonant

In these examples, the 2nd syllable is stressed

divine / dɪ 'vaɪn /
correct / kə'rekt /
alive / ə 'laɪv /

it contains a short vowel

- 2) Final syllable is not stressed if  there is 1 or no final consonant
It contains/ends with the diphthong /əʊ/

In these examples, the 1st syllable is stressed

lovely / 'lʌvlɪ /
even / 'i:vən /
hollow / 'hɒləʊ /

IV.4.1.3. inNouns:

- 1) If the second syllable contains a short vowel, stress is put on the 1st syllable

money / 'mʌnɪ /
product / 'prɒdʌkt /

- 2) The second syllable is stressed if it contains a long vowel or diphthong.


estate / ɪs'teɪt /
balloon / bə'lu:n /

IV.4.2. Stress in 3 Syllable words:

IV.4.2.1. in Verbs:

1) Final syllable is unstressed if it contains a short vowel and ends with no more than one consonant. Stress will be placed on the preceding syllable.

encounter / ɪŋ'kaʊntə /
determine / dɪ'tɜ:mɪn /

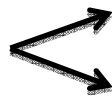
it contains a long vowel or diphthong
2) Final syllable is stressed if 
it ends with more than 1 consonant

entertain / ɪntə'teɪn /
resurrect / rɪzə'rekt /

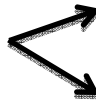
IV.4.2.2. in Nouns stress requires different rules.

1) Final syllable is unstressed if it contains a short vowel or the diphthong /əʊ/. Stress will be put on the preceding syllable.

disaster / dɪ'zɑ:stə /
potato / pə'teɪtəʊ /

it contains a long vowel
2) Middle syllable preceding the final syllable is stressed if  or diphthong
it ends with more than
1 consonant

researcher / rɪ'sɜ:tʃə /
mimosa / mɪ'məʊzə /
postgraduate / pəʊst'grædʒuət /

contain a short vowel
3) First syllable is stressed if both middle & final syllables 
end with no more than 1
consonant

quantity / 'kwɛntɪtɪ /
emperor / 'empərə /
custody / kʌstədɪ /

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I'm Dr. Mohamed Hemaïdia holder of a PhD degree in linguistics and phonetics of English from Oran University 2, Ahmed Ben Ahmed, Algeria. After having spent 23 years teaching at the middle and secondary schools respectively, I got my Magister degree and assumed a teaching job at university in 2008 where I have taught different subjects, such as phonetics, phonology, sociolinguistics, oral expression, and cultural eras at the department of letters and foreign languages in Ibn Khaldoun University of Tiaret. My main areas of research interest are in the domain of linguistics, in general, and sociolinguistics, in particular. The areas of phonetics and phonology have been integrated as important subjects in the study of people's speech inside the Algerian speech community as well as the British local accents from north to south and east to west. My research interest also tends towards the comparison of Arabic, and English languages and cultures to predict and explain the problems learners face in learning the English language. This comparison may include the grammatical, phonological, vocabulary and cultural systems of the two languages to deal with the big influence the native language can exert on the target language. I am also interested in translating scientific and literary terms from Arabic and French into English and vice versa. This is to develop scientific research in all disciplines and benefit from the sciences written and documented in those languages.