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ENGLISH PHONETICS



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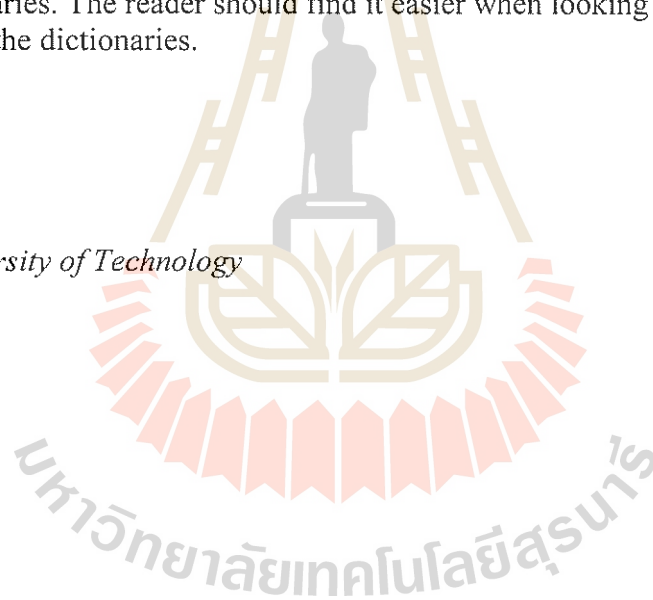
Preface

English Phonetics was written to present the features of English that will be useful for all readers. It was intended especially with those in mind teachers and students of English as a foreign language. It emphasized the detailed analysis of how speech units and speech sounds are formed. Chapter 1 provides the reader with some broad information about some general ideas about phonetics, language, and important feature of the English language. Chapter 2 investigates the mechanism of speech production. Chapter 3 examines the English consonant phonemes along with their allophones with common spellings and distributions. Chapter 4 and 5 deal with the English vowels and diphthongs. Suprasegmentals are presented in Chapter 6, with some details on pitch patterns. Chapter 7 describes the English phonotactics.

This book is designed as a text for foreign students beginning to study English phonetics, and also for teachers teaching English in schools. It is primarily concerned with articulatory phonetics and does not include the acoustic points since those may be too complicated and less practical in the classroom setting.

The transcription system used in this book follows that of the International Phonetic Alphabets because this system is widely used in most common English language dictionaries. The reader should find it easier when looking up the transcriptions in the dictionaries.

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CHAPTER I INTRODUCTION

Phonetics

Phonetics is the study of speech sounds that are utilized by all human languages to represent meanings. Every language uses a set of sounds, so, to speak a language, one needs to control all the speech sounds of the language. Similarly, to speak English, one needs to control all the speech sounds of English. Since there are many dialects of English, more than one pronunciation of the same word is acceptable. In a dictionary, the author often indicates the pronunciation of each word according to the geographical area where the pronunciation occurs. For example, The Advanced Learner's Dictionary of Current English indicates that the word *vase* can be pronounced either as [va:s], [veis] or [veiz]. The entry of this word appears in the dictionary as: *vase* [va:s, (U.S.A.) veis, veiz]. That means this word is pronounced as either [veis] or [veiz] in the U.S.A but only as [va:s] in England. The word *clerk* indicated by MacMillan English Dictionary for Advanced Learners as “clerk /kɫɑ:k; Am E kɫɜ:k/”. That is, *clerk* is pronounced as [k^hɫɑ:k] in England but as [kɫɜ:k] in the U.S.A.

Language

Language is a device of oral communication. It uses sounds to signal meanings; it is not concerned with spelling. The sounds used to communicate are diverse because they are produced by different factors of articulation. For example, the sound produced by placing the lower lip against the upper lip and blowing the air out of the mouth is different from that made by placing the lower lip against the upper teeth and blowing air out of the mouth. In English, the meaning of *bar* /bɑ:/ is entirely different from that of *far* /fɑ:/.

Pronunciation and Spelling

Pronunciation and spelling are not the same thing. In other words, pronunciation is not spelling. In some languages, one symbol represents one sound, but there are many languages that do not follow this system. Let us examine the pronunciation and the spelling of the English language in order to see its symbol-sound representation. First, we can take the correlation of the one letter to one sound. Possible pronunciations for the same letter ‘a’ are as follows:

cat	/æ/
call	/ɔ/
gate	/eɪ/
data	/ə/

We can discover different ways of pronouncing a sequence of letters in the following list of words. The words made up of the *ough* pattern illustrate the lack of one-to-one correlation between pronunciation and spelling of the English language.

cough	/ɑ/
tough	/ʌ/
bough	/aʊ/
though	/oʊ/
through	/u/
hiccough	/ə/

We might as well observe the relationship between pronunciation and spelling of English from the other side. We can take one pronunciation to illustrate various ways of spelling. The sound illustrated here is the mid central vowel /ə/ in the unstressed syllable.

Fash ion	/ə/
ab ove	/ə/
natur e	/ə/
rul er	/ə/
pencil	/ə/

In addition, we can also use a sequence of sounds to see the numerous ways of spelling the sequence. The sound pattern is the vowel /i/ as in the stressed syllable.

sea	/i/
see	/i/
bee	/i/
per ce ive	/i/
pe o ple	/i/
ma ch ine	/i/
key	/i/

From the data above, we can say that there is no one-to-one relationship between pronunciation and spelling. However, if we look at the following words, we may see a one-to-one relationship between spelling and pronunciation of the English language.

pine pay pake	/p/
mine may make	/m/
fine fay fake	/f/
line lay lake	/l/

In this case, the letters *p*, *m*, *f*, and *l* have the same sound in all the words. A sequence of letters also shows a one-to-one relationship between spelling and pronunciation patterns. The sequence of *ght* with the /aɪ/ diphthong can illustrate the regular relationship, for example, *fight*, *right*, *light*, *might*, *night*.

fi ght	/t/
ri ght	/t/
li ght	/t/
mi ght	/t/
ni ght	/t/

Looking at the data, we may say that the English language also has a one-to-one relationship between spelling and pronunciation. From the overall data, we can, then, conclude that whether or not the English language is either regularly or irregularly spelled depends on how one approaches the subject.

Language as sounds

Language is a device of oral communication using sounds to signal messages. It is not concerned with spelling because spelling is only a system using symbols to represent sounds or a system of sound representation. The sounds used to communicate are different because they are produced by different factors of articulation. For example,

the sound produced by placing the tip of the tongue against the alveolar ridge and blowing air out of the mouth is different from the sound made by placing the back of the tongue against the soft palate and blowing the air out of the mouth. In English, the meaning of *tar* /t^hɑr/ is entirely different from that of *car* /k^hɑr/. In order to speak English well, one needs to control factors of articulation or the speech organs. If one fails to control them, undesirable results can occur.

The following illustrations show how important it is to produce acceptable articulation.

1. Native speakers of English (e.g. Americans, Canadians) produce the *t* in *till* with aspiration (puff of air coming out of the mouth). Failure to produce the *t* with aspiration does not confuse the native speakers. However, that phonetic variation will be considered foreign pronunciation.

2. Native speakers of English pronounce the *t* in *still* with little aspiration. If the *t* is produced with much aspiration as the *t* in *till*, this pronunciation will be regarded as foreign pronunciation as well.

3. Different sounds in the same word can make a difference in the part of speech i.e. in grammar. The word *house* if pronounced as /hauz/ is a verb, when pronounced as /haus/, is a noun.

4. The difference in stressed syllables in the same word can make a difference in grammar too. In the sentences *The teacher records the student's voice.* and *The teacher showed the records to the students.*, we pronounce the word *record* in the first sentence with a primary stress on the second syllable as /rɪkɔrd/ and pronounce the same word in the second sentence with a primary stress on the first syllable as /rɛkərd/. The word *record* in the first sentence is a verb and that in the second sentence is a noun.

5. Different levels of stress in the same sequence of sounds can cause a difference in grammar as well. A house that is green is called a *greên house*. A *greênhouse* can be a house that is black, white, or green, or any colour. The stress pattern of the first sequence of sounds is that of an adjective followed by a noun, and the second sequence a noun compound.

6. Because the sounds are used to distinguish meaning in language, variations of sounds will cause the difference in meaning. The word *tower* is really different from *power*. One needs to produce the *t* to refer to *tower* and he must produce the *p* to refer to *power*. Substitution of one sound for another can suggest different referents to the listener.

Chapter II

The Mechanism of Speech Production

Speech sounds are sound waves created in a moving stream of air. Speech sounds cannot be produced without air. The air is expelled from the lungs, passes between the two vocal cords in the larynx, and proceeds upwards. This moving stream of air has two outlets. It can pass through the oral cavity and come out through the mouth (Figure 1). It can pass through the nose and emerge through the nasal cavity (Figure 2).

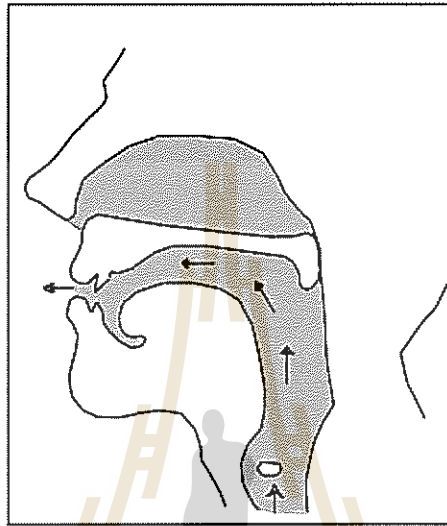


Figure 1
Air passing through the oral cavity

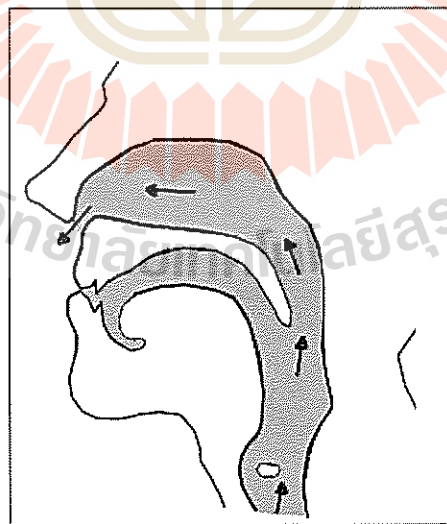


Figure 2
Air passing through the nasal cavity

The **upper lip**, the **lower lip**, the **upper teeth** and the **lower teeth** are familiar to us. Behind the upper teeth, there is a small protuberance that we can feel with the tip of the tongue. This is called the **alveolar ridge**. Next to the alveolar ridge, there is part

of the roof of the mouth. This bony structure is called the **hard palate**. The **soft palate** or **velum** is at the back of the mouth. It is a muscular flap that can be raised against the back wall of the pharynx and shut off the nasal tract, preventing air from going out through the nose. At the lower end of the soft palate, there is a small appendage hanging down that is known as **uvula**.

The **tip** and the **blade** of the tongue are the most movable parts. Behind the blade of the tongue is what is called the **front** of the tongue. It is actually the forward part of the body of the tongue, lying underneath the hard palate when the tongue is at the rest. The remainder of the body of the tongue is divided into a) the **center**, which is partly beneath the hard palate and partly beneath the soft palate, b) the back which is beneath the soft palate, and c) the root which is opposite the back wall of the pharynx. As the air goes out of the mouth, it may escape through both sides of the tongue. It may be also stopped by the tongue.

