



Assiut University
Faculty of Arts
Dept. of English

Phonetics (1)

Part I (Student Book)

**For First-Year Students, Dept. of English,
Primary & Secondary Education Division,
Faculty of Education**

**Compiled and Edited by
Members of the Department of English,
Faculty of Arts, Assiut University**

2023

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Chapter One

Introduction

As a student of English, you need to practice **the four language skills**: listening, speaking, reading and writing. In this course we will be mainly concerned with improving your speaking skills, but in order to speak you must also understand how to listen.

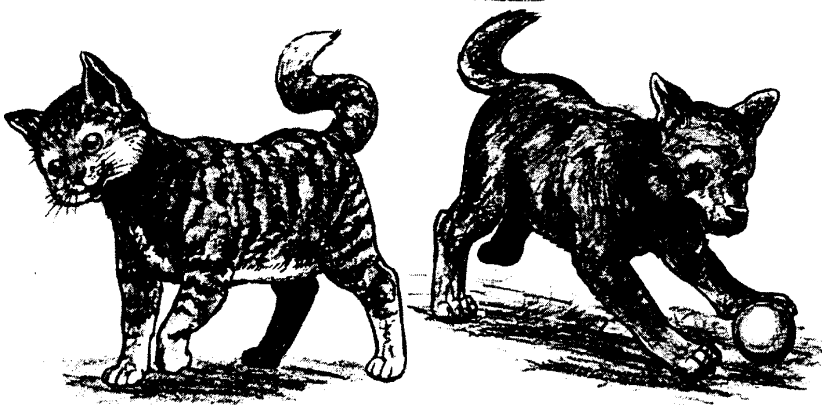
Since phonetics and phonology are new subjects for you, the first thing we have to do is define what is meant by these terms. However, before we can do this we need to look at what we mean by 'language'.

What is language? According to the Linguistic Society of America (LSA, 2019), “language is one of the defining characteristics of human beings and its use lies at the center of most human activities and interactions.” And Comrie (2002) defines language as “the principal means used by human beings to communicate with one another.” He further indicates that “language is primarily spoken, although it can be transferred to other media, such as writing. If the spoken means of

communication is unavailable, as may be the case among the deaf, visual means such as sign language can be used.”

However, we know that not only people but also animals, and even machines such as computers, can communicate. So we have to differentiate between language and human language. The CDELT (1981) defines **human language** is “a complex system of exchanging information, for passing messages, through words.”

Let’s have a look at these pictures.



According to the CDELT (1981: 1-2), the pictures above carry a message. On the right there is a picture of a cat. The message could be *a friendly cat*, *'my pet cat'*, etc. A similar thing could be said of the dog on the left, but the message could also be

Beware of dog. So pictures do carry messages but they can be ambiguous.

In order to make the message clear and precise we use words. But it is not sufficient to know the meaning of individual words, since words in context may carry a different meaning. If we take the saying *It's raining cats and dogs*, it does not mean that cats and dogs are falling from the sky. It means that it is raining very heavily. So we have to learn to interpret words as they are used in context. (CDELTA 1981: 2)

So far we have said that language is used for carrying a message. Human language is made of words and these words have meaning. The meaning of words depends upon the context in which they are used. From this very brief description, we can already see that language is a very complicated, though interesting, subject. (Ibid)

What is the difference between letters and sounds? According to the CDELTA (Ibid), words carry meaning. When we **write** a word it is made up of **letters**. For instance, the word *cat* is made up of three letters, CAT. When we **speak**, a word is made up of **sounds**. For example, the word *cat* is made up of three sounds. But the number of letters in a word is not always the same as the number of sounds. If we take the word *this*, it is made up of four letters, but only three sounds; the word *author* is

made up of six letters, but three sounds. The *th* in both words is only one shape, but it is a different sound in each of the words. (We will study this in detail later on in this course).

It is important to distinguish sounds from letters. In the word *phone*, for example, the letters **ph** are pronounced /f/. To make the distinction between the sound and the letter *f* the sound is **always** written between slanted lines / / like /p/, /b/, /t/, /d/, /f/, /v/, etc. (Ibid). These are called **phonemes**. As there are more sounds than letters, certain symbols are used for those sounds which do not exist as letters. When we write using these symbols we are using **transcription**. The system of transcription is shown in Chapter 2.

What is phonetics and what are its three branches?

Phonetics is a branch of linguistics which studies the production, physical nature, and perception of speech sounds and provides a framework for their classification. According to the CDELT (1981) and other sources, the three main branches of phonetics are articulatory phonetics, auditory phonetics, and acoustic phonetics.

- **Articulatory phonetics** studies the way in which speech sounds are produced by use of the organs of speech, i.e. it is closely linked with speech production. Understanding of how sounds are produced involves understanding of the

anatomy of speech, i.e. of the organs involved in the production of speech sounds (the lungs, the larynx and the vocal tract), and understanding of the airstream mechanisms.

- **Auditory phonetics** describes how we recognize sounds as different and are thus able to understand spoken messages. Auditory phonetics is closely related to speech perception: it studies the way in which humans perceive sounds. Just as articulatory phonetics involves the understanding of the anatomy of speech, auditory phonetics involves the understanding of the human hearing system, i.e. the anatomy and physiology of the human ear and brain.
- **Acoustic phonetics** is a branch of physics which studies the physical properties of speech sounds as transmitted between mouth and ear, i.e. the *properties of sound waves* and the *acoustics of speech*.

This course is mainly concerned with articulatory phonetics and auditory phonetics, not with acoustic phonetics. We will try to develop listening and speaking skills, and understanding more of how sounds are made and recognized.

What is the difference between phonetics and phonology? Phonology studies how the sounds of a particular language are put together to create meaning while phonetics relates only to how individual sounds are produced in all languages. Phonemes, or units of sound that are used in all languages to create words, are the focus of the study of phonetics. Phonology studies the rules in any given language that govern how those phonemes are combined to create meaningful words. Phonetics and phonology study two different aspects of sound, but the concepts are dependent on each other in the creation of language.

Important Phonetic Definitions

(Adapted from CDELT 1981 and Roach 2000)

1. A **consonant** is a speech sound made by partly or completely stopping the flow of air as it goes through the mouth. For example: /p/ and /n/.

How do we describe consonants?

We describe consonants according to voicing, place of articulation and manner of articulation.

- a. **Voicing** means the vibration of the vocal cords.
- b. **Place of articulation** means the place in the mouth where the air is stopped or obstructed.
- c. **Manner of articulation** means the way in which the consonant sound is made, i.e. whether the air is completely or partially stopped.

2. A **voiced** sound is one made with the vocal cords brought together tightly so that no air can pass through them and there is vibration. For example: /b/, /d/ and /g/. All vowels are voiced.

3. A **voiceless** consonant is one made with the vocal cords separated so that the air can pass out freely between them and there is no vibration. For example: /p/, /t/ and /k/.

4. A **plosive** consonant is one made by stopping the air in the mouth and then releasing it quickly. There are six plosives in English: /p/, /b/, /t/, /d/, /k/ and /g/.

5. A **bilabial** consonant is one made by pressing together the two lips. For example: /p/, /b/ and /m/.

6. An **alveolar** consonant is one made by raising the tip (or blade) of the tongue to touch the alveolar ridge. For example: /t/, /d/ and /s/.

7. A **velar** consonant is one made by raising the back of the tongue to touch the soft palate or velum. For example: /k/, /g/ and /ŋ/.

8. A **fricative** consonant is one made by releasing the air gradually through a narrow opening in the mouth causing friction. There are nine fricatives in English: /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/ and /h/.

9. A **labio-dental** consonant is one made by the upper teeth touching the lower lip. For example: /f/, and /v/.

10. A **dental** consonant is one made by putting the tip of the tongue between the upper and lower teeth. For example: /θ/, and /ð/.

11. An **alveolo-palatal** consonant is one made by the tongue touching the area between the alveolar ridge and the hard palate. For example: /ʃ/ and /ʒ/.

12. A **glottal** consonant is one made by the glottis or the opening between the vocal cords. For example: /h/.

13. An **affricate** consonant is one made by stopping the air in the mouth and then releasing it slowly with friction. An affricate is formed by a plosive + a fricative. For example: /tʃ/ and /dʒ/.

14. An **oral** sound is one made by releasing the air through the mouth. All vowels are oral and 21 consonants are oral.

15. A **nasal** consonant is one made by lowering the soft palate so that air is released continuously through the nose. For example:

/m/, /n/ and /ŋ/.

16. A **lateral** consonant is one made by releasing the air around the sides of the tongue. For example: /l/.

17. A **post-alveolar** consonant is one made by raising the tip of the tongue towards the back of the alveolar ridge. For example: /r/.

18. A **retroflex** consonant is one made by curling the tongue backwards with the tip raised. For example: /ɻ/.

19. A **palatal** consonant is one made by raising the tip of the tongue towards the hard palate. For example: /j/.

20. A **semi-vowel** is a speech sound produced like vowels but used in the place of consonants in a word. For example: /j/ and /w/.

21. A **vowel** is a speech sound made by letting the air come freely out of the mouth and by moving the tongue slightly. For example: /i:/ and /ɔ/.

How do we describe vowels?

We describe vowels according to the tongue height, tongue part, lip shape and length.

a. **Tongue Height** means whether the tongue is high, mid or low in the mouth. If the vowel is high we call it "close"; if it is mid, we call it "between half-close and half-open" and if it is low, we call it "open."

b. **Tongue Part** means the part of the tongue used in the production of the vowel. So, a vowel may be front, central or back.

c. **Lip Shape** means the shape of the lips when we make a vowel. So, a vowel may be spread, neutral or rounded.

d. **Length** means whether a vowel takes a long time or a short time in production. So, a vowel may be long or short. We mark a long vowel with a colon / :/.

22. A **close vowel** is one made with the tongue at the highest point in the mouth. For example: /i:/ and /u:/.

23. A **mid vowel** is one made with the tongue between the half-close and half-open positions. For example, /e/ and /ɔ:/.

24. An **open vowel** is one made with the tongue at the lowest position in the mouth. For example, /æ/ and /ɔ/.

25. A **front vowel** is one made by the front part of the tongue. For example: /i:/ and /e/.

26. A **central vowel** is one made by the central part of the tongue. For example, /ʌ/ and /ə/.

27. A **back vowel** is one made by the back part of the tongue. For example: /u:/ and /ʊ/.

28. A **rounded vowel** is one made by the lips rounded. For example, /ɔ/ and /ɔ:/.

29. A **non-rounded vowel** is one made by the lips not rounded, i.e. spread or neutrally open. For example, /ɪ/ and /e/.

30. A **spread vowel** is one made by the lips spread. For example, /ɪ/ and /i:/.

31. A **neutral vowel** is one made by the lips neither rounded nor spread. For example, /æ/ and /ɑ:/.

32. A **short vowel** is one which takes a short time in production. For example: /ɪ/ and /ʊ/.

33. A **long vowel** is one which takes a long time in production. For example: /i:/ and /u:/.

34. A **pure vowel** is one made as one part, whether it is long or short. For example: /ɪ/ and /u:/. There are 12 pure vowels in English.

35. A **diphthong** is a sound formed by two pure vowels pronounced one after the other in the same syllable. The first vowel is pronounced louder and longer than the second. For example: /eɪ/ and /aɪ/. There are 8 diphthongs in English.

36. A **front-closing diphthong** is one that ends with /ɪ/ which is a front vowel. For example, /eɪ/, /aɪ/ and /ɔɪ/.

37. A **back-closing diphthong** is one that ends with /ʊ/ which is a back vowel. For example, /aʊ/ and /əʊ/.

38. A **central diphthong** is one that ends with /ə/ which is a central vowel. For example, /ɪə/, /eə/ and /ʊə/.

39. A **syllable** is a sound unit that contains a vowel or syllabic consonant. We count the number of syllables in a word by counting the number of vowels in it. For instance, in the word ‘act’ there is one syllable, in the word ‘happy’ there are two syllables and in the word ‘imagination’ there are five syllables.