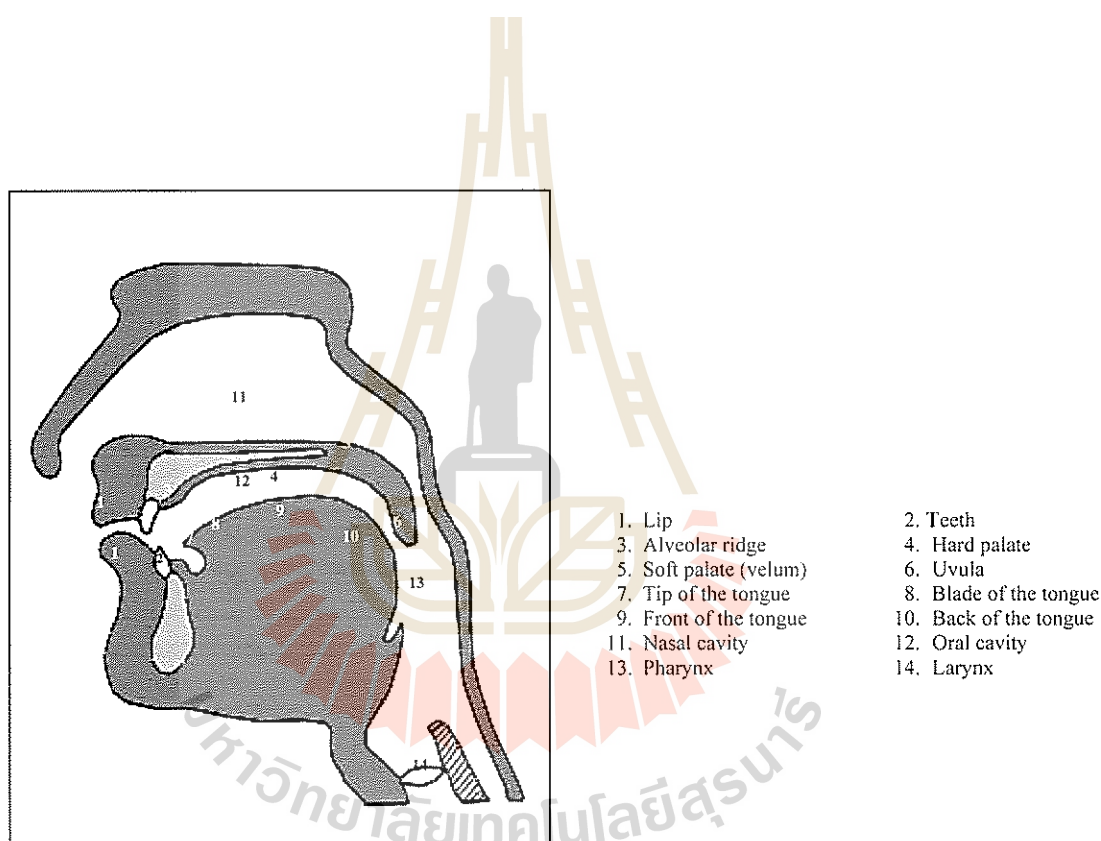


Figure 3

Speech Organs

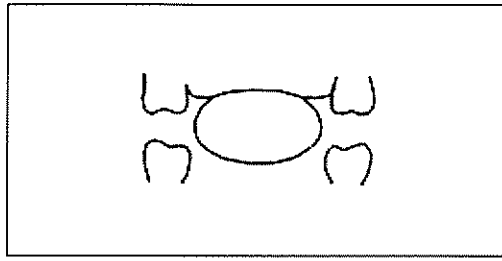


Figure 4
Air passing through both sides of the tongue

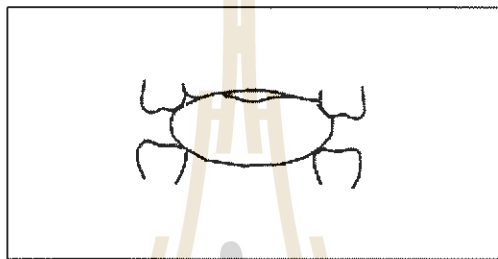


Figure 5
Air passing over the center of the tongue

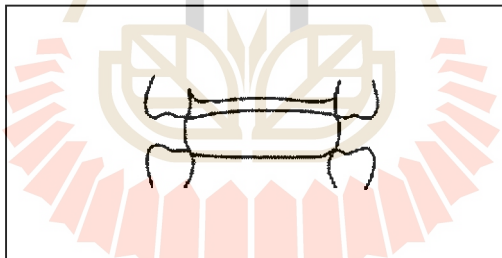


Figure 6
Air passing over the top of the tongue

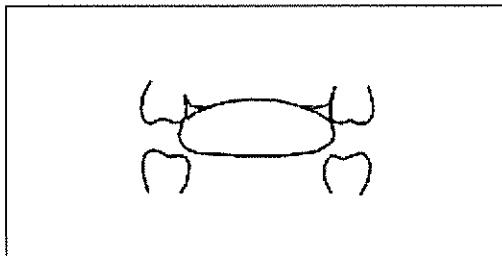


Figure 7
Air stopped by the tongue

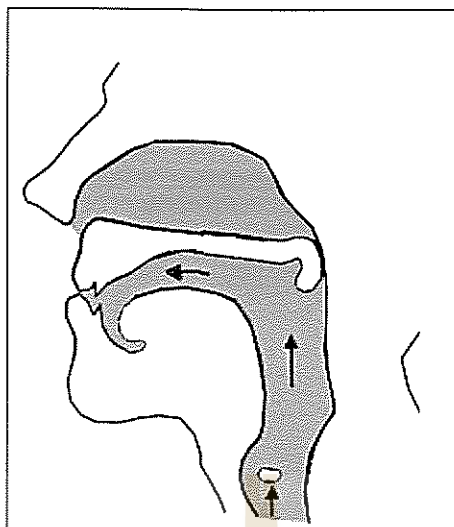


Figure 8
Air stopped by the lips

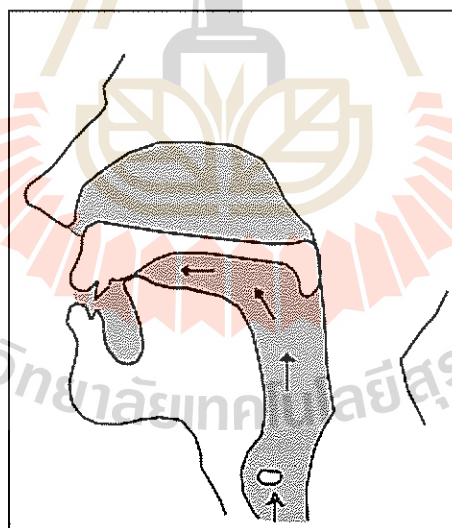


Figure 9
Air stopped by the alveolar ridge

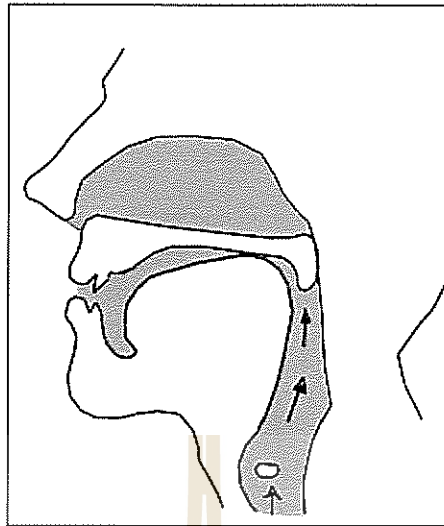


Figure 10
Air stopped by the velum

In addition, the lips are used to produce English vowels. English front vowels are not usually accompanied by lip rounding but back vowels are.

The teeth are used to produce sounds with the lower lip touching the upper teeth, but not pressing too hard to stop the air stream. The /v/ in *van* and /f/ in *fan* are made by the lower lip and the upper teeth. The sounds made by the lower lip and the upper teeth are called the labio-dental sounds.

The upper teeth and the lower teeth are also used in the production of the interdental sounds. The interdental sounds are produced by putting the tongue between the upper and the lower teeth. In addition to the teeth, there are two important parts inside the mouth that are essential, the roof of the mouth, and the tongue. The roof of the mouth is divided into the alveolar ridge or the gum ridge (the ridge behind the upper teeth), the hard palate (the bony roof the mouth), the soft palate or velum. The tongue can be divided into the tip of the tongue or the apex, the front of the tongue and the back of the tongue or the dorsum. The tip of the tongue can be placed against the alveolar ridge to produce the apico-alveolar sounds like /d/, /t/, and /s/.

Farther back in the roof of the mouth is the palate. There are some English sounds that are produced by placing the tongue close to the alveolar ridge and the palate. The sounds made by these parts are called the alveo-palatal sounds. Since the front of the tongue is placed closely to the alveolar ridge and the palate in the production of the alveo-palatal sounds, the sounds are also called the fronto-palatal sounds. Sounds such as /ʒ/ in *azure* and /ʃ/ in *fashion* are alveo-palatal or fronto-palatal sounds.

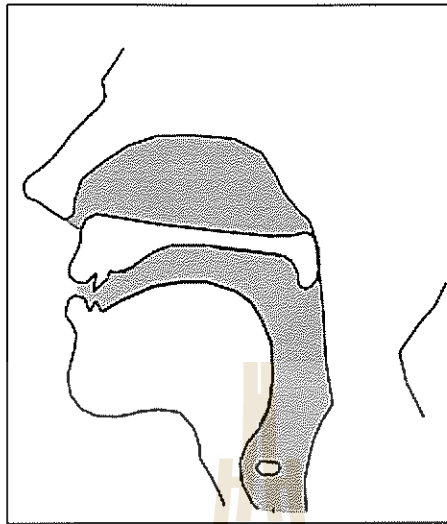


Figure 11
The upper teeth against the lower lip

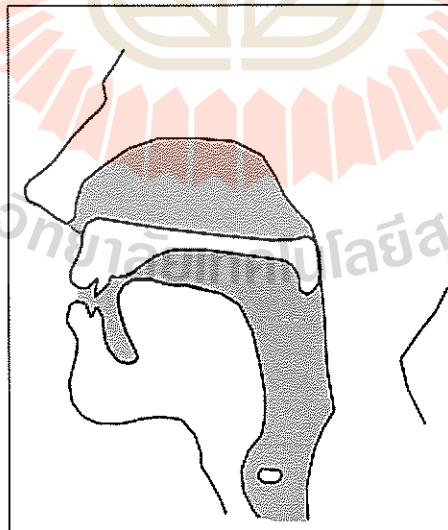


Figure 12
The tongue against the alveolar ridge

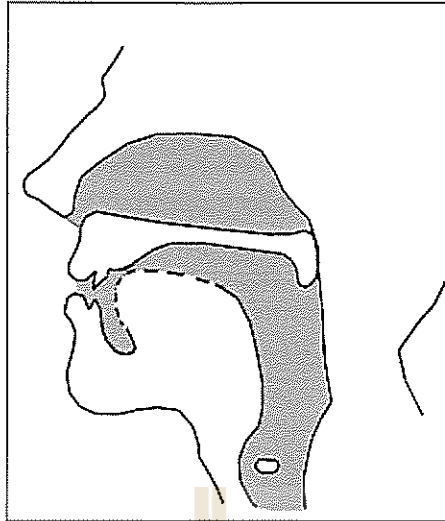


Figure 13
The tongue close to the alveolar ridge and the palate

Sounds may be produced with the tongue touching the velum. The sounds made by those organs are called the dorso-velar sounds, for example /g/ in *girl* and /k/ in *kill*.

Places of Articulation

In order to form consonant sounds, the air stream through the oral cavity must be obstructed in some way. Therefore, consonant sounds can be classified according to the place and manner of this obstruction. The terms for the particular types of obstruction required in the description of English consonants are as follows.