40. **Stress** means extra force given to the pronunciation of one of the syllables in a word.

Translation of Important Phonetic Terms

=====

phonetics	علم الأصوات
الصوتيات	phonology
consonant	صوت متحرك
صوت ساكن (صامت)	(صائت)
voiced	مهموس
مجهور	voiceless
plosive	احتكاكي
انفجاري	fricative
affricate	أنفي
مزجي (انفجاري) (احتكاكي)	nasal
lateral	ارتدادي (مثنٍ للخلف)
جانبي	retroflex
oral	شبه صائت
فمي / فموي	semi-vowel
bilabial	لثوي
شفوي	alveolar
palatal	لهوي (طبقي)
غاري (حنكي)	velar
dental	أسناني شفوي
أسناني	labio-dental
glottal	لثوي غاري
مزماري (حنجري)	alveolo- palatal
tongue	خلف لثوي
اللسان	post- alveolar
mouth	حافة اللثة
الفم	alveolar ridge

nose	الأنف	vocal cords	الأوتار الصوتية
palate	سقف الفم (الحنك)	hard palate	سقف الفم الصلب
velum	اللهاة (الطبوق)	soft palate	سقف الفم اللين
glottis	فتحة المزمار	larynx	الحنجرة
pure vowel	صائت نقى	articulator	عضو نطق
diphthong	صائت ثنائي	transcription	كتابة صوتية

Chapter Two

Production of Speech Sounds

This chapter presents some fundamental ideas about the articulatory production of speech sounds. It also introduces the major classes into which speech sounds are divided according to the International Phonetic Association (IPA) system.

Sound Production

According to the Universite de Lausanne website (2019), most sounds in speech are produced by passing a stream of air from the lungs through one or more resonators belonging to the phonetic apparatus. The principal resonators are (See Figure 1 below):

- the pharyngeal cavity;
- the oral cavity;
- the labial cavity;
- the nasal cavity.

The presence or absence of obstructions in the course of the airstream modifies the nature of the sound produced. By classifying the different types of obstructions that are possible,

articulatory phonetics distinguishes the sound classes described below. (Ibid)

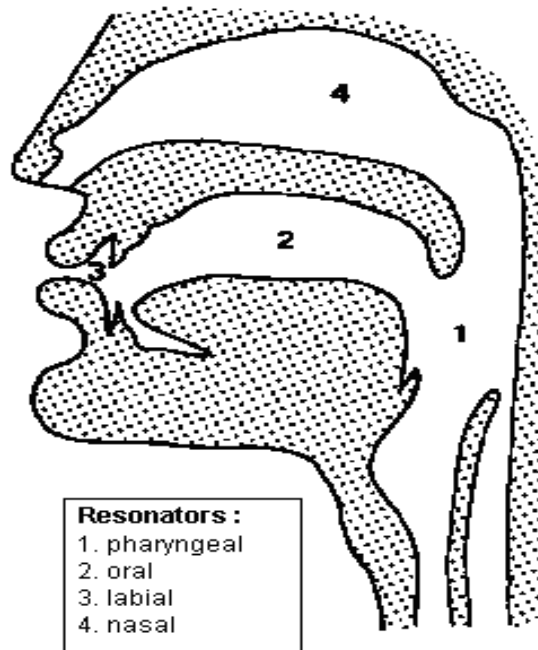


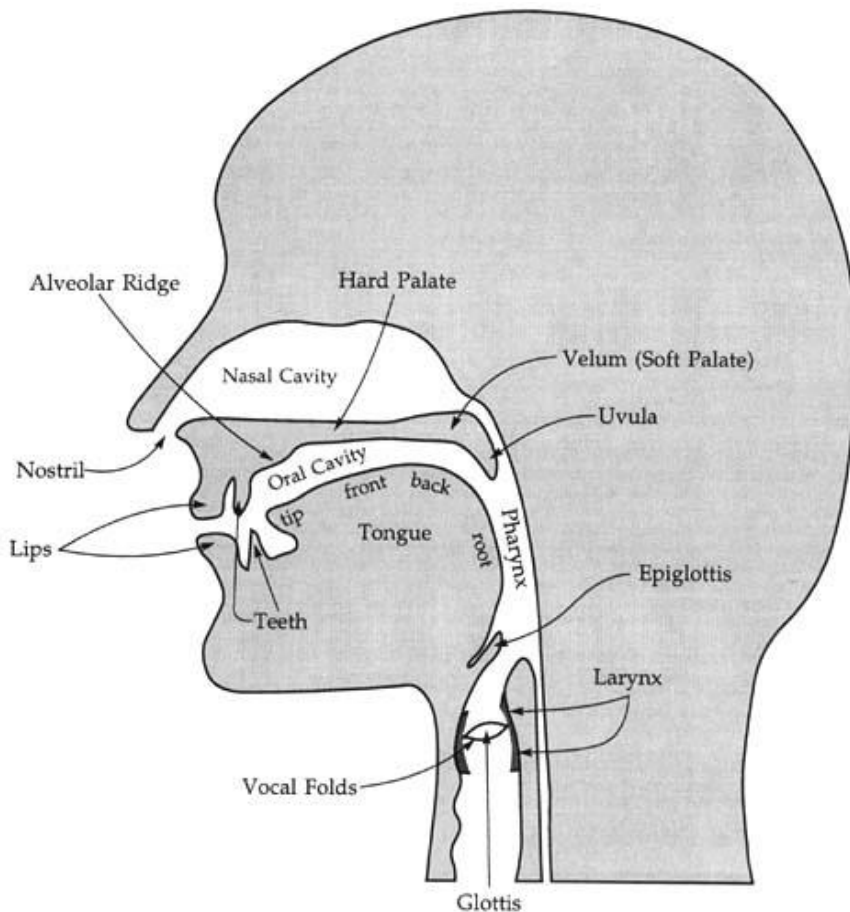
Figure 1: Resonators

For a small number of articulations, the airstream does not originate in the lungs, but rather from outside. The "ingressive" airstream mechanism produces sound through inhalation. A speech sound can also be generated from a difference in pressure of the air inside and outside a resonator. In the case of the oral cavity, this pressure difference can be created without using the lungs at all (Ibid).

Organs of Speech

What are the organs of speech? Can you draw a diagram to illustrate them?

The parts of the body that produce different sounds are called the organs of speech. This is an illustrative diagram of these organs (Mad Beppo Website).



This diagram is used frequently in the study of phonetics. It represents the human head, seen from the side. You will need to look at it carefully as the articulators are described. It shows the following organs (Roach 2000: 9-10):

1. The **pharynx** is a tube which begins just above the larynx. It is about 7 cm long in women and about 8 cm in men, and at its top end it is divided into two, one part being the back of the mouth and the other being the beginning of the way through the nasal cavity. If you look in your mirror with your mouth open, you can see the back of the pharynx.

2. The **velum** or soft palate is seen in the diagram in a position that allows air to pass through the nose and through the mouth. Yours is probably in that position now, but often in speech it is raised so that air cannot escape through the nose. The other important thing about the velum is that it is one of the articulators that can be touched by the tongue. When we make the sounds /k/ and /g/ the tongue is in contact with the lower side of the velum, and we call these ‘velar consonants.’

3. The **hard palate** is the middle part of the roof of the mouth. You can feel its smooth curved surface with your tongue.

4. The **alveolar ridge** or teeth ridge is the area between the top front teeth and the hard palate. You can feel its shape with your tongue. Its surface is really much rougher than it feels, and is covered with little ridges. You can only see these if you have a mirror small enough to go inside your mouth (such as those used by dentists). Sounds made with the tongue touching here (such as /t/ and /d/) are called alveolar.

5. The **tongue** is, of course, a very important articulator and it can be moved into many different places and can take different shapes. It is usual to divide the tongue into different parts, though there are no clear dividing lines within the tongue. There are five parts in the tongue: tip, blade, front, back and root.

6. The **teeth** (upper and lower) are usually shown in diagrams only at the front of the mouth, immediately behind the lips. This is for the sake of a simple diagram, and you should remember that most speakers have teeth to the sides of their mouths, back almost to the soft palate. The tongue is in contact with the upper side teeth for many speech sounds. Sounds made with the tongue touching the front teeth are called dental.

7. The **lips** are important in speech. They can be pressed together (when we produce the sounds /p/, /b/), brought into contact with the teeth (as in /f/, /v/), or rounded to produce the lip-shape for vowels like /u:/. Sounds in which the lips are in contact with each other are called bilabial, while those with lip-to-teeth contact are called labiodental.

8. The **larynx** could also be described as an articulator -- a very complex and independent one.

9. The **jaws** are sometimes called articulators; certainly we move the lower jaw a lot in speaking. But the jaws are not articulators in the same way as the others, because they cannot themselves make contact with other articulators.

10. Although there is practically nothing that we can do with the **nose** or the nasal cavity, it is a very important part of our equipment for making sounds (what is sometimes called our vocal apparatus), particularly nasal consonants such as /m/, /n/.

11. The **lungs** are very important in sound production as the air used to make all sounds is produced from them.

Consonants and Vowels

According to the Universite de Lausanne website (2019), the distinction between consonants and vowels is made in the following manner:

- If the air, once out of the glottis, is allowed to pass freely through the resonators, the sound is a **vowel**;
- If the air, once out of the glottis, is obstructed, partially or totally, in one or more places, the sound is a **consonant**.

Place of Articulation and Manner of Articulation

The distinction between manner of articulation and place of articulation is particularly important for the classification of consonants.

The **manner of articulation** is defined by a number of factors (Ibid):

- whether there is vibration of the vocal cords (voiced vs. voiceless);
- whether there is obstruction of the airstream at any point above the glottis (consonant vs. vowel);
- whether the airstream passes through the nasal cavity in addition to the oral cavity (nasal vs. oral);
- whether the airstream passes through the middle of the oral cavity or along the side(s) (non-lateral vs. lateral).

The **place of articulation** is the point where the airstream is obstructed. In general, the place of articulation is simply that point on the palate where the tongue is placed to block the stream of air. The place of articulation can be any of the following (Ibid):

- the lips (*labials* and *bilabials*),
- the teeth (*dentals*),
- the lips and teeth (*labio-dentals* -- here the tongue is not directly involved),
- the alveolar ridge (that part of the gums behind the upper front teeth -- *alveolar* articulations),
- the hard palate (given its large size, one can distinguish between *palato-alveolars*, *palatals* and *palato-velars*),
- the soft palate (or velum -- *velar* articulations),
- the uvula (*uvulars*),
- the pharynx (*pharyngeals*),
- the glottis (*glottals*).

Voicing:

According to the Universite de Lausanne website (2019), a sound is described as *voiceless* when the vocal cords do not vibrate during its articulation. If the vocal cords do vibrate, the sound is

called *voiced*. The vocal cords are folds of muscle located at the level of the glottis (in fact, the glottis is nothing other than the space between the vocal cords).

The vocal cords vibrate when they are closed to obstruct the airflow through the glottis: they vibrate under the pressure of the air being forced through them by the lungs. (Ibid)

The voiced/voiceless opposition is mainly useful for the classification of consonants. To feel the distinction between voiced and voiceless sounds is very easy. Place your finger and thumb lightly on your throat. Say sssssss to yourself. The say zzzzzzz. Repeat these a few times. Then substitute fffffff and vvvvvvv sounds. You should be able to feel the vibration of the vocal cords when you say zzzzzz and vvvvvv, but nothing when you say ssssss and ffffff.

It is also possible to hear the vibration. Instead of putting your fingers on your throat, put your index fingers in your ears and repeat the above sounds. You should hear a low buzzing sound when you articulate zzzzzz and vvvvvv, but hear almost nothing for the other two sounds.

Voicing is important in a language like English because the meaning of a sound often depends on whether that sound is voiced or not. For example, "big" carries a very different meaning from 'pig'. English has many sounds that are paired up

in this manner where articulation and manner are the same, but the meaning is dependent upon whether the sound is voiced or not.

Write down two columns with the headings voiced and voiceless. Now, which sounds do you think carry voice and which do not? Many of the sounds are in pairs, but not all of them. When you have finished check your answers with the table on the next page.

Table of Voiced/Voiceless Consonants

Voiced	Voiceless		Voiced	Voiceless
b	p		r	
d	t		l	
g	k		m	
v	f		n	
z	s		ŋ	
ð	θ		j	
ʒ	ʃ		w	
dʒ	tʃ			h

Nasality:

As stated at the Universite de Lausanne website (2019), the top of the pharynx is like a crossroads. The airstream can exit the pharynx either of two ways, depending on the position of the soft palate:

- If the soft palate is lowered, a portion of the air will pass through the nasal cavity (the remainder finding its way through the oral cavity);
- If the soft palate is raised, access to the nasal cavity is cut off, and the air can only pass through the oral cavity.

The sounds produced via the first method are called *nasal*; those produced the other way, *oral*. See Figure 3 for details.

The nasal/oral opposition concerns vowels as well as consonants.

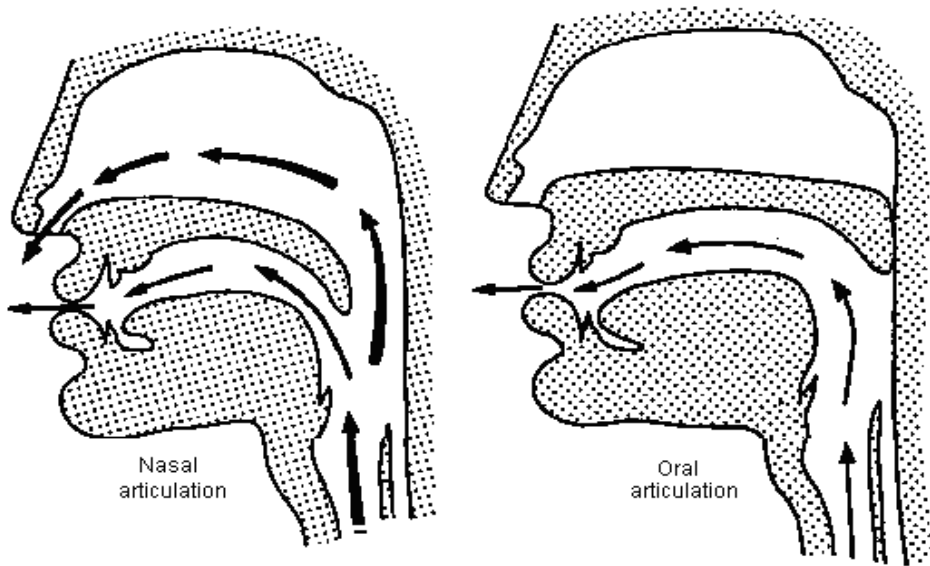


Figure 3: Nasals and orals

Phonemic Transcription

We transcribe words by using phonemic symbols. These are IPA symbols that represent sounds. The International phonetic Alphabet (IPA) is a group of symbols that can be used to transcribe the sounds of any language in the world. Some of these symbols are similar to the letters of the English alphabet and some are different. There is a mobile application that changes the ordinary spelling of words into transcription. It is called ToPhonetics. To download it for free, you may go to this website:

https://play.google.com/store/apps/details?id=com.mu_sonic.to_phonetics2.freemium&hl=en.

This is the image of the program (which is blue in color):



You can also download a program that helps you to write the IPA symbols from the following website:

http://scripts.sil.org/cms/scripts/page.php?item_id=DoulosSIL_download. From there download the program file "DoulosSIL-4.112.exe" and install it on your computer. It will include the IPA symbols in your Word program. Then you can insert symbols from the DoulosSIL fonts.

Phonemic Symbols Common to the English Alphabet

Although the phonetic script used to represent sounds looks complicated, many of the characters used are those found in the regular English alphabet. 15 letters of the English alphabet are used in a very similar way in the phonetic alphabet. The following letters are all consonants.

/b/ as in bag

/d/ as in dog

/f/ as in fat

/g/ as in good

/h/ as in hat

/l/ as in late

/m/ as in man

/n/ as in note

/p/ as in pot

/r/ as in rope

/s/ as in sock

/t/ as in tear

/v/ as in vowel

/w/ as in worm

/z/ as in zoo

There is one vowel that has the same symbol in English as in the phonetic script:

/e/ as in egg

Two letters found in the English alphabet are used in the phonetic script, but are used in different ways. The symbol /k/ is used to represent the ‘k’ as in Kate, as well as the ‘c’ in cat or care. The /j/ symbol is used in a completely different way to the ‘j’ in Jam or John. It is used to represent many of the sounds that we associate with the letter ‘y’.

Phonemic Symbols Different from Those in the Alphabet

The following seven symbols are quite distinct from any symbol found in the English alphabet. We sometimes use combinations of letters in order to achieve certain sounds, including some of those below. The phonetic script has a symbol for each distinct sound that can be measured in terms of voice, manner and place of articulation.

/ʃ/ as in ship

/ʒ/ as in measure

/ð/ as in as in this

/ŋ/ as in hang

/tʃ/ as in as in church

/dʒ/ as in jeep

/θ/ as in think

Chapter Three

Consonants

In any language we can identify a small number of regularly used sounds (vowels and consonants) that we call phonemes; for example, the vowels in the words 'pin' and 'pen' are different phonemes, and so are the consonants at the beginning of the words 'pet' and 'bet'.

As stated by Roach (2000: 10), the words 'vowel' and 'consonant' are very familiar ones, but when we study the sounds of speech scientifically we find that it is not easy to define exactly what they mean. The most common view is that vowels are sounds in which there is no obstruction to the flow of air as it passes from the larynx to the lips. If we make it difficult or impossible for the air to pass through the mouth, we are making consonants.

According to Crystal (2008), a 'consonant' is one of the two general categories used for the classification of speech sounds, the other being 'vowel.' Consonants can be defined in terms of both phonetics and phonology. Phonetically, they are sounds made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, or so restricted that audible friction is produced.

Describing Consonant Sounds

What are the benefits of being able to describe consonant sounds?

1. For teachers of English as a foreign language, knowing how consonants are pronounced will help them to show their students where and how to make the sounds themselves.
2. For students learning English as a foreign language, they will be able to sound more like a native English speaker if they know how and where English consonants are made.
3. For speech therapists, they will be able to help their patients to produce the sounds.

We can describe consonant sounds by answering three questions:

1. Is the sound voiced or voiceless?

VOICING

2. Where is the sound constricted?

PLACE OF ARTICULATION

3. How is the airstream constricted?

MANNER OF ARTICULATION

The first thing to state in describing a consonant is to indicate whether the sound is **VOICED** or **VOICELESS**

1. voiced sounds = vocal folds vibrate

2. voiceless sounds = vocal folds do not vibrate (try this: put your hand on your throat when you pronounce the sound. If you feel a vibration, the sound is voiced.)

The second thing is to tell where in the vocal tract the sound is articulated (the place of articulation). The third thing is to say how the air stream is modified by the vocal tract to produce the sound (manner of articulation).

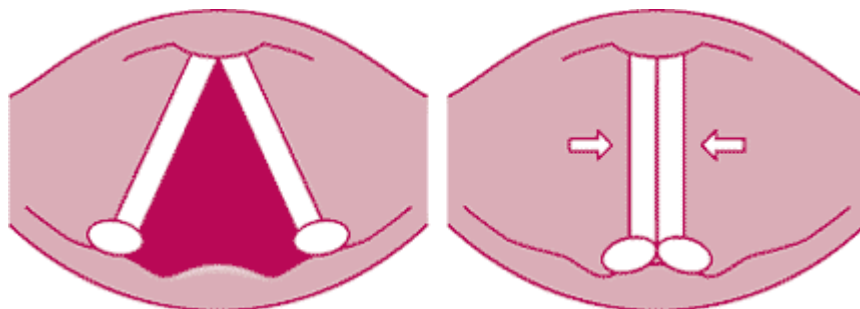
Voicing

Arévalo (2014) explains how voicing is used to differentiate between sounds:

1. If the vocal folds are held apart, the air can flow between them without being obstructed so that no noise is produced by the larynx. When air exits the lungs and passes through lax and open vocal folds, the folds do not vibrate. Sounds that are produced this way are called voiceless. Examples of voiceless sounds are /f/, /k/, /s/, /h/.

2. When air is forced up the trachea from the lungs, at a certain pressure it is able to force its way through the vocal cords, pushing them open. The folds are close together and tensed, causing them to vibrate rapidly. This creates a buzzing noise.

Sounds produced this way are called voiced. Examples of voiced sounds are /b/, /m/, /v/, /z/.

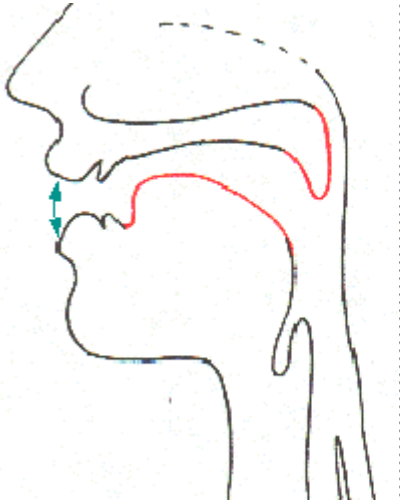


left: VOICELESS right: VOICED - closed but vibrating

Place of Articulation

Typically air is expelled through the mouth (oral cavity). The tongue, lips, teeth, and various regions of the mouth constitute places of articulation in the oral cavity. This means that air coming from the lungs is constricted somehow to create consonant sounds. In the following chapter, we will see what consonant sounds look like (the place of articulation) as they are produced in the vocal tract.

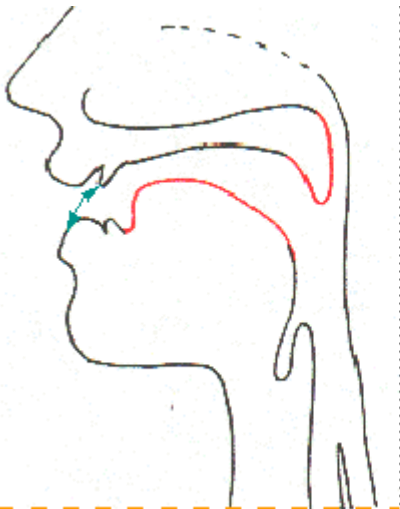
Bilabial = two lips. Bilabial consonants are produced by creating a closure with both lips (Ibid).



Labial

b, p, m

Labiodental = lower lip and upper teeth. Labiodental consonants are produced by raising the lower lip to the upper teeth. English has only fricative labiodentals, and no stops (Ibid).

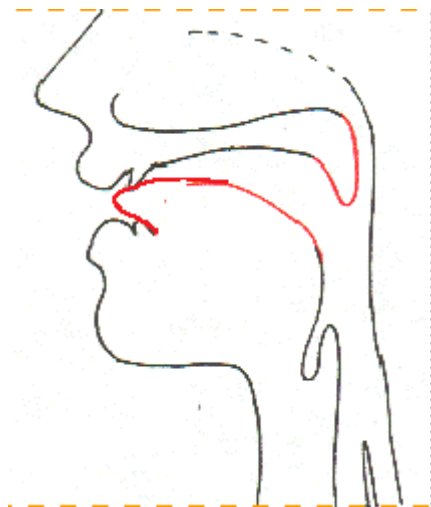


Labio-dental

f, v

Interdental = tongue between the teeth, or just behind the upper teeth (also called "dental"). In English, the interdental consonants

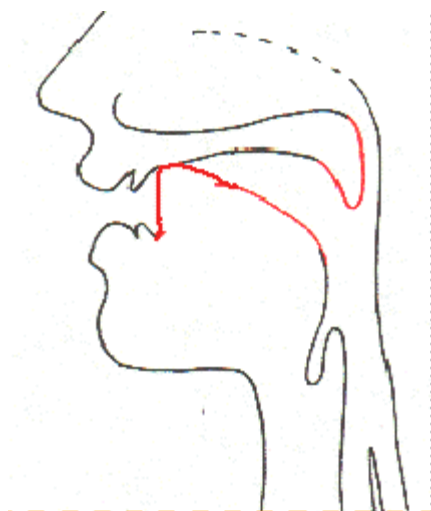
are also all fricatives. In the International phonetic alphabet, these sounds are the voiced /ð/ and the voiceless /θ/ (Ibid).