1. **Bilabial.** The bilabial sound is made with the two lips. The first sounds of the words **pie**, **ball**, **man**, and **want** are bilabial sounds.

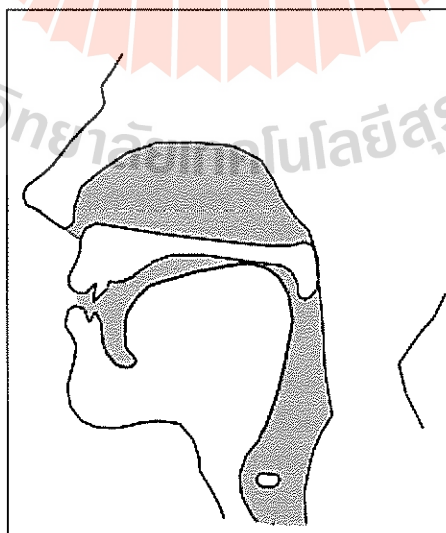


Figure 14
The tongue touching the velum

2. **Labio-dental.** The labio-dental sound is made with the lower lip and the upper lip. The first sounds of the words **fan**, **van**, are labio-dental sounds.

3. **Interdental.** The English words like **thigh**, and **they** are made with the tongue tip or the blade of the tongue protruding before the front teeth. These sounds are called interdental sounds.

4. **Alveolar.** The alveolar sound is made with the tip or the blade of the tongue and the alveolar ridge. We may pronounce the words such as **tie**, **die**, **nine**, **lie** using the tip of the tongue or the blade of the tongue.

5. **Glottal.** The glottal sound is produced with the breath rushing through the glottis when the vocal cords are closing to a position for vibrating. The glottis is the space between the vocal cords. The first sounds of the words **hat**, **hand** and **his** are the glottal sound.

6. **Palato-Alveolar.** The palato-alveolar sounds are produced with the blade of the tongue and the back of the alveolar ridge. While the sound is made, the blade of the tongue is close to back part of the alveolar ridge. The first sounds of **shoes**, **she**, **shop** are the palato-alveolar sounds. It is also called the alveo-palatal.

7. **Palatal.** This sound is made with the front of the tongue and the hard plate. The first sounds of the words **y^ear**, **yawn** are palatal sounds.

8. **Velar.** The velar sound is made with the back of the tongue and the soft palate. The consonants that have the furthest back place of articulation in English are those that occur at the end of the **back**, **bag** and **bang**. In all these sounds the back of the tongue is raised to touch the velum.

9. **Retroflex.** The retroflex sound is made with the tip of the tongue and the back the alveolar ridge. The initial sounds of the words **ring**, **round**, **ride** are retroflex sound. Some speakers produce retroflex sounds in the final sounds of the words like **hear**, **air**, **our**.

Manners of Articulation

1. **Stop.** The stop sound is made with a complete closure of the articulators so that the airstream cannot escape through the mouth. The **b**, **t**, **p**, **k** in **boy**, **tin**, **pen** and **kill** respectively are **stop sounds**.

2. **Fricative.** The fricative sound is produced with the close approximation of the two articulators so that the airstream is partially obstructed and turbulent airflow is produced. The first sounds of **shine**, **zebra**, **hat**, and **fan** are **fricative sounds**.

3. **Affricate.** The affricate sound is produced as a stop, but it is immediately followed by a sharp release through the articulatory position for a fricative. The first sounds of **chin** and **jute** are **affricate sounds**.

4. **Lateral.** The lateral sound is produced with a complete closure in the front of the oral cavity, but with an incomplete closure between one on both sides of the tongue and the roof of the mouth to permit the escape of air. The **l** in **learn**, **like** and **land** is the **lateral sound**.

5. **Nasal.** The nasal sound is made with the uvula lowered, allowing the air to escape through the nose. The **m** and **n** in **mat** and **nut** respectively are **nasal sounds**.

6. **Semi-vowels.** The semi-vowel sound is a sound intermediate between a vowel and a consonant. The **y** and **w** in **yam** and **win** respectively are **semi-vowel sounds**.

7. **Glide and liquid.** Another group of sounds, which is common to us is called glides. Glides are caused by moving tongue position. The high front glide, /j/, occurs when the tongue is in the vowel /i/ position and moves toward the position for

the following vowel, for example, *yes*, *yell*. The retroflex alveolar glide, /r/, occurs when the tongue in r-coloured vowel position moves toward the following vowel, such as *ray*, *ring*. The high back glide /j/ occurs when the tongue in the vowel /u/ position moves toward the following vowel, for example, *well*, *will*. Liquid is also a common group of sounds referring mostly to /l/ and /r/.



Chapter III The Consonants of English

Phoneme and Allophone

It is necessary to understand the concept of phonemes and allophones before the consonants of English will be discussed, since speech production, and transcription are based on the understanding of phonemes and allophones. A phoneme is a simple speech sound functioning in a language i.e. the smallest unit of speech distinguishing one utterance from another. Two slanting lines are used to indicate a phoneme e.g. /b/, /d/, /t/. An allophone is a positional variant of a phoneme, which occurs in a specific environment and does not differentiate meaning. A pair of brackets is used to indicate an allophone e.g. [t^h], [k^h]

Descriptions of English Consonants

1. The Stops. There are six stop consonant phonemes in English.

1.1 /p/

A. Description: The English /p/ is classified as a **voiceless bilabial stop**.

B. Common Spellings: *p* as in pay, tap
 pp as in apple, tapping
 ph as in shepherd
 gh as in hiccough

C. Positions: The English phoneme /p/ has three allophones.

1.1.1 [p^h] This allophone is classified as a **voiceless aspirated bilabial stop**. (An aspirated sound is produced with a puff of air coming out of the mouth.) The English [p^h] occurs initially, medially, intervocalically and finally in English.

Initially:	pin	[p ^h ɪn]
Medially:	carpet	[k ^h ɑr <p>hɛt^h]</p>
Intervocalically:	paper	[p ^h ɛp ^h ə]
Finally:	beep	[bi <p>h]</p>

1.1.2 [p] This allophone is classified as a **voiceless unaspirated bilabial stop**. (An unaspirated sound is produced with less air coming out of the mouth.) The English [p] follows the [s] sound in English.

spill	[spɪt]
span	[spæn]

1.1.3 [p̚] This allophone is classified as an **unreleased voiceless bilabial stop**. It occurs finally in English.

cup	[k ^h ʌp̚]
map	[mæp̚]

D. Distributions. The following words are examples of various allophones of /p/ in different consonant combinations.

Initial Consonants: pat pay pie pill

Final Consonants: weep up rope ape

Initial and Final Consonants: pep pipe pup peep

Stronger Consonant: apart appeal comply repair

Weaker Consonants: copper happen open stopping

Initial Clusters:	[sp-]	space speech spout
	[p ^h r-]	pray price proud
	[p ^h l-]	place plead pledge
	[spr-]	spring sprite sprout
	[spl-]	splash splay splat
Final Clusters:	[-ps]	rips tops taps
	[-mps]	bumps lamps camps
	[-mpt]	prompt stamped clamped

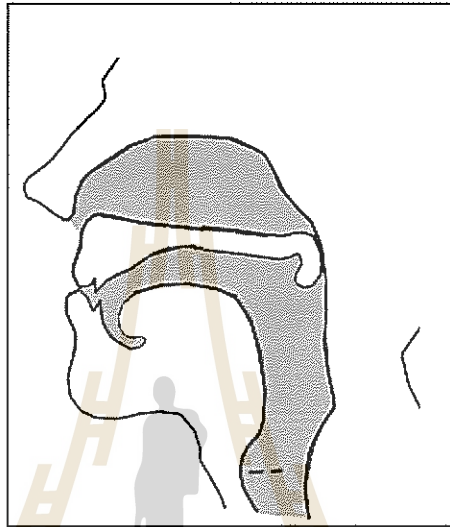


Figure 15

/p/

The Voiceless Bilabial Stop

1.2 /b/

A. Description: The English /b/ is classified as a **voiced bilabial stop**.

B. Common Spellings: *b* as in bring bed bet

bb as in bubble robber rubber

pb as in cupboard clapboard

C. Positions: The English /b/ occurs initially, medially, intervocalically, and finally.

Initially:	buy	[baɪ]
Medially:	stumble	[stʌmbəl]
Intervocalically:	baby	[beɪbɪ]
Finally:	mob	[mɒb]

The [b] is unaspirated in all positions in English. It may be unreleased when final or followed by another stop sound, as in *cab* [k^hæb̚] and *abduct* [æb̚dʌk^{t̚}h].

D. Distributions: The following words are examples of various distributions of /b/ in different consonant combinations.

Initial Consonants: bay bee boy bow

Final Consonants: rob rub web club

Initial and Final Consonants: babe bib bob boob

Stronger Consonants: above about rebuff imbibe
 Weaker Consonants: habit robber rubbing stubborn
 Initial Clusters: [br-] break brown bride
 [bl-] black blade blood
 Final Clusters: [-bz] clubs rubs robs
 [-bd] clubbed stubbed stabbed

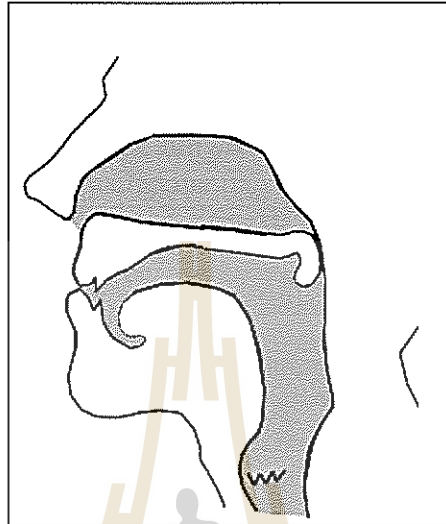


Figure 16

/b/

The Bilabial Voiced Stop

1.3 /t/

A. Description: The English /t/ is classified as a **voiceless apico-alveolar stop**.

B. Common Spellings: *t* as in tie set later

tt as in lettuce pretty kitten

Th as in Thomas Theresa Thompson thyme

ght as in brought thought caught

Rare Spellings: *ct* as in indict

cht as in yacht

bt as in debt doubt

pt as in ptomaine

tw as in two

ed as in talked asked

pth as in phthistic

C. Positions: The English /t/ consists of three allophones:-

1.3.1 [t^h] This allophone is classified as an **aspirated voiceless apico-alveolar stop**. It occurs initially, medially, intervocalically, and finally in English.

Initially: ten [t^hɛn]

Intervocalically: attack [ət^hæk^h]

Medially: attract [ət^hrækt^h]

Finally: night [naɪt^h]

1.3.2 [t] This allophone is classified as an **unaspirated voiceless apico-alveolar stop**. It follows the /s/ sound in English.

stop	[stap ^ʔ]
stick	[stɪk ^ʔ]
stand	[stænd]

1.3.3 [t̚] This allophone is classified as an **unreleased voiceless apico-alveolar stop**. It occurs finally in English.

bit	[bɪt̚ ^ʔ]
pat	[pʰæt̚ ^ʔ]

The /t/ occurring between voiced sounds, especially in American English is produced with the tongue tip drawn back and then allowed to strike against the palate before returning to its rest position. This is called the flap sound and the symbol [ɾ] is used.

dirty	[dɜːrɪ]
letter	[lɛtəː]
waiting	[weɪtɪŋ]

However, Kenyon (1950) used “voiced t” for this allophone. From an acoustic point of view, the “voiced t” is an allophone of /t/; not that of /d/ according to Lance and Kingsbury (1997).