Interdental

θ, ð

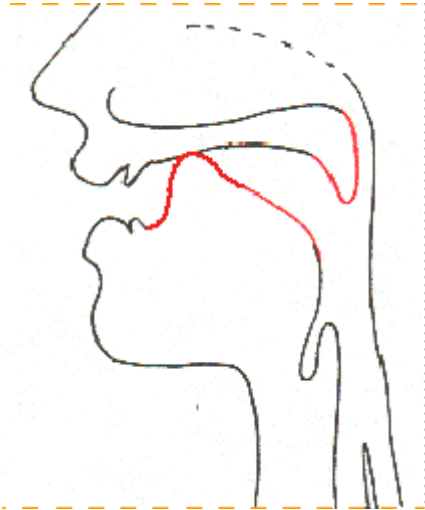
Alveolar = tongue tip at the alveolar ridge, behind the top teeth. English alveolar consonants are formed by raising the tip of the tongue to the alveolar ridge, which lies right behind the teeth. There are both fricatives and stops (Ibid).



Alveolar

d, t, s, z, n

Palatal = the front or body of the tongue raised to the palatal region or the domed area at the roof of your mouth (Ibid).

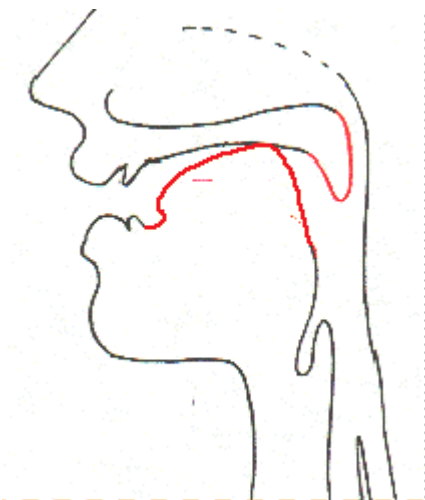


Palatal

š, ž

Velar = the back of the tongue raised to the soft palate ("velum"), the area right behind the palate.

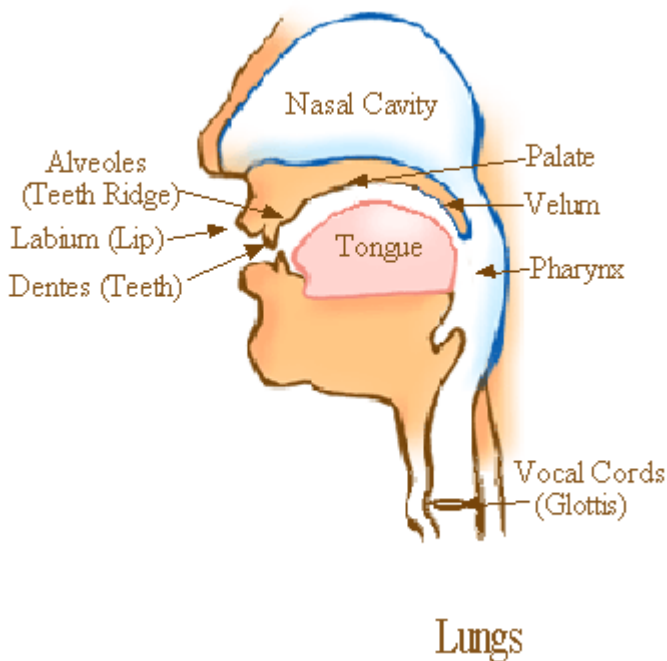
As with bilabials, English has a limited range of velar consonants. The last sound below looks like a long tail on the letter "n" (Ibid).



Velar

g, k, ŋ

Glottal = at the larynx (the glottis is the space between the vocal folds). Locate the glottis (the vocal folds) in the diagram, below. A glottal stop is a speech sound articulated by a momentary, complete closing of the glottis in the back of the throat. It exists in many languages, as in English and Hawaiian “uh-oh, O'ahu, and ka'aina.” (Ibid).



In conclusion, The airflow can be modified at various points within vocal organs to produce distinct speech sounds. The point where a sound is produced is referred to as its place of articulation (Ibid).

Manner of Articulation

The manner of articulation describes how the tongue, lips, etc. are configured to produce the sound. Consonants are organized into six categories based on the way air is constricted (Ibid):

Stop = complete closure, resulting in stoppage of the airflow

Fricative = narrow opening, air forced through

Affricate = closure followed by frication (= stop + fricative)

Nasal = air allowed to pass through the nose (generally while blocked in mouth)

Liquid = minimal constriction allowing air to pass freely

Glide = minimal constriction corresponding to a vowel (thus also called "semi-vowel")

Chapter Four

Plosives

Plosives, also called stops, are like little explosions of sound. They are made by obstructing the airstream completely in the oral cavity. Notice that when you say /p/ as in *pat* and /b/ as in *ball*, your lips are closed together for a moment, stopping the airflow. /p/ and /b/ are bilabial stops. /p/ is a *voiceless bilabial stop*, and /b/ is a *voiced bilabial stop*. /t/, /d/, /k/, and /g/ are also stops. What is the three-part description for each of these stops?

The glottal stop, /ʔ/, is made by momentarily closing the vocal folds. If you stop halfway through uh-oh and hold the articulators in position for the second half, you should be able to feel yourself making the glottal stop (it will feel like a catch in your throat.) Nasal consonants are also stops in terms of their oral articulation

Symbol	Voicing	Place	Sample Words
/p/	voiceless	bilabial	pit, tip, spit, hiccough, appear
/b/	voiced	bilabial	ball, globe, amble, brick, bubble

/t/	voiceless	alveolar	tag, pat, stick, pterodactyl, stuffed
/d/	voiced	alveolar	dip, card, drop, loved, batted
/k/	voiceless	velar	kit, scoot, character, critique, exceed
/g/	voiced	velar	guard, bag, designate, Pittsburgh
/ʔ/	voiceless	glottal	uh-oh, O'ahu, ka'aina (glottal stop)

Bilabial Plosives

The English bilabial plosives are /p/ and /b/. These sounds are not easy since in Arabic there is no /p/. You need to practice a lot in order to pronounce the two sounds correctly. Because both sounds are made by the two lips, they are called bilabial consonants. When we pronounce /p/ and /b/ the air is stopped in the mouth, and then released quickly with explosion. The name given to sounds made in this manner is plosive. So, both sounds are bilabial and plosive. How can we differentiate between them? There is no vibration of the vocal cords when we pronounce /p/,

but the vocal cords vibrate when we pronounce /b/. Therefore, /p/ is voiceless but /b/ is voiced.

Description of the sounds /p/ and /b/:

(Adapted from CDELT 1981: 8)

1. /p/ is a voiceless bilabial plosive. It is voiceless because it is made with no vibration of the vocal cords. It is bilabial because it is made by the two lips. It is plosive because it is made by stopping the air in the mouth and then releasing it quickly with plosion.

2. /b/ is a voiced bilabial plosive. It is voiced because it is made with vibration of the vocal cords. It is bilabial because it is made by the two lips. It is plosive because it is made by stopping the air in the mouth and then releasing it quickly with plosion.

Spellings of the stops /p/ and /b/:

- /p/ is spelt with the letter 'p' or 'pp'.

- /b/ is spelt with the letter 'b' or 'bb'.

There are a few words in English in which the 'p' and 'b' are not pronounced (e.g. pneumatic, receipt, thumb, comb).

Alveolar Plosives

The sounds /t/ and /d/ are also plosive because in producing them the air is stopped in the mouth and then released quickly with plosion. Where in the mouth is the air stopped? It is stopped at the teeth ridge or the alveolar ridge. So, the sounds /t/ and /d/ are called alveolar plosives. How can we distinguish between them? There is no vibration of the vocal cords when we pronounce /t/, but the vocal cords vibrate when we pronounce /d/. Therefore, /t/ is voiceless but /d/ is voiced.

We have to notice here that the roof of the mouth is divided into three parts: the front part is called the teeth ridge or alveolar ridge. The middle part is named the hard palate. The back part is termed the soft palate or velum.

Description of the sounds /t/ and /d/:

(Adapted from CDELTA 1981: 13)

3. /t/ is a voiceless alveolar plosive. It is voiceless because it is made with no vibration of the vocal cords. It is alveolar because it is made by raising the tip of the tongue to touch the alveolar ridge. It is plosive because it is made by stopping the air in the mouth and then releasing it quickly with plosion.

4. /d/ is a voiced alveolar plosive. It is voiced because it is made with vibration of the vocal cords. It is alveolar because it is made by raising the tip of the tongue to touch the alveolar ridge. It is plosive because it is made by stopping the air in the mouth and then releasing it quickly with plosion.

Spellings of the stops /t/ and /d/:

- /t/ is spelt with the letters 't' or 'tt'. There are a few words, however, in which 'th' is pronounced as /t/ (e.g. Thomas, Thames). There are also a very few words in which 't' is not pronounced (e.g. castle).
- /d/ is spelt with the letters 'd' or 'dd'.

Velar Plosives

The sounds /k/ and /g/ are also plosive because in making them the air is stopped in the mouth and then released quickly with plosion. Where in the mouth is the air stopped? It is stopped at the soft palate or velum. The back of the mouth is raised to touch the velum. So, the sounds /k/ and /g/ are called velar plosives. How can we know the difference between them? There is no vibration of the vocal cords when we produce /k/, but the vocal cords vibrate when we produce /g/. Therefore, /k/ is voiceless whereas /g/ is voiced.

Description of the sounds /k/ and /g/:

(Adapted from CDELT 1981: 14)

5. /k/ is a voiceless velar plosive. It is voiceless because it is made with no vibration of the vocal cords. It is velar because it is made by raising the back of the tongue to touch the velum or soft palate. It is plosive because it is made by stopping the air in the mouth and then releasing it quickly with plosion.

6. /g/ is a voiced velar plosive. It is voiced because it is made with vibration of the vocal cords. It is velar because it is made by raising the back of the tongue to touch the soft palate or velum. It is plosive because it is made by stopping the air in the mouth and then releasing it quickly with plosion.

Spellings of the stops /k/ and /g/:

- There are several ways in which /k/ can be spelt:

‘k’ as in: king, bake

‘c’ or ‘cc’ when followed by ‘a’, ‘o’ or ‘u’ as in:

came, cow, cure, accumulate, according

‘ck’ as in: black, stick

‘ch’ as in : ache, stomach

‘qu’ as in: bouquet, conquer.

- /g/ is usually spelt with the letters 'g' or 'gg'. However, in a few words it is spelt as 'gh' (e.g. ghost), or 'gu' (e.g. guest). There are also a few words in which the letter 'g' is silent (e.g. sign, reign).

Chapter Five

Fricatives & Affricates

Fricatives are made by forming a nearly complete obstruction of the vocal tract. The opening through which the air escapes is very small, and as a result a turbulent noise is produced (much as air escaping from a punctured tire makes a hissing noise.) Such a turbulent, hissing mouth noise is called friction, hence the name of this class of speech sounds is fricative.

/ʃ/, as in *ship*, is made by almost stopping the air with the tongue near the palate. It is a voiceless palatal fricative. How would you describe each of the following: /f/, /v/, /ð/, /θ/, /s/, /z/, /ʒ/, and /h/?

Symbol	Voicing	Place	Sample Words
/f/	voiceless	labiodental	foot, laugh, philosophy, coffee, carafe
/v/	voiced	labiodental	vest, dove, gravel, anvil, average
/θ/	voiceless	interdental	through, wrath, thistle, ether, teeth

/ð/	voiced	interdental	the, their, mother, either, teethe
/s/	voiceless	alveolar	soap, psychology, packs, peace
/z/	voiced	alveolar	zip, roads, kisses, Xerox, design
/ʃ/	voiceless	palatal	shy, mission, nation, glacial, sure
/ʒ/	voiced	palatal	measure, vision, azure, casualty, decision
/h/	voiceless	glottal	who, hat, rehash, hole, whole

Labiodental Fricatives

The sounds /f/ and /v/ are pronounced by stopping the air in the mouth and then releasing it, not quickly as in plosives, but gradually through a narrow opening in the mouth with friction. That is why they are called fricatives. What is the place of production of these sounds? The upper teeth touch the lower lip. So, they are called labio-dental in position. They are distinguished from each other in voicing. /f/ is voiceless, whereas /v/ is voiced.

Description of the sounds /f/ and /v/:

(Adapted from CDELT 1981: 19)

7. /f/ is a voiceless labio-dental fricative. It is voiceless because it is made with no vibration of the vocal cords. It is labio-dental because it is made by the upper teeth touching the lower lip. It is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

8. /v/ is a voiced labio-dental fricative. It is voiced because it is made with vibration of the vocal cords. It is labio-dental because it is made by the upper teeth touching the lower lip. It is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

Spellings of the fricatives /f/ and /v/:

- /f/ is usually spelt as 'f' or 'ff'. However, there are some words in which it can be spelt as 'ph' (e.g. physical, photo), or as 'gh' (e.g. rough, cough).
- /v/ is usually spelt as 'v'. However, in the preposition 'of' the 'f' is pronounced /v/.

Dental Fricatives

The sounds /θ/ and /ð/ are spelt in the same way – by the letters ‘th’. What is the manner of articulation of these sounds? The tip of the tongue is between the upper and lower teeth, but still allows air to escape gradually through the mouth with friction. So, they are called ‘dental’ in position, and ‘fricative’ in manner of production.

Description of the sounds /θ/ and /ð/:

(Adapted from CDELT 1981: 26)

9. /θ/ is a voiceless dental fricative. It is voiceless because it is made with no vibration of the vocal cords. It is dental because it is made by the tip of the tongue between the upper and lower teeth. It is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

10. /ð/ is a voiced dental fricative. It is voiced because it is made with vibration of the vocal cords. It is dental because it is made by the tip of the tongue between the upper and lower teeth. It is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

Spellings of the fricatives /θ/ and /ð/:

Both /θ/ and /ð/ are always spelt with ‘th’. To help you decide which sound to use at the beginning of a word it may be useful to remember that /ð/ usually comes in grammatical words such as the, this, that, these, those, then, their, there, therefore and so on. /θ/ comes at the beginning of all types of words, but not the grammatical ones.

Alveolar Fricatives

The consonants /s/ and /z/ are called ‘alveolar’ in place of articulation because they are made by the blade of the tongue in contact with the alveolar ridge, which is another name for the teeth ridge. They are produced by allowing the air to escape gradually through a narrow hole in the mouth with friction. Therefore, they are named ‘fricatives’. How are the two sounds different? /s/ is voiceless, but /z/ is voiced.

Description of the sounds /s/ and /z/:

(Adapted from CDELT 1981: 32)

11. /s/ is a voiceless alveolar fricative. It is voiceless because it is made with no vibration of the vocal cords. It is alveolar because it is made by raising the blade of the tongue to touch the alveolar ridge. It is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

12. /z/ is a voiced alveolar fricative. It is voiced because it is made with vibration of the vocal cords. It is alveolar because it is made by raising the blade of the tongue to touch the alveolar ridge. It is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

Spellings of the fricatives /s/ and /z/:

- /s/ is most usually spelt 's' or 'ss'. However, there are many words in which /s/ is spelt with 'c' when followed by 'e, i or y' (e.g. cease, city, cycle). In a few words it can be spelt with 'sc' (e.g. science).

- /z/ is often spelt with 'z' or 'zz' (e.g. zoo, dizzy). It can also often be spelt with 's' (e.g. rose, does, legs), but never at the beginning of a word.

Alveolo-Palatal Fricatives

The consonants /ʃ/ and /ʒ/ are fricatives since they are produced by letting the air go out of the mouth through a narrow opening with friction. The tongue touches not only the alveolar ridge, but also the hard palate for both sounds. Thus, they are termed 'alveolo-palatal' in place of articulation. The sound /ʃ/ is voiceless, while /ʒ/ is voiced.

We have to notice that /ʃ/ is a sound that occurs frequently in English words, such as 'shop', 'ship' and 'sheep.' However, /ʒ/ occurs infrequently, mainly in words and names of French origin. Also, remember that /ʒ/ never occurs in initial position in English words.

Description of the sounds /ʃ/ and /ʒ/:

(Adapted from CDELT 1981: 41)

13. /ʃ/ is a voiceless alveolo-palatal fricative. It is voiceless because it is made with no vibration of the vocal cords. It is

alveolo-palatal because it is made by the tongue touching the area between the alveolar ridge and the hard palate. It is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

14. /ʒ/ is a voiced alveolo-palatal fricative. It is voiced because it is made with vibration of the vocal cords. It is alveolo-palatal because it is made by the tongue touching the area between the alveolar ridge and the hard palate. It is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

Spellings of the fricatives /ʃ/ and /ʒ/:

- /ʃ/ is most usually spelt 'sh' (e.g. should, shall, shell). However, there are many other spellings:

'ch' (e.g. machine),

's' or 'ss' when followed by 'u' (e.g. sure, assure),

'sch' (e.g. schedule). Note that many speakers of English, particularly in North America, pronounce this word /skedʒul/.

'ti', 'si', 'sci', 'ci', 'ce in the middle of words (e.g. nation, mission, conscious, special, ocean).

- /ʒ/ can be spelt as 'si' in the middle of words (e.g. vision), 's' or 'z' when followed by 'u' (e.g. pleasure, azure), 'ge' at the end of some words (e.g. camouflage, garage).

Glottal Fricative

The sound /h/ is produced at the opening between the vocal cords which is called the glottis. Therefore, it is a glottal sound in position of production. It is made with friction, so it is a fricative sound in manner of production. Because the vocal cords do not vibrate, the sound is voiceless.

We have to remember that /h/ can come in word initial position, as in 'heart' or word medial position, as in 'behind'. It never comes in word final position in English. In addition, some words are spelt with an 'h' like 'hour' and 'exhibit', but they do not have the sound /h/ in them.

Description of the sound /h/:

(Adapted from CDELT 1981: 52)

15. /h/ is a voiceless glottal fricative. It is voiceless because it is made with no vibration of the vocal cords. It is glottal because it is made by the glottis or the opening between the vocal cords. It

is fricative because it is made by releasing the air gradually through a narrow opening in the mouth causing friction.

Spellings of the fricative /h/:

The most usual spelling of /h/ is with the letter ‘h’. It can also sometimes be spelt with ‘wh’ (e.g. who).

N.B. - In many other languages, the letter ‘h’ is seen in writing but is not pronounced. Remember that in English it is nearly always pronounced as /h/ (except, of course, in ‘ch’, ‘gh’, ‘ph’, ‘rh’, ‘sh’, ‘th’, ‘wh’). There are, however, a few words in which the ‘h’ is not pronounced (e.g. hour, honest, heir), but these are rare.

Affricates

Affricates are made by briefly stopping the airstream completely and then releasing the articulators slightly so that frication noises is produced. This is why phoneticians describe affricates as a sequence of a stop followed by a fricative.

English has only two affricates: /tʃ/, as in church, and /dʒ/, as in judge. /tʃ/ is pronounced like a /t/ quickly followed by /ʃ/. It is a voiceless alveolo-palatal affricate. /dʒ/ is a combination of /d/

and /ʒ/. It is a voiced alveolo-palatal affricate. What is the three-part description (voicing, place, and manner) of /dʒ/?

Symbol	Voicing	Place	Sample Words
/tʃ/	voiceless	palatal	choke, match, feature, constituent (the 'ch' sound is actually two sounds, /t/ + /ʃ/ or "sh", spoken quickly together)
/dʒ/	voiced	palatal	judge, George, Jell-o, region (this is actually two sounds, /d/ + /ʒ/ or voiced "sh", spoken quickly together)

The sounds /tʃ/ and /dʒ/ are complex sounds formed by a stop as for /t/ and /d/, followed by a slow release of air with friction, as for /ʃ/ and /ʒ/. Both are formed by a plosive + a fricative. For that reason they are called affricates in manner of production. Since /t/ and /ʃ/ are voiceless, /tʃ/ is also voiceless in relation to voicing. What is the place of articulation of the consonant /tʃ/? It is

alveolo-palatal because in making it the blade of the tongue is in contact with the teeth ridge and hard palate.

We can analyze the consonant /dʒ/ in the same way. It is a composite of the sounds /d/ and /ʒ/ and as the two sounds are voiced, it is also voiced. It is made by the blade of the tongue in contact with the alveolar ridge and the hard palate, so it is an alveolar consonant.

Description of the sounds /tʃ/ and /dʒ/:

(Adapted from CDELT 1981: 53)

16. /tʃ/ is a voiceless alveolo-palatal affricate. It is voiceless because it is made with no vibration of the vocal cords. It is alveolo-palatal because it is made by the tongue touching the alveolar ridge and the hard palate. It is affricate because it is made by stopping the air in the mouth and then releasing it slowly with friction.

17. /dʒ/ is a voiced alveolo-palatal affricate. It is voiced because it is made with vibration of the vocal cords. It is alveolo-palatal because it is made by the tongue touching the alveolar ridge and the hard palate. It is affricate because it is made by stopping the air in the mouth and then releasing it slowly with friction.

Spellings of the affricate /tʃ/:

The most usual spelling for /tʃ/ is ‘ch (e.g. chin, chain). However,

it can also be spelt as:

‘tch (e.g. match, watch),

‘t’ when followed by ‘ure’ or ‘eous’ or ‘ion’ (e.g. nature, righteous, question).

Spellings of the affricate /dʒ/:

The most usual spelling is ‘j’ (e.g. jam, John). However, it can often be spelt as:

‘g’ before ‘e’, ‘i’ or ‘y’ (e.g. Belgium, gem, gym).

‘dg’ (e.g. edge, judge),

‘dj’ (e.g. adjacent).

‘gg’ (e.g. suggest).

‘di’ (e.g. soldier).

Two Important Rules

(Adapted from CDELT 1981: 67)

As a student of English, there are two very important rules of pronunciation that you have to understand and apply. The first is related to the pronunciation of the final –s and –es at the end of plural nouns and third-person singular verbs, as well as the

apostrophe ('s) that is used after possessive nouns. The second rule is concerned with the pronunciation of the final -ed of regular past simple and past participle verbs.

Rule 1:

The ending '-s' or '-es' is used in three cases:

- to make the plural of nouns, e.g. hat → hats.
- for the third person singular of the present simple tense, e.g. pass → passes, look → looks.
- for the possessive form, e.g. Tom's, boys' .

After voiced sounds, the 's' is pronounced /z/.

After voiceless sounds, the 's' is pronounced /s/.

After alveolar fricatives /s, z/, alveolo-palatal fricatives /ʃ, ʒ/ and after affricates /tʃ, dʒ/, the 's' is pronounced /ɪz/.

Rule 2:

The ending '-ed' is used to make the past simple and past participle of regular verbs.

After voiced sounds (except /d/), the 'ed' is pronounced /d/.

After voiceless sounds (except /t/), the 'ed' is pronounced /t/.

After alveolar plosives /t/ and /d/, the 'ed' is pronounced /ɪd/.