D. Distributions: The following are representative examples of different allophones of the English phoneme /t/.

Initial Consonants:	tie tap top tin
Final Consonants:	eat ought at art
Initial and Final Consonants:	taught tight tint tent
Stronger Consonants:	attach atone between esteem
Weaker Consonants:	better bottle bottom butter
Initial Clusters:	[st-] stand stay stab
	[t ^h r-] trip trap trot
	[str-] string strip straight
	[t ^h w-] twin twist twelve
Final Clusters:	[-st] lost past cast
	[-pt] kept mopped stopped
	[-ft] laughed gift sift
	[-nt] rent went lent
	[-nts] pants vents cents
	[-ʃt] cashed mashed pushed
	[-mpt] tempt lumped stamped
	[-nk ^h t] honked ranked spanked
	[-rt] part start cart
	[-ntʃt] pinched wrenched punched
	[-rts] parts carts darts
	[-nst] fenced glanced danced

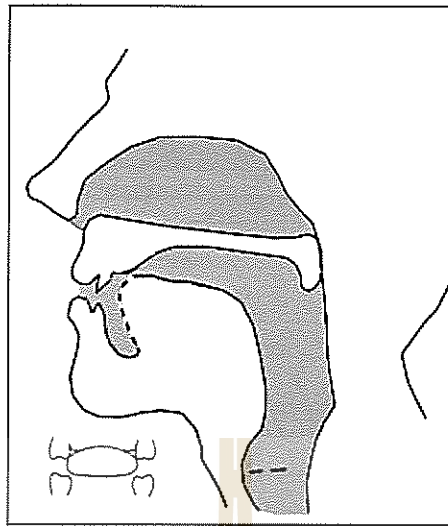


Figure 17

/t/

The Voiceless Apico-Alveolar Stop

1.4 /d/

A. Description: The English phoneme /d/ is classified as a **voiced apico-alveolar stop**.

B. Common Spellings:

- d* as in dish bed dig
- dd* as in sadder add madden
- ld* as in could would should

C. Positions: The English /d / occurs initially, medially, intervocally, and finally in English.

Initially:	dip	[dɪp ^h]
Intervocally:	madam	[mædəm]
Medially:	handed	[hændəd]
Finally:	cod	[k ^h ɒd]

Like [b], it is unaspirated and may be unreleased in certain positions, such as *did* [dɪd̚] and *bedpan* [bed^hpæn].

D. Distributions: The following words are representative examples of the English phoneme /d /.

Initial Consonants: day die dog do
 Medial Consonants: candy under window garden
 Intervocalic Consonants: today kiddy medal lady
 Final Consonants: add aid odd eyed
 Initial and Final Consonants: dad did dead deed
 Stronger Consonants: condone produce reduce today
 Weaker Consonants: indicate model modern study
 Initial Clusters: [dr-] drain drink dress
 [dw-] dwindle dwell dwarf dwelling
 Final Clusters: [-nd] end round learned

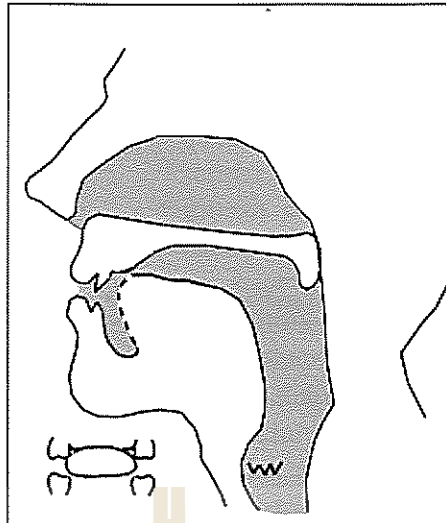


Figure 18

/d/

The Voiced Apico-Alveolar Stop

1.5 /k/

A. Description: The English /k/ is classified as a **voiceless dorso-velar stop**.

B. Common Spellings: *k* as in kill king kind
ch as in character echo choir
ck as in luck pick kick
cc as in account accurate accuse
kh as in khaki Khan

C. Positions: The English /k/ consists of three allophones:-

1.5.1 [k^h] This allophone is classified as a **aspirated voiceless dorso-velar stop**. It occurs initially, medially, intervocalically, and finally in English.

Initially:	kill	[k ^h ɪl]
Medially:	accrue	[ək ^h ru]
Intervocalically:	baker	[beɪk ^h ə]
Finally:	pick	[pɪk ^h]

1.5.2 [k] This allophone is classified as an **unaspirated voiceless dorso-velar stop**. It follows the /s/ sound in English.

skin	[skɪn]
skid	[skɪd]

1.5.3 [k̚] This allophone is classified as an **unreleased voiceless dorso-velar stop**. It occurs finally in English.

pick	[pɪk̚]
duck	[dʌk̚]

D. Distributions: The following words are representative examples of various allophones of /k/ in different consonant combinations.

Initial Consonants: coo kick key kit

Final Consonants: ache oak dock peck

Initial and Final Consonants: cake coke cook kick

Stronger Consonants: become recount income request

Weaker Consonants:	backer bucket taken vacant
Initial Clusters:	[sk-] school sky scout scan
	[k ^{hr} -] crown cry crew
	[k ^{hl} -] clay clip cling
	[k ^{hw} -] queen quite quick
	[skr-] scratch screen screw
	[skw-] squash squire square
Final Clusters:	[-ks] backs six packs
	[-kt] act pact looked
	[-ŋk] sink think blink
	[-ks] honks thanks links
	[-ŋkt] linked thanked blinked
	[-ŋks] winks tanks ranks
	[-sk] ask risk desk
	[-rk] dark pork fork

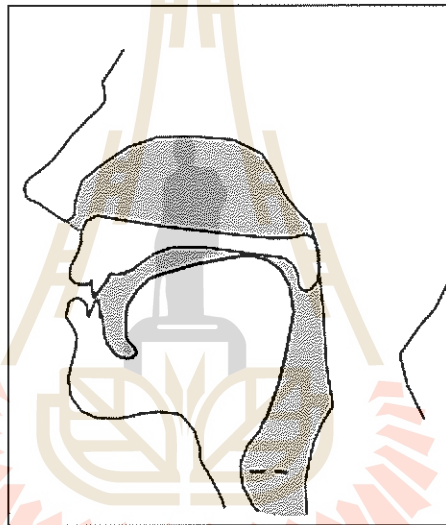


Figure 19

/k/

The Voiceless Dorso-Velar Stop

1.6 /g/

A. Description: The English /g/ is classified as a **voiced dorso-velar stop**.

B. Common Spellings:

<i>g</i>	as in	game	get	gun
<i>gg</i>	as in	beggar	trigger	bigger
<i>gh</i>	as in	ghetto	ghost	ghoul
<i>gu</i>	as in	guest	guess	guilty
<i>gue</i>	as in	vague	vogue	intrigue

C. Positions: The English phoneme /g/ occurs initially, medially, intervocalically and finally.

Initially	gun	[gʌn]
Medially	hungry	[hʌŋgrɪ]
Intervocalically	ago	[əgəʊ]
Finally	rag	[ræg]

Like the other voiced stop sounds in English, [g] is unaspirated in all positions, but it may be unreleased when it is in final as in *gag* [gæg̚] and when followed by another stop sound as in *pigpen* [pʰɪg̚pʰɛn].

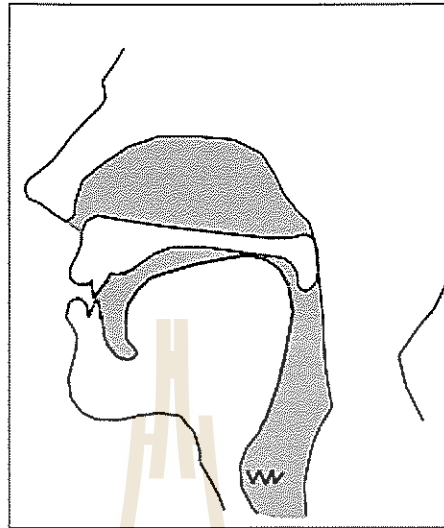


Figure 20

/g/

The Voiced Dorso-Velar Stop

D. Distributions: The following are examples of various allophones of /g/ in different consonant combinations.

Initial Consonants: gay guy gum go

Medial Consonants: forgive angry hungry

Intervocalic Consonants: again against ago begin

Final Consonants: rag rig rug stag

Initial and Final Consonants: gag gig Greg

Stronger Consonants: forget regret regain forgive

Initial Clusters: [gl-] glass gleam glow glad

[gr-] green grow grass grab

Final Clusters: [-gd] begged bagged logged legged

[-gz] bags begs pigs legs

An interesting stop sound in English is the glottal stop [ʔ], which is quite frequent in American English, but it is often unnoticed because its absence or presence does not distinguish from one word to another, especially in meaning. This sound often occurs in the initial position in words beginning with a vowel, especially when such words are given strong stress. For example, “He said *án*, not *ón*!” The two words would be transcribed as [ʔæn] and [ʔɔn]. The glottal stop may occur between a stressed vowel and a final unreleased stop, as in *mat* [mæʔt̚]. In colloquial English of people in a certain area, this sound may be substituted for [t] before a syllabic nasal – [m] and [n], or lateral - [l], as in *bottom* [bʌʔm̩], *mutton* [mʌʔn̩] and *battle* [bæʔt̚].

2. **The Fricatives** There are ten fricative consonant phonemes in English.

2.1 /f/

A. Description. The English /f/ is classified as a **voiceless labio-dental fricative**.

B. Common Spellings. *f* as in fly after loaf
ff as in affair staff cliff
lf as in calf half behalf
ph as in phone photograph graphic
gh as in tough laugh cough

C. Positions: The phoneme /f/ occurs, initially, medially, intervocalically and finally in English.

Initially:	fan	[fæn]
Medially:	after	[æftə]
Intervocalically:	effort	[ɛfət]
Finally:	puff	[pʰʌf]

D. Distributions : The following words are examples of various allophones of /f/ in different consonant combinations.

Initial Consonants :	foe fare fan fly
Medial Consonants :	fifteen softly cupful unfair
Intervocalic Consonants :	coffee before elephant refer
Final Consonants:	if of loaf wife
Initial and Final Consonants:	fife fluff
Stronger Consonants:	affair confirm refuse affirm
Weaker Consonants:	offer suffer laughing coughing
Initial Clusters:	[fl-] fly flap floppy
	[fr-] front free fry
Final Clusters:	[-fs] laughs staffs coughs
	[-ft] laughed left shaft

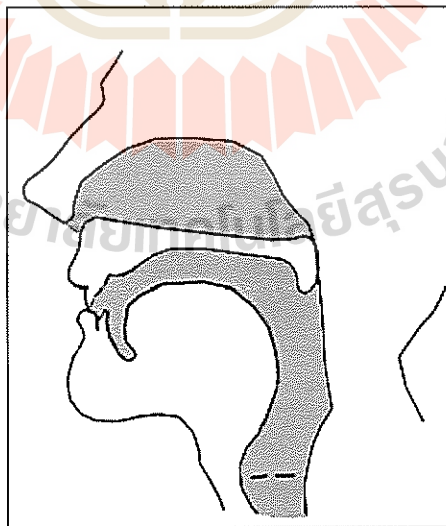


Figure 21

/f/

The Voiceless Labio-Dental Fricative

2.2 /v/

A. Description : The English /v/ is classified as a **voiced labio-dental fricative**.

B. Common Spellings : *v* as in victim over van

f as in of

ph as in Stephen

Rare Spellings: *vv* as in flivver savvy (slang)

C. Positions: The English phoneme /v/ occurs initially, medially, intervocalically and finally.

Initially:	van	[væn]
Medially:	servant	[sɜːvənt]
Intervocalically:	river	[rɪvə]
Finally:	have	[hæv]