Exercise 1

In the light of Rule 1, show whether the ‘-s’ is pronounced /z/, /s/ or /ɪz/:

- | | |
|--------------|-------------|
| 1. slaves | 2. things |
| 3. shows | 4. moths |
| 5. pins | 6. sniffs |
| 7. games | 8. lips |
| 9. rushes | 10. seeks |
| 11. ships | 12. beds |
| 13. laughs | 14. sons |
| 15. garages | 16. belts |
| 17. misses | 18. rods |
| 19. churches | 20. classes |

Exercise 2

In the light of Rule 2, show whether the ‘-ed’ is pronounced /d/, /t/ or /ɪd/:

- | | |
|-------------|-------------|
| 1. kicked | 2. breathed |
| 3. stopped | 4. wanted |
| 5. rushed | 6. judged |
| 7. grazed | 8. wished |
| 9. received | 10. hanged |
| 11. weaved | 12. fitted |

13. welded

14. missed

15. kissed

16. ranked

17. claimed

18. heated

19. aided

20. carpeted

Chapter Six

Nasals

All the consonants you studied in the previous chapters are called ‘oral consonants’ because in making them the air goes out through the mouth. But the nasal sounds are produced by letting the air come out of the nose.

Nasals are produced by lowering the velum and thus opening the nasal passage to the vocal tract. When the velum is raised against the back of the throat (also called the pharynx wall), no air can escape through the nasal passage. Sounds made with the velum raised are called oral sounds. The sounds /m/, as in *Kim*, /n/ as in *kin*, and /ŋ/ as in *king*, are produced with the velum lowered and hence are called nasal sounds. These consonants are sometimes classified as nasal stops because, just like oral stops, there is a complete obstruction in the oral cavity. In English, all nasals are voiced. Thus, /m/ is a voiced bilabial nasal (stop). Can you describe /n/ and /ŋ/?

/m/	voiced	bilabial	moose, lamb, smack, amnesty
/n/	voiced	alveolar	nap, design, snow, know
/ŋ/	voiced	velar	lung, think, singer (this "ŋ" sound is pronounced with the back of the tongue raising farther back in the throat.)

Bilabial Nasal

The sound /m/ is made by closing the two lips. How is the air released? The soft palate is lowered so that air is released continuously through the nose. So, it is called a bilabial nasal continuant. In relation to voicing, it is voiced.

Description of the sound /m/:

(Adapted from CDELT 1981: 80)

18. /m/ is a voiced bilabial nasal. It is voiced because it is made with vibration of the vocal cords . It is bilabial because it is made by the two lips. It is nasal because it is made by lowering the soft palate so that the air is released continuously through the nose.

Spellings of the nasal /m/:

/m/ is nearly always spelt as ‘m’ or ‘mm’.

However, there are a few words in which ‘mb’ ‘mn’ are pronounced as /m/ (e.g. plumbing, damn).

Alveolar Nasal

When we produce the consonant /n/, the tongue tip touches the alveolar ridge and does not allow the air to escape through the mouth. At the same time the soft palate is lowered to allow air to escape continuously through the nose. Therefore, like /m/ the sound /n/ is a voiced nasal continuant. However, the two sounds differ in place of articulation. The former is bilabial but the latter is alveolar.

Description of the sound /n/:

(Adapted from CDELT 1981: 82)

19. /n/ is a voiced alveolar nasal. It is voiced because it is made with vibration of the vocal cords . It is alveolar because it is made by raising the tip of the tongue to touch the alveolar ridge. It is nasal because it is made by lowering the soft palate so that the air is released continuously through the nose.

Spellings of the nasal /n/:

/n/ is usually spelt with 'n' or 'nn'.

Note that there are a few words in which 'n' has another consonant before it, but in which this first consonant is not pronounced (e.g. gnat, knit, know, pneumonia, sign -- all are pronounced with /n/).

Velar Nasal

The consonant /ŋ/ which comes at the end of the words 'sing' and 'king' is also a voiced nasal continuant. It is distinguished from /m/ and /n/ only in position. For /ŋ/ the back of the tongue is raised to touch the velum or soft palate. Therefore, /ŋ/ is a velar nasal continuant.

Description of the sound /ŋ/:

(Adapted from CDELT 1981: 82)

20. /ŋ/ is a voiced velar nasal. It is voiced because it is made with vibration of the vocal cords . It is velar because it is made by raising the back of the tongue to touch the soft palate. It is nasal because it is made by lowering the soft palate so that the air is released continuously through the nose.

Spellings of the nasal /ŋ/:

The most usual spelling of /ŋ/ is 'ng'.

'ng' is also sometimes pronounced /ŋ/ + /g/ (e.g. finger, anger).

'nk' is pronounced /ŋ/+ /k/ (e.g. think, monkey). Note that /ŋ/ never comes at the beginning of words.

Chapter Seven

Liquids

Liquids, like all consonants, involve a substantial constriction of the vocal tract, but the constrictions for liquids are not narrow enough to block the vocal tract or cause turbulence. For the lateral (= side) liquid /l/ the center of the vocal tract is completely obstructed, like in a stop, but there is a side passage around the tongue. You can feel this positioning by first starting to say *leaf* and "freezing" your tongue at the /l/, then inhaling sharply. The air will cool the sides of your tongue, showing you the airflow pattern. The /l/ sound is produced with the tongue touching the alveolar ridge as in /t/, but the airstream escapes around the sides of the tongue. Liquids are usually voiced in English: /l/ is a *voiced alveolar lateral liquid*.

The other liquid in English is /r/. There is a great deal of variation in the ways speakers of English make r-sounds. Most are voiced and articulated in the alveolar region, and a common type also involves curling the tip of the tongue aback behind the alveolar ridge to make a retroflex sound. For our purposes, /r/ as in *red* is a *voiced alveolar retroflex liquid*.

Another liquid in American English is the /D/, described as the "flap r." You can hear it in words like *ladder* (where the mid sound is not a /d/ as in 'ladder' and 'butter' (where the middle sound is not /t/).

Symbol	Voicing	Place	Sample Words
/l/	voiced	alveolar	leaf, feel, Lloyd, mild
/r/	voiced	alveolar	reef, fear, Harris, carp
/D/	voiced	alveolar	writer, butter, udder, clutter (In American English only).

Lateral Liquid

The consonant /l/ is made by the tip of the tongue touching the alveolar ridge. The air goes continuously out of the mouth around the sides of the tongue. Thus, the consonant /l/ is a lateral liquid. As for voicing, it is voiced.

Description of the sound /l/:

(Adapted from CDELT 1981: 94)

21. /l/ is a voiced alveolar lateral. It is voiced because it is made with vibration of the vocal cords. It is alveolar because it is made by raising the tip of the tongue to touch the alveolar ridge. It is lateral because it is made by releasing the air around the sides of the tongue.

Spellings of the lateral /l/:

/l/ is always spelt as 'l' or 'll'.

However there are many words with 'ld', 'lm' or 'lk', in which the 'l' is not pronounced (e.g. could, would, calm, balm, folk, chalk).

Retroflex Liquid

The consonant /r/ is made by the tip of the tongue raised and curled back towards the back of the alveolar ridge, so it is a post-alveolar liquid.

Description of the sound /r/:

(Adapted from CDELT 1981: 94)

22. /r/ is a voiced post-alveolar retroflex. It is voiced because it is made with vibration of the vocal cords . It is post-alveolar because it is made by raising the tip of the tongue towards the area behind the alveolar ridge. It is retroflex because it is made by curling the tongue backwards with the tip raised.

Spellings of the liquid /r/:

/r/ is usually spelt as ‘r’ or ‘rr’.

Sometimes it can be spelt as:

‘wr’ (e.g. write, wretch),

‘rh’ (e.g. rhythm, rhetoric).

In British English, the sound /r/ is never pronounced before a consonant or at the end of a word. In American English, the /r/ is pronounced everywhere.

Chapter Eight

Semi-Vowels

Semi-vowels or glides are made with only a slight closure of the articulators, so that if the vocal tract were any more open, the result would be a vowel sound. /w/, as in *win*, is made by raising the back of the tongue toward the velum while rounding the lips at the same time, so it is classified as a *voiced bilabial glide*. The sound /j/, as in *year*, is made with a slight closure in the palatal region. It is a *voiced palatal glide*.

Symbol	Voicing	Place	Sample Words
/w/	voiced	bilabial	with, swim, queen, twilight
/j/	voiced	palatal	you, beautiful, feud, use, yell. (In some dictionaries, the symbol /y/ is used instead of /j/.)

Description of the sounds /j/ and /w/:

23. /j/ is a voiced palatal semi-vowel. It is voiced because it is made with vibration of the vocal cords. It is palatal because it is made by raising the tip of the tongue towards the hard palate. It is a semi-vowel because it is produced like vowels but used in the place of consonants in a word.

24. /w/ is a voiced bilabial semi-vowel. It is voiced because it is made with vibration of the vocal cords. It is bilabial because it is made by rounding the two lips. It is a semi-vowel because it is produced like vowels but used in the place of consonants in a word.

Spellings of the semi-vowel /j/:

/j/ is usually spelt as:

‘y’ (e.g. young, yes),

‘i’ when followed by another vowel (e.g. onion).

It often comes before the following vowels:

‘u’ (e.g. pure, cure),

‘ew’ (e.g. few, new),

‘eau’ (e.g. beauty),

‘eu’ (e.g. feud).

Spellings of the semi-vowel /w/:

The most usual spelling is ‘w’ (e.g. wet, window).

It can also be spelt ‘wh’ (e.g. which, why).

In a few other words, /w/ is pronounced before a vowel (e.g. one, suite), but does not appear in the spelling.

Describing Consonants with the Consonant Chart

The following consonant chart can be used for easy reference. The three-part description is given in this order: Voicing - Place - Manner. To find the description of a sound:

1. Locate the phonetic symbol on the chart.
2. Look for voicing by checking whether the sound is on the left or right of the box: If it is on the left, it is voiceless; if it is on the right, it is voiced.
3. Then check the label at the top of the vertical column that contains the sound to see what its place of articulation is.
4. Finally, check the manner of articulation label at the far left of the sound's horizontal row. For example, locate /n/. It is on the right of the box, indicating this sound is voiced. Now look above the /n/. It is in the vertical column marked alveolar. Looking to the far left, you see /n/ is a nasal. The sound /n/, then, is a *voiced alveolar nasal*.

Consonant Chart

(Adapted from CDELT 1981: 209)

Place								
Manner	Bilabial	Labio-Dental	Dental	Alveolar	Alveolo-Palatal	Palatal	Velar	Glottal
Plosive	p b			t d			k ɡ	
Fricative		f v	θ ð	s z	ʃ ʒ			h
Affricate					tʃ dʒ			
Nasal	m			n			ŋ	
Lateral				l				
Retroflex				r				
Semi-Vowel	w					j		

Chapter Nine

Vowels

Describing Vowel Sounds

Unlike consonants, in which the airstream is constricted somewhere in the vocal tract, vowels are pronounced without any constriction at all in the airstream. Vowels usually function as the nuclei of syllables and the consonants that surround them often depend on the vowel for their audibility. For example, in the word ‘pop’, neither /p/ has much sound of its own. The /p/s are heard because of the vowel /ɒ/.

To describe vowels, we cannot use the same method as we do for consonant sounds. Why? Because all vowels are voiced, oral and continuant. So, if we use the same method it will be impossible to distinguish the different vowels. Thus, we use different features than those we use for consonants. To describe vowels, we indicate:

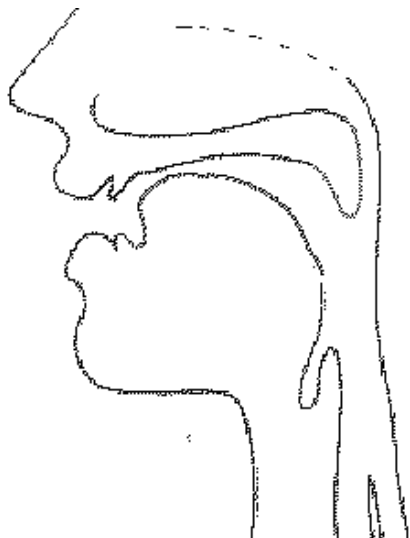
1. raising or lowering the body of the tongue toward the roof of the mouth (the palate).
2. advancing or retracting the body of the tongue forward toward the teeth or backward toward the back of the throat.
3. rounding or not rounding the lips.