D. Distributions : The following words are examples of various positions of /v/ in different consonant combinations.

Initial Consonants :	vow vice voyage vice
Medial Consonants :	servant fervor velvet envisage
Intervocalic Consonants :	ever over heavy ivy overt
Final Consonants :	live give have love
Initial and Final Consonants:	verve valve
Stronger Consonants:	review convex revolve convert
Weaker Consonants :	given river liver level
Final Clusters :	[-vd] starved waved paved
	[-vz] lives graves paves

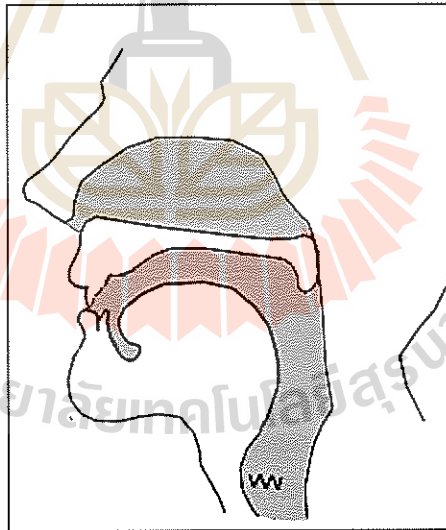


Figure 22

/v/

The Voiced Labio-Dental Fricative

2.3 /θ/

A. Descriptions: The English /θ/ is classified as a **voiceless interdental fricative**.

B. Common Spellings : *th* as in thick bath path

C. Positions: The English phoneme /θ/ occurs initially, medially intervocalically and finally.

Initially:	three	[θri]
Medially:	faithful	[feɪθfəl]
Intervocalically:	author	[ɔθə]
Finally:	mouth	[maʊθ]

D. Distributions The following are representative examples of /θ/words.

Initial Consonants :	than through three think
Final Consonants :	youth teeth wreath than
Stronger Consonants :	cathedral pathetic unthinkable unthankful
Weaker Consonants :	author birthday healthy nothing
Initial Clusters :	[θr-] thought thread through
Final Clusters :	[θs-] births paths booths

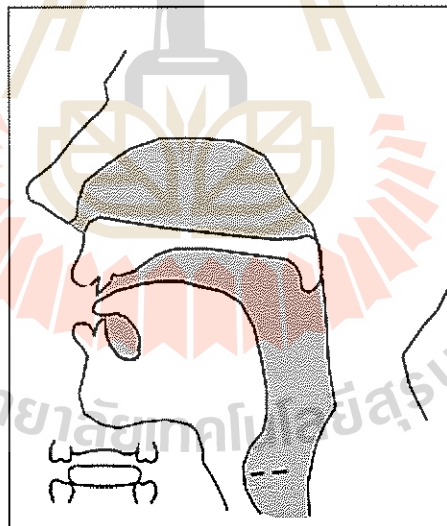


Figure 23

/θ/

The Voiceless Interdental Fricative

2.4. /ð/

A. Descriptions: The English /ð/ is classified as a **voiced interdental fricative**.

B. Common Spellings : *th* as in then this these

C. Positions: The English phoneme /ð/ occurs initially, medially, intervocalically and finally.

Initially:	they	[ðeɪ]
Medially:	smoothly	[smuðli]
Intervocally:	either	[iðə]
Finally:	breathe	[brið]

D. Distributions: The following are representative examples of /ð/ words.

Initial Consonants :	thy their this those
Final Consonants :	with clothe smooth bathe
Stronger Consonants :	although without
Weaker Consonants :	other heathen rather whether
Final Clusters :	[-ðz] breathes soothes bathes
	[-ðd] clothed soothed bathed

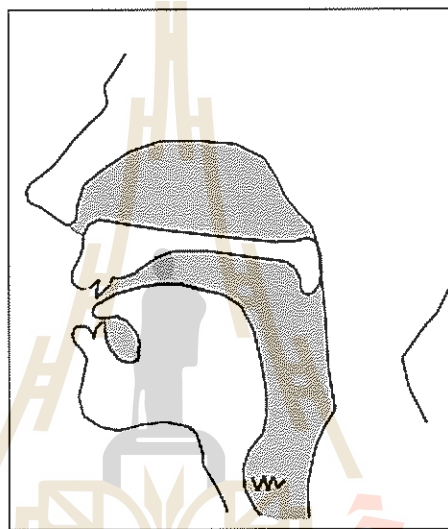


Figure 24

/ð/

The Voiced Interdental Fricative

2.5 /s/

A. Descriptions : The English /s/ is classified as a **voiceless apico-alveolar fricative**.

B. Common Spellings : *s* as in see ask sound so
ss as in glass grass mass pass
sc as in science scene scent scepter
c as in cycle certain circle circus
sch as in schism
ps as in psychology

C. Positions : The English phoneme /s/ occurs initially, medially, intervocally and finally.

Initially:	sin	[sɪn]
Medially:	useful	[juːsfəl]
Intervocally:	missile	[mɪsəl]
Finally:	case	[keɪs]

D. Distributions: The following are representative examples of /s/ words.

Initial Consonants:	say seek sand soon
Final Consonants:	ice us bus ace
Initial and Final Consonants:	cease source souse sass
Stronger Consonants:	concern consist sister settle

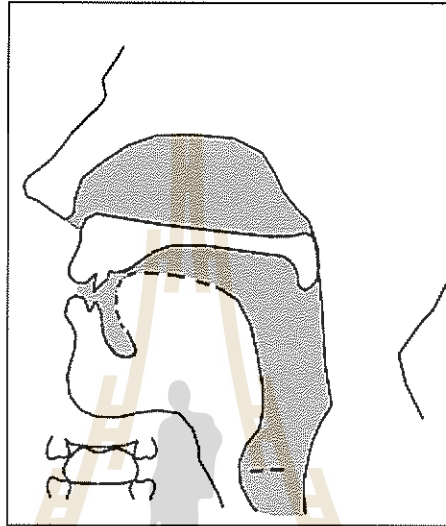


Figure 25

/s/

The Voiceless Apico-Alveolar Fricative

Weaker Consonants : fasten lesson basis message

Initial Clusters :

[sk-]	sky skirt scout
[skr-]	screw scream screen
[sl-]	slant slay sleep
[sm-]	small smart smoke
[sp-]	speak spoil span
[spl-]	splash spleen split
[spr-]	sprite sprout spring
[st-]	stand stable stab
[str-]	strong strand straight
[sw-]	sweet sway swing
[skw-]	square squeak squirrel
[sn-]	snare snail snout

Final Clusters :

[-fs]	cuffs staffs cliffs
[-ks]	talks packs walks
[-lts]	belts wilts quilts
[-mps]	lamps camps bumps
[-nts]	ants plants hints
[-ŋks]	thanks winks thinks

[-ps]	lips clips claps
[-rs]	force source farce
[-rts]	arts parts marts
[-st]	past rest fist
[-sks]	desks flasks masks
[-sts]	lasts posts priests
[-ts]	bits lets pets
[-θs]	deaths growths teethes
[-sk]	task bask ask
[-nst]	fenced bounced balanced

2.6 /z/

A. Descriptions : The English /z/ is classified as a **voiced apico-alveolar fricative**.

B. Common Spellings :
z as in zero, zebra, zoo
s as in has his lose
zz as in buzz jazz puzzle
sc as in discern
x as in xylophone xylem xyrophyte
ss as in scissors
sth as in asthma

C. Positions : The English /z/ occurs initially, intervocalically, and finally.

Initially:	zest	[zɛst]
Intervocalically:	easy	[i:zi]
Finally:	raise	[reɪz]

D. Distribution : The following are representative examples of /z/ words.

Initial Consonants:	zeal zoo zero zenith
Final Consonants:	his rays maize graze
Initial and Final Consonants:	czars zoos zounds
Stronger Consonants:	resign deserve disaster nasality
Weaker Consonants:	dozen easy pleasant using



Figure 26

/z/

The Voiced Apico-Alveolar Fricative

Final clusters :	[-bz]	ribs, rubs, robs
	[-dz]	beds, gods, kids
	[-gz]	bags, shells, pupils
	[-lz]	bells, shells, pupils
	[-mz]	comes, trims, swims
	[-nz]	learns, puns, pans
	[-ŋz]	brings, swings, sings
	[-rz]	hears, tears, wears
	[-zd]	used caused raised
	[-ndz]	hands, winds, stands
	[-rdz]	boards, beards, birds
	[-ðz]	breathes bathes clothes
	[-vz]	saves loves cloves

2.7 /ʃ/

Descriptions: The English /ʃ/ is classified as a **voiceless fronto-palatal fricative**.

B. Common Spellings:	<i>sh</i> as in shake shoe shine
	<i>ss</i> as in passion fission mission
	<i>t</i> as in mention vacation nation
	<i>c</i> as in appreciate associate
	<i>ch</i> as in Chicago machine Michigan
	<i>s</i> as in sugar
	<i>sc</i> as in conscious luscious fascist
	<i>sch</i> as in schist shwa schnapps
	<i>chs</i> as in fuchsia
	<i>x</i> as in anxious
	<i>psh</i> as in pshaw

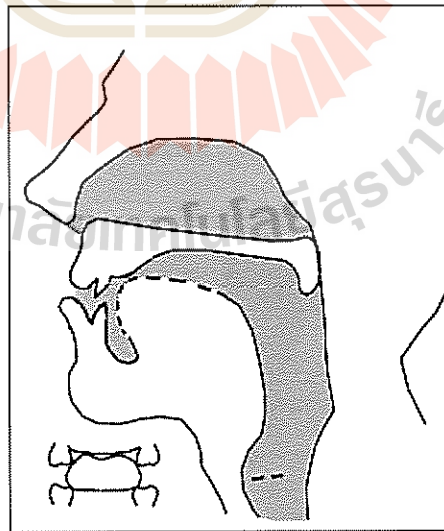


Figure 27

/ʃ/

The Voiceless Fronto-Palatal Fricative

C. Positions : The English /ʃ/ occurs initially, medially, intervocalically and finally.

Initially:	sheet	[ʃitʰ]
Medially:	mention	[menʃən]
Intervocalically:	dishes	[dɪʃəz]
Finally:	fish	[fɪʃ]

D. Distributions : The following are representative examples /ʃ/ of words.

Initial Consonants:	show sheet shall shoe
Final Consonants:	ash fish crash mash
Stronger Consonants:	ashamed cashier insure machine
Weaker Consonants:	fashion motion washing wisher
Initial Clusters:	[ʃr-] shrewd shrimp shrink
Final Clusters:	[-ʃ ^h] pushed mashed crashed

2.8 /ʒ/

A. Description: The English /ʒ/ is classified as a **voiced fronto-palatal fricative**.

B. Common Spellings :	s as in measure pleasure leisure
	z as in azure glacier seizure
	g as in rouge regime prestige

C. Positions: The phoneme /ʒ/ does not occur initially in normal English. It occurs medially intervocalically and finally.

Medially:	version	[vɜːʒən]
Intervocalically:	lesion	[liːʒən]
Finally:	prestige	[p ^h restiʒ]

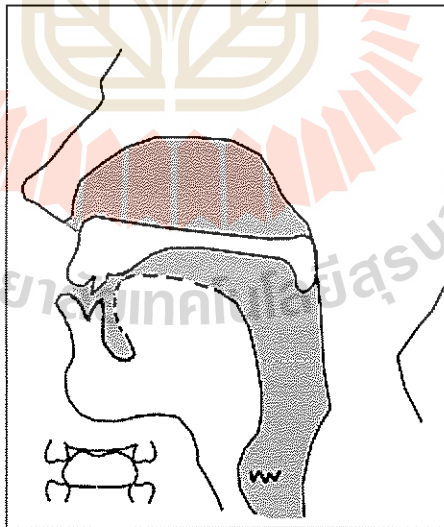


Figure 28

/ʒ/

The Voiced Fronto-Palatal Fricative

D. Distribution : The following are representative examples of /z/ words.

Final Consonants:	beige garage prestige range
Stronger Consonants:	negligence regime Roger
Weaker Consonants:	casual usual version usual
Final Clusters:	[-zd] rouged raged camouflaged

2.9 /h/

A. Description : The English phoneme /h/ is classified as a **voiceless glottal fricative**.

B. Common Spellings : *h* as in head him hand
wh as in who whom whose

C. Positions : The phoneme /h/ consisting of two allophones does not occur finally in English.

2.9.1 [h] This allophone is classified as a voiceless glottal fricative. It occurs initially and medially.

Initially:	hen	[hen]
Medially:	unhook	[ənhʊk ^h]

2.9.2 [ɦ] This allophone is classified as a voiced glottal fricative. It occurs intervocalically.

Intervocalically:	ahead	[əɦed]
	behave	[bɪɦeɪv]

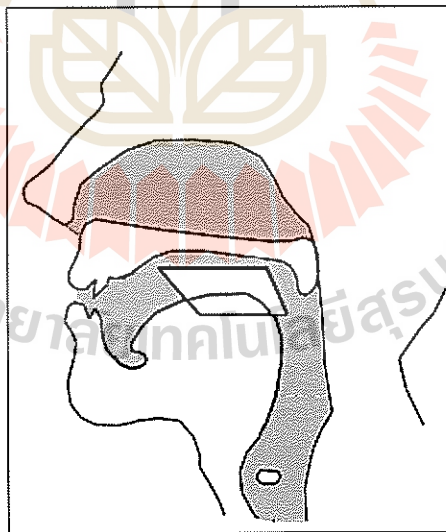


Figure 29

/h/

The Voiceless Glottal Fricative

D. Distributions : The following /h/ words are representative examples of various allophones of /h/ in different consonant combinations.

Initial Consonants : head hand here
 Stronger Consonants : ahead behind perhaps
 Weak or Lost Consonants : forehead, vehicle, vehement

2.10 /ɹ̥/

Cavert (1980) proposed another fricative phoneme of English. This sound is produced when the lips are rounded with a small aperture as for the vowel /u/, and the back of the tongue is raised toward the velum. The /ɹ̥/ is sometimes considered a glide because its duration is brief.

- A. Description: The /ɹ̥/ is classified as a **voiceless bilabial fricative**.
 B. Common Spellings: *wh* as in when where which
w as in swim swear swamp
(s)u as in suede persuade assuage
 C. Positions: The English /ɹ̥/ occurs initially, medially, and intervocalically. It does not occur in the final position.

Initially: when [ɹ̥ɛn]
 Medially: meanwhile [mɪnwaɪtɹ̥]
 Intervocalically: anywhere [ɛnɪwɛə]

- D. Distributions: The following are representative examples of /ɹ̥/ words.

Initial Consonants: while whale what
 Stronger Consonants: overwhelm
 Weaker Consonants: horsewhip somewhat somewhere
 Initial Clusters: [t^hɹ̥-] twenty twin twinkle
 [sɹ̥-] sway sweet swim
 [ʃɹ̥-] schwa

3. The Affricates

Before going on to a detailed description of the affricate consonant phonemes, some general facts about them should be made clear. First, do not be misled by the symbols into supposing that [t] and [d] are combinations of sounds. Linguistically and physiologically, these affricates are distinctive and phonemic; not blends of two sounds. In line with the fact, some phoneticians have chosen [t͡] and [d͡] for the voiceless and voiced affricates.

3.1 /t͡ʃ/

A. Description : The English phoneme /t͡ʃ/ is classified as a **voiceless apico-alveolar affricate**.

B. Common Spellings : *ch* as in chart chick change
tch as in match watch catch
t as in question picture nature
c as in cello

C. Positions : The English /t͡ʃ/ occurs initially, medially, intervocalically, and finally.

Initially:	chin	[tʃɪn]
Medially:	picture	[p ^h ɪktʃə]
Intervocally:	matches	[mætʃəz]
Finally:	catch	[k ^h ætʃ]

D. Distributions: The following are representative examples of /tʃ/ words in different consonant combinations.

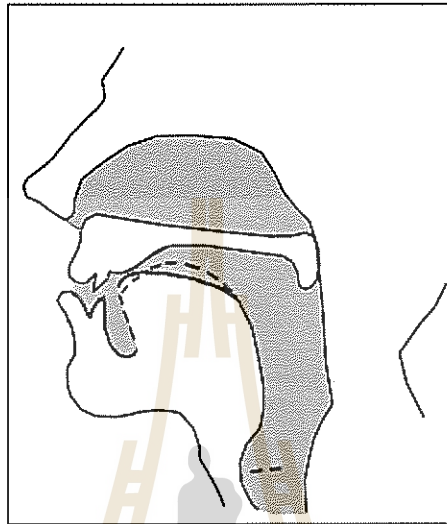


Figure 30

/tʃ/

The Voiceless Apico-Alveolar Affricate

Initial Consonants:	chair choose chow child
Final Consonants:	each ditch search much
Initial and Final Consonants:	church
Stronger Consonants:	recharge, unchange, discharge
Weaker Consonants:	picture pitcher urchin purchase
Final Clusters: [-ntʃ]	wrench bench ranch
[-ntʃʰ]	punched crunched launched

3.2 /dʒ/

A. Description : The English /dʒ/ is classified as a **voiced apico-alveolar affricate**.

B. Common Spellings :	<i>j</i> as in June jump join
	<i>g</i> as in agitate gem courage
	<i>dg</i> as in edge budge judge
	<i>dj</i> as in adjust adjunct adjourn
	<i>gg</i> as exaggerate
	<i>d</i> as in soldier

C. Positions :The English /dʒ/ occurs initially, medially, intervocalically and finally.

Initially;	jam	[dʒæm]
Medially:	edgy	[ɛdʒɪ]
Intervocalically:	adjust	[ədʒʌstʃ]
Finally:	bridge	[brɪdʒ]

D. Distributions : The following are representative examples of /dʒ/ words in various consonant combinations.

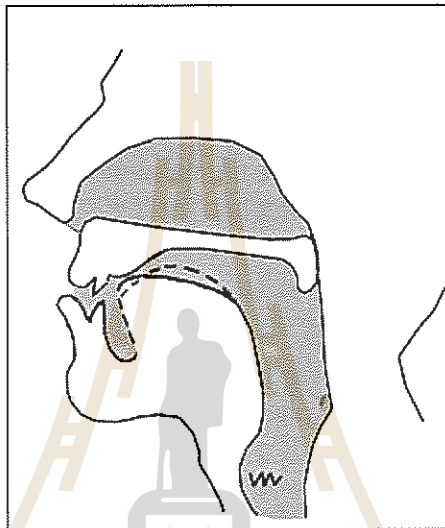


Figure 31

/dʒ/

The Voiced Apico-Alveolar Affricate

Initial Consonants:	join joy jay jaw
Final Consonants:	ledge ridge badge age
Initial and Final Consonants:	judge George
Stronger Consonants:	adjust adjudicate adjunct adjoin.
Weaker Consonant:	major pigeon paging region
Final Clusters:	[-dʒd] judged raged encouraged managed
	[-ndʒ] orange range arrange strange
	[-ndʒd] ranged arranged tinged

4. **The Nasals.** The nasal sounds are produced when the velum is slightly lowered and the oral cavity is completely stopped at one of the points of articulations. The air and sound pass freely through the nasal cavity and out the nostrils. There are three nasal consonant phonemes in English. They are /m/, /n/, and /ŋ/.

4.1. /m/

A. Description: The English /m/ is classified as a **bilabial nasal**.

B. Common Spellings :
 m as in man mob mouth
 mm as in mammoth comment common
 lm as in calm palm psalm
 mb as in limb climb comb
 gm as in phlegm
 mn as in hymn

C. Positions: The English phoneme /m/ consists of 3 allophones.

4.1.1. [m] This allophone is classified as a **voiced bilabial nasal**. It occurs initially, medially and finally.

Initially:	man	[mæn]
Intervocally:	taming	[t ^h eɪmɪŋ]
Medially:	remember	[rɪmɛmbə]
Finally:	ram	[ræm]

4.1.2 [m̥] This allophone is classified as a **voiceless bilabial nasal**. It follows the voiceless sound. For example, the voicelessness of /s/ affects the [m] in such a way that the voiced [m] becomes voiceless.

[sm̥ɔt]	small
[sm̥aɪt]	smite
[sm̥eɪ]	smell

4.1.3. [m̚] This allophone is described as a bilabial nasal with labio-dental coarticulation. It precedes the /f/ sound.

[k ^h æmf̚ɹə]	camp fire
[k ^h ɑmf̚ɹt]	comfort

The /m/ may be syllabic, in which case the symbol [m̩] is used. An example is the common conversation of the phrase "Keep them" as [k^hɪpm̩]. However, this use of the syllabic sound is not commended although it may not be clearly substandard. Another example is in the word *bottom* as [bɑt^hm̩]

D. Distributions: The following are representative distributions of /m/ words.

Initial Consonants:	may my mow man
Final Consonant:	madam, him, calm, dam
Initial and Final Consonants:	maim mam mom
Weaker Consonants:	coming hamlet stammer humour
Initial Clusters:	[sm̩-] small smart smile
Final Clusters:	[-md] bombed claimed warmed
	[-mp] lump stamp lamp
	[-mps] stamps thumps clamps
	[-mpt] stamped clamped attempt
	[-rm] arm storm form

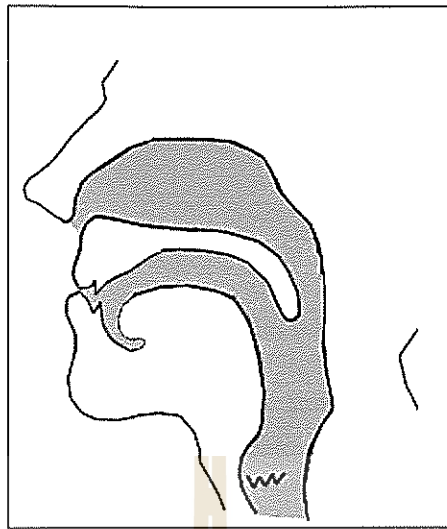


Figure 32

/m/

The Bilabial Nasal

4.2. /n/

A. Description: The English /n/ is classified as a **voiced apico-alveolar nasal**.

B. Common Spellings: *n* as in need can non

nn as in cannot annoy announce

gn as in gnaw gnat gnome

kn as in knee know knell

pn as in pneumonia pneumatics

mn as in mnemonic

C. Positions : The English /n/ consists of 2 allophones :

5.2.1. The allophone [n] is classified as a **voiced apico-alveolar nasal**. It occurs initially, medially, intervocalically, and finally.

Initially: name [neɪm]

Medially: only [oʊnli]

Intervocalically: funny [fʌni]

Finally: fan [fæn]

5.2.2 [ŋ] This allophone is classified as a **voiceless apico-alveolar nasal**. It follows the voiceless sound. For example, the voiced /n/ becomes voiceless after /s/ sound.

[snoʊ] snow

[sneɪtʃ] snail

The /n/ is another of the consonants which can become syllabic. The syllabic sound is transcribed as [ŋ]. Examples are the usual pronunciations of such words as *fasten* [fæsn̩], *button* [bʌt̩n̩], or *mutton* [mʌt̩n̩].