4. making these movements with a tense or lax gesture in the lips or tongue.

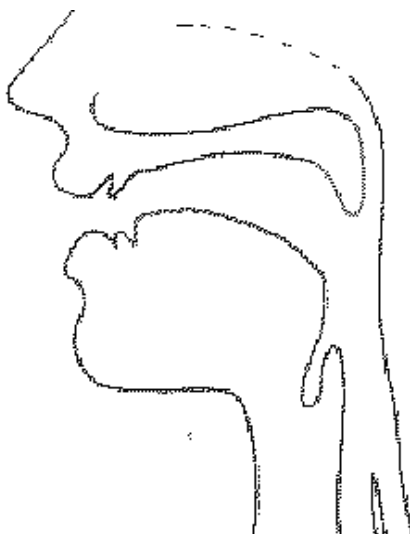
Below are three diagrams that illustrate the position of the tongue when vowel sounds are articulated.

High front vowel	Low front vowel	High back vowel
/i:/ , as in <i>eat</i>	/a/ , as in <i>pat</i>	/u:/ , as in <i>moo</i>
The body of the tongue is raised toward the palate and forward toward the lips.	The body of the tongue is low in the mouth and forward toward the lips.	The body of the tongue is raised toward the palate but also back towards the back of the throat.

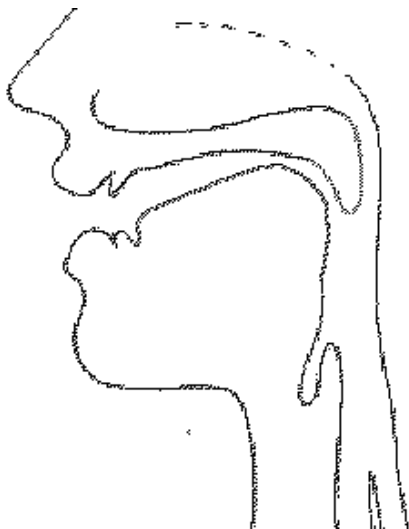
High front vowel



Low front vowel

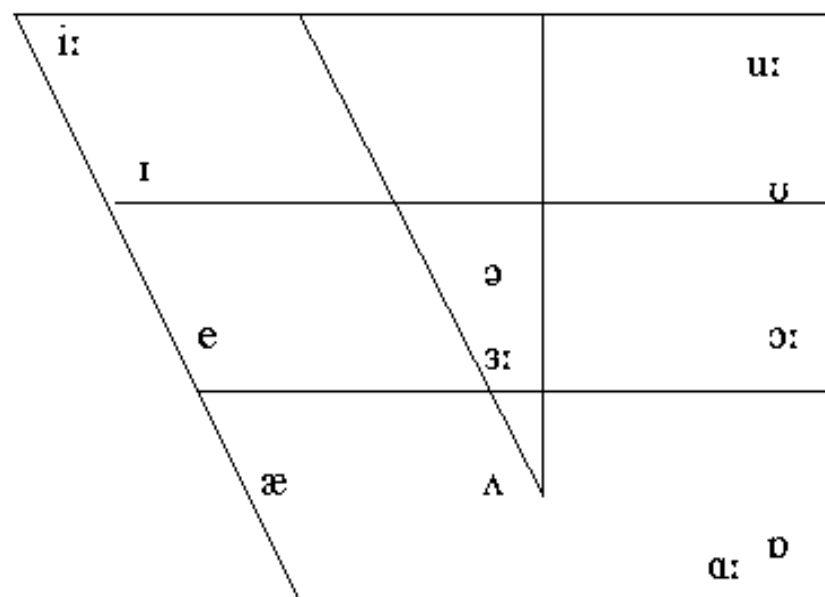
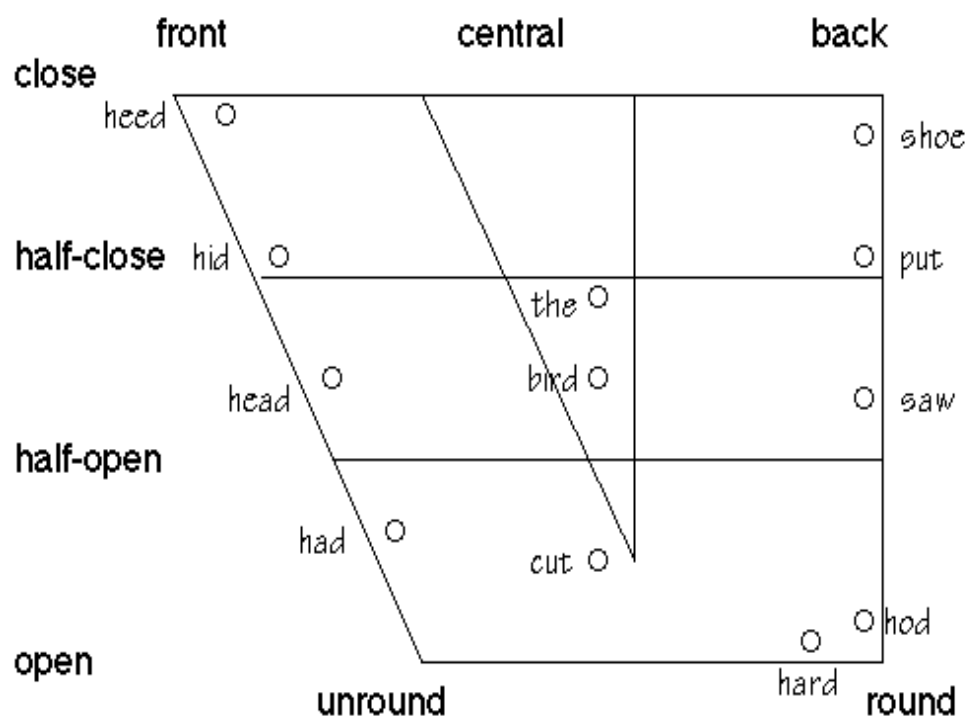


High back vowel



Describing Vowel Sounds with the Vowel Chart

The following diagram (adopted from CDELT 1981: 105) is called the vowel chart. It maps out the area in the mouth in which the vowel sounds are produced. The corners of the diagram represent the four corners of the mouth: high front, high back, low front and low back. The vowel chart is employed to show in a simple way the position of the vowels in the mouth. The three rows represent the tongue height: high, mid or low; the three columns represent tongue part that is used in making the sound: front, central or back.



Examples of Pure Vowels

1. /i:/ key, sea
2. /ɪ/ pit, sit
3. /e/ pet, net
4. /æ/ pat, hat
5. /ɑ:/ part, car
6. /ɒ/ pot, hot
7. /ɔ:/ port, door
8. /ʊ/ put, pull
9. /u:/ food, tooth
10. /ʌ/ but, cut
11. /ə/ about, utter
12. /ə:/ bird, word

Description of English Pure Vowels

According to Roach (2009), the term ‘pure vowel’ is used to refer to a vowel in which there is no detectable change in quality from beginning to end; an alternative name is monophthong. These are contrasted with vowels containing a movement, such as the glide in a diphthong. There are 12 pure vowels in English. Following is the description of these vowels (adapted from CDELT 1981).

1. /i:/ is a close front spread vowel. It is close because it is made at the highest point in the mouth. It is front because it is made by the front part of the tongue. It is produced with the lips spread.

Spellings of the pure vowel /i:/:

/i:/ can be spelt in these ways:

‘ee’ (e.g. three, cheese, leek),

‘ea’ (e.g. season, leap, seat),

‘e’ (e.g. be, these, complete),

‘ie’ (e.g. piece, siege, frieze),

‘ei’ ‘ey’ (seize, receive, key),

‘i’ (e.g. police, machine, prestige).

2. /ɪ/ is a half-close front spread vowel. It is half-close because it is made with the tongue between the close and half-close positions. It is front because it is made by the front part of the tongue. It is produced with the lips spread. It is slightly lower in the mouth and slightly further back in the mouth than the vowel /i:/.

Spellings of the pure vowel /ɪ/:

The most usual spelling is:

‘i’ (e.g. sit, pip, tick).

In some words you will see it spelt with:

‘y’ (e.g. sympathy, mystery, symphony, pyramid),

‘ie’ (e.g. sieve),

‘u’ (e.g. busy, minute, business),

‘o’ and ‘e’ (e.g. women),

‘a’ (e.g. village).

3. /e/ is a mid front spread vowel. It is mid because it is made with the tongue between the half-close and half-open positions. It is front because it is made by the front part of the tongue. It is produced with the lips spread, though slightly wider apart than for /ɪ/.

Spellings of the pure vowel /e/:

The most usual spelling of /e/ is with ‘e’ (e.g. bed, leg, nest, went, when).

But it can also be spelt as:

‘ea’ (e.g. head, dead, breath),

‘a’ (e.g. many, any).

4. /æ/ is a low front neutral vowel. It is low because it is made with the tongue between the half-open and open positions. It is front because it is made by the front part of the tongue. It is

produced with the lips neutrally open. It is said lower in the mouth than /e/.

Spellings of the pure vowel /æ/:

/æ/ is nearly always spelt as 'a' (e.g. sat, pat, lack).

5. /ɑ:/ is an open back neutral vowel. It is open because it is made with the tongue at the fully open position. It is back because it is made with the back part of the tongue between the center and the back of the mouth. It is produced with the lips neutrally open.

Spellings of the pure vowel /ɑ:/:

- /ɑ:/ is usually spelt as:

 'a' (e.g. father, tomato, after),

 'ar' (e.g. farm, large, part, arm).

- But it can also be spelt as:

 'al' (e.g. calf, palm, half, calm),

 'ear' (e.g. heart),

 'au' (e.g. laugh),

 'er' (e.g. clerk, sergeant).

It is worth mentioning that in British English there is no /r/ sound after the vowel /ɑ:/ although the spelling often includes the letter 'r'. For instance, arms /ɑ:mz/, dark /dɑ:k/ and march /mɑ:tʃ/.

6. /ɔ/ is an open back rounded vowel. It is open because it is made with the tongue at the open position. It is back because it is made by the back part of the tongue. It is produced with the lips rounded.

Spellings of the pure vowel /ɔ/:

- /ɔ/ is usually spelt as:

‘o’ (e.g. dog, lock, bother, fog),

‘a’ (e.g. was, swan, what, yacht),

- But in some words it can be spelt as:

‘au’ (e.g. sausage, because, Australia),

‘ou’ or ‘ow’ (e.g. cough, knowledge).

7. /ɔ:/ is a mid back rounded vowel. It is mid because it is made with the tongue between the half-close and half-open positions. It is back because it is made by the back part of the tongue. It is produced with the lips rounded.

Spellings of the pure vowel /ɔ:/:

- /ɔ:/ is often spelt as:

‘or’ (e.g. lord, ford, short),

‘a’ (e.g. war, tall, walk),

‘aw’ (e.g. dawn, yawn, crawl).

- It is sometimes spelt as:

‘au’ (e.g. daughter, Maud),

‘ou’ (e.g. brought, fought),

‘oar’ (e.g. board, oar),

‘oor’ (e.g. floor, door).

There is no /r/ sound after the vowel /ɔ:/, even if the spelling has an ‘r’. For example, court /kɔ:t/, form /fɔ:m/ and floor /flɔ:/.

8. /ʊ/ is a half-close back rounded vowel. It is half-close because it is made with the tongue between the close and half-close positions. It is back because it is made by the back part of the tongue. It is produced with the lips closely rounded.

Spellings of the pure vowel /ʊ/:

- /ʊ/ is often spelt as:

‘u’ (e.g. pull, put).

- It can also be spelt as:

‘ou’ (e.g. should, would, could),

‘oo’ (e.g. wool, wood, rook),

‘o’ (e.g. woman, wolf).

9. /u:/ is a close back rounded vowel. It is close because it is made at the highest point in the mouth. It is back because it is made by the back part of the tongue. It is produced with the lips closely rounded.