D. Distributions : The following are representative distributions of /n/ words.

Initial Consonants:	nose nail nap
Final Consonants:	man mean ban
Initial and Final Consonants:	nun nine none
Stronger Consonants:	renew canoe enough
Weaker Consonants:	any banner many
Initial Clusters :	[sn̩-] snow sneeze snail
Final Clusters :	[-nz] hens bones tones
	[-nd] burned sound ground
	[-nt] bent count sent
	[-nts] rents tents comments
	[-ns] hens pens cans
	[-ntʃ] bunch ranch punch
	[-ntʃt] benched wrenched pinched
	[-ndʒ] manage orange arrange
	[-ndʒd] or [-nʒd] hinged ranged arranged
	[-nst] bounced fenced pronounced

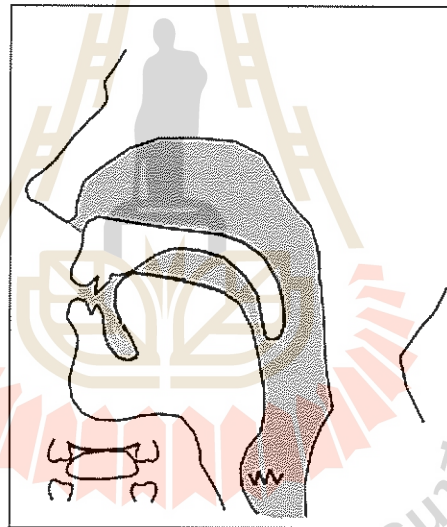


Figure 33

/n/

The Apico-Alveolar Nasal

4.3. /ŋ/

A. Description: The /ŋ/ is classified as a **dorso-velar nasal**.

B. Common Spellings: *ng* as in singer long sing
 n as in sink anxious
 ngue as in tongue harangue meringue

C. Positions : The English /ŋ/ occurs medially, intervocalically and finally. It does not occur in the initial position.

Medially	[fɪŋgə]	finger
Intervocalically	[sɪŋə]	singer
Finally	[stɪŋ]	sting

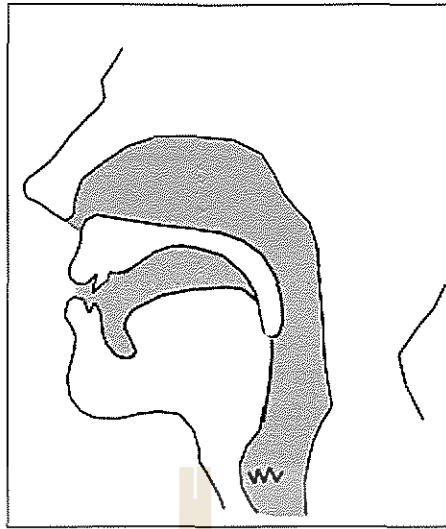


Figure 34

/ŋ/

The Dorso-Velar Nasal

D. Distributions: The following are representative examples of /ŋ/ words.

Final Consonants:	ring king song
Weaker Consonants:	hanger singer longing
Medial Clusters :	[-ŋg-] single finger longer
	[-ŋk-] blanket sinking conquer
Final Clusters :	[-ŋks] thinks honks hanks
	[-ŋz] things wrongs clings
	[-ŋkt] junked thanked linked
	[-ŋd] hanged wronged winged

5. **The Lateral.** There is one lateral phoneme in English.

/l/

A. Description: The English /l/ is classified as a **(voiced) apico-alveolar lateral**.

B. Common Spellings:

<i>l</i>	as in like land look
<i>ll</i>	as in ball fall fill kill
<i>le</i>	as in bottle valuable little middle
<i>el</i>	as in pummel funnel gavel kennel
<i>sl</i>	as in island isle aisle Carlisle
<i>ln</i> (with silent n)	as in kiln

The *l* is silent in palm balm talk walk calf half.

C. Positions: The English phoneme /l/ consists of 3 different allophones.

5.1 [l] This allophone is described as a voiced apico-alveolar lateral. It occurs initially, intervocalically, and medially. It is also called a clear *l*.

Initially:	[laɪk ^h]	like
Medially:	[ɔlwɛɪz]	always
Intervocalically:	[jɛləʊ]	yellow

5.2 [ɾ] This allophone is classified as a voiced apico-alveolar lateral with dorso-velar articulation. It is also called a dark l. It occurs before consonants and at the end of words (final position).

[mɪɾk] milk
[lɪtəɾ] little.

5.3. [ɭ] This allophone is classified as a voiceless apico - alveolar lateral. It follows a voiceless sound.

[sɭou] slow
[sɭeɪ] slay
[sɭaɪtʰ] slight

The /l/ is another consonant that can become syllabic. The syllabic sound is transcribed as [l̩]. Examples include *wrestle* [rɛsɫ̩] and *castle* [kʰæsɫ̩]

D. Distributions: The following are representative examples of /l/ words.

Initial Consonants: lay low lie like
Final Consonants: eel earl pull
Initial and Final Consonants: Lill loll lowell lull
Stronger Consonants: alarm asleep hello rely
Weaker Consonants: ability careless pulling solid
Syllabic Consonants: cattle battle bottle table
Initial Clusters: [kʰl̩-] claim cloth clean
[sl̩-] slide slick slow
[fl̩-] flower fly flour
[bl̩-] black blue blow
[pʰl̩-] play plow plan
[gl̩-] gleam glad glass

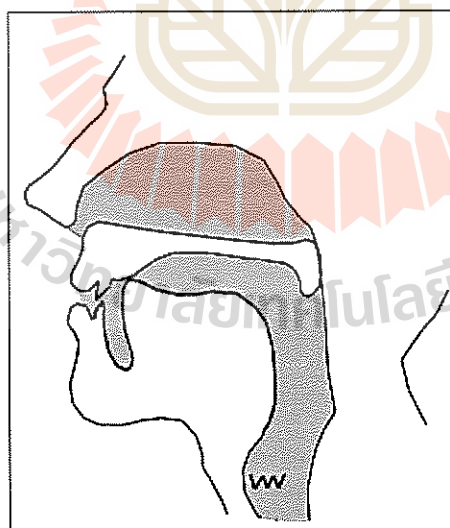


Figure 35

/l/

The Apico-Alveolar Lateral

Final clusters :	[-lz]	fills falls bills
	[-ld]	culled pulled installed
	[-lt]	belt felt melt
	[-lts]	belts colts bolts
	[-ldz]	holds, molds, folds
	[-lk]	hulk milk silk
	[-lp]	help, whelp, help
	[-lm]	film helm balm

6. **The Retroflex.** There is one retroflex consent phoneme in English.

/r/

A. Description: The English /r/ is classified as a (voiced) **apico- alveolar retroflex**.

B. Common Spellings:

- r* as in ring, red round.
- rr* as in carrot, carry, marry
- rh* as in rhyme, rhythm, rhetoric
- wr* as in wring, write, wrench

C. Positions: The English /r/ is composed of 2 allophones.

6.1 /r/ This allophone is described as a voiced apico-alveolar retroflex. It occurs initially, medially, intervocalically and finally.

Initially:	[rɪŋ]	ring
Medially:	[bedrʊm]	bedroom
Intervocalically:	[k ^h erɪ]	carry
Finally:	[fɔr]	for

6.2 [ɻ] This allophone is described as a **voiceless apico-alveolar retroflex**. It follows a voiceless sound.

[t ^h ɻaɪ]	try
[p ^h ɻaɪ]	pry
[k ^h ɻaɪ]	cry

D. Distribution : The following are representative examples of the /r/ words.

Initial Consonants:	ray round rough	
Final Consonants:	are ore air	
Initial and Final Consonants:	rare roar rear	
Stronger Consonants:	arouse arise arrive	
Weaker Consonants:	borrow bearing wearing	
Initial Clusters :	[k ^h ɻ]	cry crew crowd
	[br-]	breathe brown brew
	[dr-]	drive draw drown
	[fr̥-]	free frown fraud
	[gr̥-]	grow ground group
	[p ^h ɻ-]	prime press pray
	[str̥-]	strong street strand

[spr̩-] spring, sprite, sprout
 [skr̩-] scream, screw, scratch
 [θr̩-] throw, thrust, three

Final clusters :			
[-rp]	harp, carp, chirp	[-rd]	beard, board, bird
[-rm]	arm, farm, harm	[-rk]	fork, bark, cork
[-rt]	part, cart, port	[-rn]	morn, scorn, corn
[-rz]	roars, rears, boars	[-rl]	pearl, snarl, curl
[-rtʃ]	church, birch, arch	[-rb]	curb, verb, barb
[-rf]	scarf, surf, wharf	[-rʃ]	marsh, harsh
[-rθ]	birth, hearth, worth	[-rɜː]	merge, dirge, urge
[-rts]	carts, parts, starts	[-rdz]	boards, cards, retards
		[-rks]	parks, marks, barks

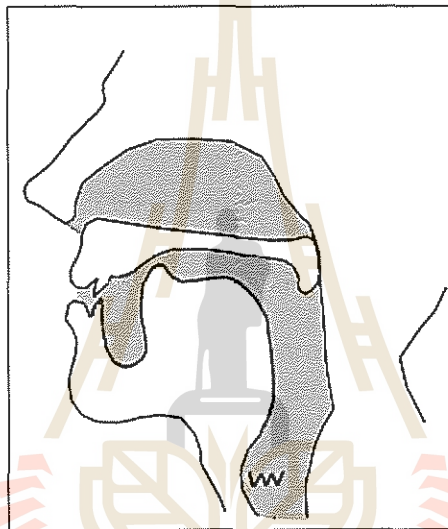


Figure 36

/r/

The Apico-Alveolar Retroflex

7. The Semivowels.

There are two semivowel phonemes in English. They are /w/ and /j/.

7.1 /w/

A. Descriptions : The /w/ is classified as a bilabial semivowel

B. Common Spellings: *w* as in wet wail wind
 u as in language linguist languish
 o as in once, choir, one

C. Positions: The English /w/ classified as a voiced bilabial semivowel. It can occur initially, medially, intervocalically. It does not occur finally in English.

Initially:	[wɪn]	win
Medially:	[dwel]	dwel
Intervocalically:	[əweɪ]	away

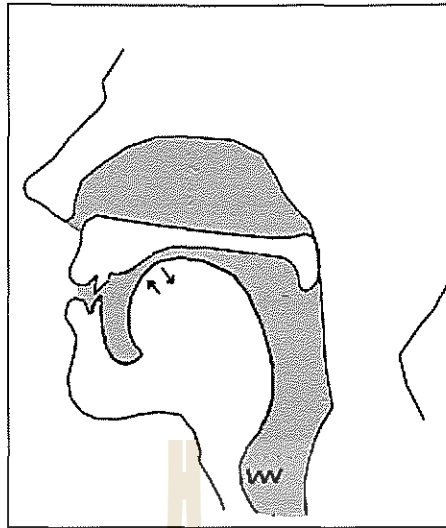


Figure 37

/w/

The Bilabial Semivowel

Distributions: The following are representative examples of /w/ words in different consonant combinations.