Spellings of the pure vowel /u:/

- /u:/ is often spelt as:

‘oo’ (e.g. tooth, fool, spoon, food),

‘ou’ (e.g. youth, through, soup, group),

‘o’ (e.g. two, lose, move, do).

- It is also sometimes spelt in these ways:

rude, chew, blue, suit, shoe.

10. /ʌ/ is an open central neutral vowel. It is open because it is made with the tongue raised just above the fully open position. It is central because it is made by the central part of the tongue. It is produced with the lips neutrally open.

Spellings of the pure vowel /ʌ/

- /ʌ/ is often spelt with ‘u’ (e.g. sun, gun, jump, cut).

- It can also be spelt as:

‘o’ (e.g. mother, Monday, lovely),

‘ou’ (e.g. enough, young, cousin),

‘oo’ (e.g. flood, blood),

‘oe’ (e.g. doesn’t).

11. /ə:/ or /ɜ:/ is a mid central neutral vowel. It is mid because it is made with the tongue between the half-close and half-open positions. It is central because it is made by the central part of the tongue. It is produced with the lips neutrally spread.

Spellings of the pure vowel /ɜ:/:

- /ɜ:/ is often spelt as:

‘ur’ (e.g. church, purse, curl),

‘ir’ (e.g. girl, skirt, first),

‘er’ (e.g. fern, her, serve),

‘ear’ (e.g. earth, early).

- It can also be spelt as:

‘our’ (e.g. journey),

‘w’ + ‘or’ (e.g. world, word).

Just as there is no /r/ sound in British English after the vowels /ɑ:/ and /ɔ:/ and before a consonant, so there is no /r/ sound after the vowel /ɜ:/. For instance, firm /fɜ:m/, work /wɜ:k/ and learn /lɜ:n/.

12. /ə/ is a mid central neutral vowel. It is mid because it is made with the tongue between the half-close and half-open positions. It is central because it is made by the central part of the tongue. It is produced with the lips neutrally spread. The vowel schwa /ə/ is a weak vowel which never occurs in stressed syllables. There are two other vowels which occur in unstressed syllables: the vowels /ɪ/ and /ʊ/, but they also occur in stressed syllables. (Stress means extra force given to the pronunciation of one of the syllables in a word.)

Spellings of the pure vowel /ə/:

This vowel sound can be spelt in a lot of different ways. It is different from other vowel sounds as it is only heard in unstressed syllables - these are the words or parts of words which do not stand out or sound important. Some words always have the /ə/ in syllables which are never stressed. For example 'Britain' /brɪtən/, 'jumper' /dʒʌmpə/, and 'banana' /bəna:nə/. The stress in these words never changes and so when you learn the

word you must learn where the stress is. Then you will probably get the /ə/ sound in the right place.

The schwa is regularly spelt as:

a	as in arrive, advise, negative
ar	as in particular, regular, nectar.
er	as in driver, baker, stranger.
e	as in seven, haven, violence.
eo	as in surgeon, dungeon.
o	as in harmony, sermon.
oar	as in cupboard.
or	as in actor, victor, minor.
re	as in manoeuvre, ochre, spectre
ou	as in famous, dangerous, luminous
eu	as in outrageous, courageous, righteous.
iou	as in precious, religious, delicious.
u	as in lettuce, serum, column
ure	as in furniture, culture, juncture

Chapter Ten

Diphthongs

Diphthongs are sounds made up of two pure vowels pronounced one after the other in the same syllable. When we produce the two vowels in the diphthong, we must pronounce them very closely together and with a smooth movement between them. We represent the diphthongs on the vowel diagram by drawing an arrow from the first vowel to the second. There are eight diphthongs in English. They are of three kinds: front-closing diphthongs that end in /ɪ/, back-closing diphthongs that end /ʊ/ and centering diphthongs that end in /ə/.

Examples of English Diphthongs

1. /eɪ/ bay, say
2. /aɪ/ buy, high
3. /ɔɪ/ boy, toy
4. /ɪə/ here, near
5. /eə/ bear, chair
6. /ʊə/ poor, sure
7. /əʊ/ no, so, go
8. /aʊ/ cow, now

Description of Diphthongs

(Adapted from CDELT 1981)

1. /eɪ/ is a front-closing diphthong. It is called 'front-closing' because it ends with /ɪ/ which is a front vowel. It is made up of the pure vowels /e/ and /ɪ/, which are both front vowels. The /e/ part of the diphthong is loud and long and the /ɪ/ part is lighter and shorter. The lips move from a widely spread shape for /e/ to a slightly narrower shape for /ɪ/.

Spellings of the diphthong /eɪ/:

- /eɪ/ is usually spelt as 'a' followed by a consonant, and then by 'e'. That is: 'a' + consonant + 'e'. (e.g. fade, space, make, late).

- It can also be spelt as:

'a' (e.g. lady, tasty, bass),

'ei' or 'ey' (e.g. eight, veil, they, grey),

'ai' or 'ay' (e.g. aim, rain, day, bay),

'ea' (e.g. steak, break).

2. /aɪ/ is a front-closing diphthong. It is called 'front-closing' because it ends with /ɪ/ which is a front vowel. It is made up of the pure vowels /a/ and /ɪ/, which are both front vowels. The /a/

part of the diphthong is loud and long and the /ɪ/ part is lighter and shorter. The mouth moves from being open to slightly open and the lips are a little more tightly spread for the second part of the diphthong.

Spellings of the diphthong /aɪ/:

- The most usual spelling is ‘i’ + consonant + ‘e’ (e.g. time, ripe, tide, bite).
- /aɪ/ can also be spelt as:
 - ‘igh’ or ‘eigh’ (e.g. high, light, height),
 - ‘ie’ (e.g. lie, die, pie, tried),
 - ‘y’ (e.g. by, dry, cry).

3. /ɔɪ/ is a front-closing diphthong. It is called 'front-closing' because it ends with /ɪ/ which is a front vowel. It is made up of the pure vowel /ɔ:/ which is a back vowel and /ɪ/ which is a front vowel. The /ɔ:/ part of the diphthong is loud and long and the /ɪ/ part is lighter and shorter. The lips move from being rounded for /ɔ:/ to being spread for /ɪ/.

Spellings of the diphthong /ɔɪ/:

/ɔɪ/ is spelt as:

- ‘oi’ (e.g. noise, voice, boil, coil),

‘oy’ (e.g. boy, coy, toy).

4. /əʊ/ is a back-closing diphthong. It is called 'back-closing' because it ends with /ʊ/ which is a back vowel. It is made up of the pure vowel /ə/ which is a central vowel and /ʊ/ which is a back vowel. The /ə/ part of the diphthong is loud and long and the /ʊ/ part is lighter and shorter. The lips move from being neutral for /ə/ to being rounded for /ʊ/.

Spellings of the diphthong /əʊ/:

- /əʊ/ can be spelt as:

‘o’ (e.g. no, so, go), and is often spelt as ‘o’ + consonant +

‘e’ (e.g. home, hope, stone).

- It can also be spelt as:

‘oa’ (e.g. road, Joan),

‘oe’ (e.g. hoe, toe),

‘ou’ (e.g. though),

‘ow’ (e.g. show, know, slow),

‘ew’ (e.g. sew).

5. /aʊ/ is a back-closing diphthong. It is called 'back-closing' because it ends with /ʊ/ which is a back vowel. It is made up of

the pure vowels /ɑ:/ and /ʊ/ which are both back vowels. The /ɑ:/ part of the diphthong is loud and long and the /ʊ/ part is lighter and shorter. For the first part of the diphthong the mouth is open with the lips loosely spread. For the second part the lips are rounded.

Spellings of the diphthong /aʊ/:

/aʊ/ can be spelt as:

‘ou’ (e.g. mouse, house, proud, round),

‘ow’ (e.g. cow, town, crowd, owl).

6. /ɪə/ is a central diphthong. It is called 'central' because it ends with /ə/ which is a central vowel. It is made up of the pure vowel /ɪ/ which is a high front vowel and /ə/ which is a central vowel. When we make this diphthong our tongue moves backwards and downwards from the first vowel to the second. The /ɪ/ part of the diphthong is loud and long and the /ə/ part is lighter and shorter. The lips are spread for both parts of the diphthong but they are spread more widely for the first part /ɪ/.

Spellings of the diphthong /ɪə/:

- /ɪə/ is usually spelt as:

‘eer’ (e.g. deer, cheer),

‘ear’ (e.g. fear, dear, tear).

- But it can also be spelt as:

‘ere’ (e.g. here),

‘ea’ (e.g. idea),

‘ier’ (e.g. pierce, fierce).

7. /eə/ is a central diphthong. It is called 'central' because it ends with /ə/ which is a central vowel. It is made up of the pure vowel /e/ which is a front vowel and /ə/ which is a central vowel. The /e/ part of the diphthong is loud and long and the /ə/ is lighter and shorter. The lips move from being slightly more open for /e/ to being relaxed for /ə/.

Spellings of the diphthong /eə/:

/eə/ can be spelt in these ways;

‘air’ (e.g. chair, pair, air),

‘are’ (e.g. dare, care),

‘ear’ (e.g. wear, tear, bear).

8. /ʊə/ is a central diphthong. It is called 'central' because it ends with /ə/ which is a central vowel. It is made up of the pure vowel /ʊ/ which is a back vowel and /ə/ which is a central vowel. The /ʊ/ part of the diphthong is loud and long and the /ə/ part is

lighter and shorter. The lips move from being rounded for /ʊ/ to being slightly spread for /ə/.

Spellings of the diphthong /ʊə/:

/ʊə/ is spelt as:

‘oor’ (e.g. poor),

‘our’ (e.g. tour, gourd),

‘ure’ (e.g. sure).

Comparison of the spellings of short vowels and diphthongs:

1. The short vowel /ɪ/ and the diphthong /aɪ/:

(a) 'i' + one consonant is usually pronounced /ɪ/.

(b) 'i' + a double consonant is usually pronounced /ɪ/.

(c) 'i' + one consonant + 'e' is usually pronounced /aɪ/.

That is in the third case you pronounce the letter by its name.

Examples:

'i' + 1 consonant	'i' + 2 consonants	'i' + consonant + 'e'
bit	bitten	bite
mit	mitten	mite
spin	spinner	spine
pin	pinned	pine

2. The short vowel /æ/ and the diphthong /eɪ/:

- (a) 'a' + one consonant is usually pronounced /æ/.
- (b) 'a' + a double consonant is usually pronounced /æ/.
- (c) 'a' + one consonant + 'e' is usually pronounced /eɪ/.

That is in the third case you pronounce the letter by its name.

Examples:

'a' + 1 consonant	'a' + 2 consonants	'a' + consonant + 'e'
can	canning	cane
glad	gladden	glade
fat	fatten	fate
plan	planned	plane

3. The short vowel /ɒ/ and the diphthong /əʊ/:

- (a) 'o' + one consonant is usually pronounced /ɒ/.
- (b) 'o' + a double consonant is usually pronounced /ɒ/.
- (c) 'o' + one consonant + 'e' is usually pronounced /əʊ/.

That is in the third case you pronounce the letter by its name.

Examples:

'o' + 1 consonant	'o' + 2 consonants	o' + consonant + 'e'
rot	rotten	rote
nod	nodded	node
not	knotted	note
con	conned	cone

Summary of the pronunciation of the letters 'i', 'a' and 'o':

1. If we have one consonant or a double consonant after the letter, we pronounce it as a short vowel.
2. If we have one consonant + 'e' after the letter, we pronounce it by its name.

Triphthongs

As stated by Sonmez (2019), triphthongs are those sounds that consist of a movement or glide from one vowel to another and then onto a third. They are very similar to diphthongs, but have an extra schwa on the end of the diphthongs.

There are said to be only five triphthongs, but there are a number of occasions when diphthongs meet other vowels over word edge boundaries. The five clear examples of triphthongs in English are as follows:

/eiə/ as in layer /leɪə/.

/aiə/ as in liar /laɪə/.

/ɔɪə/ as in loyal /ləɪəl/.

/aʊə/ as in power /paʊə/.

/əʊə/ as in mower /məʊə/.

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