Initial Consonants:	we way warn
Final Consonants:	know low now
Stronger Consonants:	bewail reward require
Weaker Consonants:	cover lower going
Initial Cluster:	[sw-] sway, swing, swim
	[kw-] question, quick, quest
	[skw-] squeak, squelch, square
	[tw-] turnery, between, twig
	[dw-] dwarf, dwell, dwindle
	[θw-] thwack, thwart
	[gw-] guava, Gwen

7.2. /j/

A. Descriptions : The /j/ is classified as a **(voiced) fronto-palatal semivowel**.

B. Common spellings:	y as in yet yesterday young
	i as in million union onion
	u blending with [u] as in unit unite
	j as in hallelujah
	ue blending with [u] as in fuel
	eu blending with [u] as in feud
	ew blending with [u] as in few ewe pew

C. Position : The /j/ occurs initially and intervocalically. It does not occur in the final position.

Initially	[jɔɪn]	join
Intervocalically	[ləʊjəl]	loyal

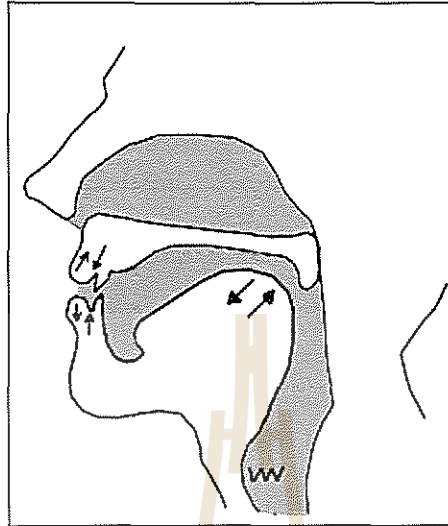


Figure 38

/j/

The Fronto-Palatal Semivowel

D. Distributions: The following are representative examples of the /j/ words in various consonant combinations.

Initial Consonants:	you yarn yawn
Stronger Consonants:	accuse beyond yanking
Weaker Consonants:	accurate familiar volume
Initial Clusters :	[kj-] cute cure cuticle
	[pj-] pure puke puny
	[hj-] hue huge human
	[fj-] few fuse refuge
	[mj-] mew muse mute
	[vj-] vies

The English /h/, /r/, /j/, /w/ phonemes are sometimes classified as glides. Glide is the adventitious production of an intermediate sound when the speech organs pass from the position of one sound to the position of another. When a glide initiates a syllable, that is, the tongue moves from the position mentioned to that for the following vowel, it is called an **on-glide**. If a glide terminates a syllable, it is called an **off-glide**.

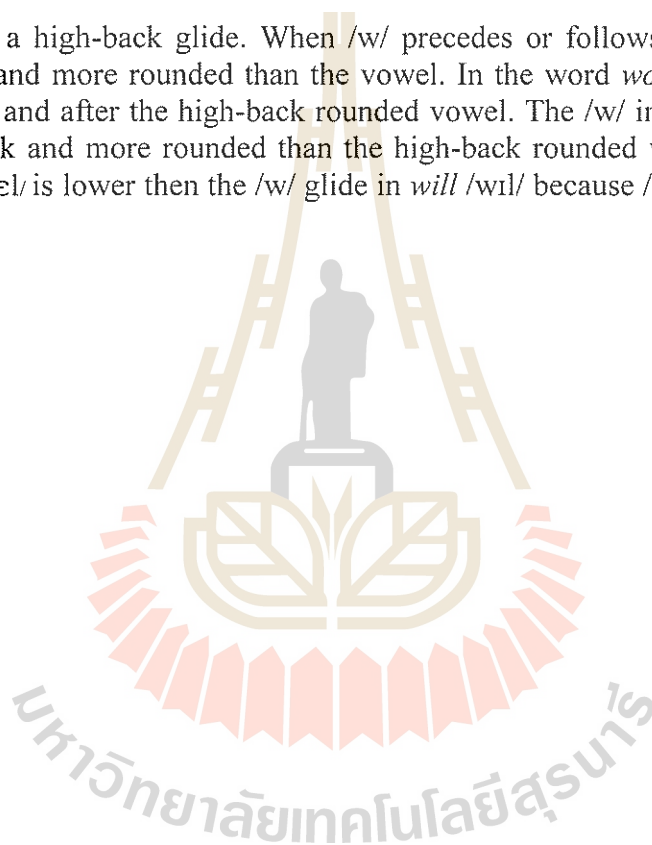
The /h/ glide has no specific tongue position. The position of the tongue is always nearly the same as that for the vowel before or after it. If it is different, it is closer the position of the mid-central /ʌ/. Whenever /h/ occurs as an on-glide (before the vowel), a breath of air usually occurs before the production of the vowel. When it occurs as an off-glide (after the vowel), there is a breath of air after the vowel. However, whether or not this breath of air occurs depends on circumstances. No breath occurs in the /h/

of *behave* /bɪˈheɪv/ or that of *song* /sɔŋ/, but a breath of air is apparent at the beginning or end of a word, as in *hat* /hæt/ or *law* /lɔh/

The English /r/ always immediately precedes or follows a vowel. Because the articulation changes gradually between the vowel and the /r/, one possibly cannot say where one ends and another begins. In other words, /r/ continuously weakens before a vowel and it continuously get stronger after a vowel. This is why the English /r/ is called a glide. The English /r/ is an on-glide as in *rain* /rein/ or *red* /reɪd/ and an off-glide as in *far* /fɑr/ *farm* /fɑrm/.

The English /j/ is a high-front glide. When the /j/ precedes or follows a vowel, the glide is higher and farther front than the vowel. In the word *yeast* /ji:st/ the glide precedes and also follows the high-front vowel. The /j/ glide in the word *yes* /jes/ is not as high and front as the /j/ glide in the word *yeast* because the /e/ is not as high as the /i/. In other words, the height of the /j/ glide depends on the vowel that precedes or follows it.

The English /w/ is a high-back glide. When /w/ precedes or follows a vowel, it is higher, more back and more rounded than the vowel. In the word *woo* /wu/, the /w/ glide occurs before and after the high-back rounded vowel. The /w/ in both positions is higher, more back and more rounded than the high-back rounded vowel /u/. The /w/ glide in *well* /wel/ is lower than the /w/ glide in *will* /wɪl/ because /e/ is lower than /ɪ/.



Chapter IV The Vowels of English

Vowels are classified differently from consonants. The difference in sound quality of vowels depends on variations in the shape of the oral cavity achieved mostly by the tongue, jaw opening and lip rounding. The classification of English vowels is a complicated and controversial matter. However, the following statements about vowels can help to reveal their nature.

1. Vowels are oral sounds but they may be partially nasal.
2. Vowels are voiced.
3. Vowels are characterized by a free flow of air through the oral cavity and above the tongue.
4. The distinguishing features of the different vowels are determined by tongue position and the lip rounding and unrounding.

There are nine vowels represented within the dimensions of high-and-low and front-and-back. There are four front vowels, two central vowel, and four back vowel sounds: i ɪ e æ ə ʌ ʊ u ɔ ɑ in the English language.

1. The Front Vowels

The pronunciation of the front vowels depends on the way in which the tongue is adjusted in the front part of the mouth. The tongue is, therefore, at its highest position for [i] and lowers as one goes through the series of the front vowels to [æ], at which point the tongue is at its lowest position. In English, there are five front vowels.

1.1. /i/

A. Description: The [i] is classified as a high front unrounded vowel.

B. Common Spellings:

- e* as in even equal cease
- ee* as in seen between keen
- ei* as in receipt deceive conceive
- ie* as in field believe brief
- i* as in machine ravine
- ae* as in Caesar
- uay* as in quay

Rare Spellings:

- ey* as in key
- e-e* as in eve
- eo* as in people
- ae* as in aeon
- oe* as in Phoenix
- is* as in debris

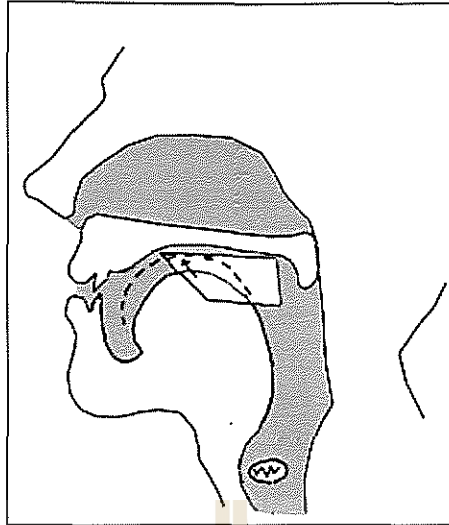


Figure 39

/i/

The High Front Unrounded

C. Distributions: The English /i/ occurs in all stressed positions.

Initially:	[ist ^h]	east
Medially:	[sit ^h]	seat
Finally:	[bi]	be

In some dialects, it may also occur in unstressed position, especially finally like busy [bɪzi], *bury* [beri].

1.2. /ɪ/

A. Description: The /ɪ/ is classified as a lower high front unrounded vowel.

B. Common Spellings:

i as in sit, bit, hit
y as in duty hymn symbol
ui as in build quilt guild
e as in here sphere mere
u as in busy
ea as in dear hear clear
ee as in deer beer steer
ie as in pierce, fierce,
o as in women
eo as in people
oe as in amoeba

C. Distributions: The English /ɪ/ occurs initially and medially in stressed syllables.

Initially:	[ɪnsek ^t]	insect
Medially:	[strɪŋ]	string

This sound is common in unstressed syllables as in *believe* [bɪlɪv]. It may also occur in final syllable of words like *wanted* [wɒnt^hɪd] and *washes* [wɒʃɪz]. Words like these

may have [ɪ] and [ə] instead of [ɪ], thus pronouncing as [wɒnt^hɪd], [wɒfɪz] or [wɒntəd], [wɒfəz].

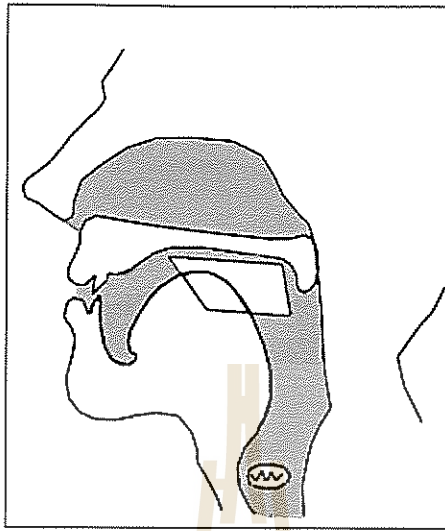


Figure 40

/ɪ/

The Lower High Front Unrounded

1.3. /e/

A. Description: the English /e/ is classified as a mid-front unrounded vowel

B. Common Spellings :

- e as in bed best test
- ea as in bread dread head
- a as in many
- ai as in again
- ue as in guess guest
- u as in bury
- ay as in says
- ei as in heifer

Rare Spellings:

- ae as in aesthetic
- ie as in friend
- eo as in leopard Leonard

Several vowel combinations associated with /r/ have the /e/ such as *-ere* in there, where, *-eir* in heir, their, *-air* in air, hair, *-ear* in pear, bear, *-are* in bare, hare, and *aer* in aerial.

C. Distributions: The English /e/ occurs initially and medially. It does not occur in final position.

Initially:	[end]	end
Medially:	[best]	best

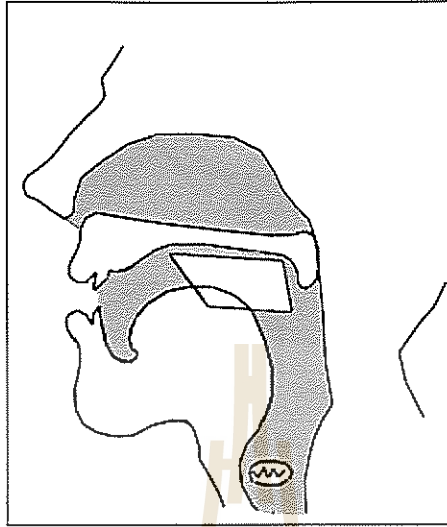


Figure 41

/e/

The Mid Front Unrounded

It may occur in all positions in unstressed syllables although it is rare in final position and often replaced by [ɪ], [i], [ə]. Thus, *exam* may be [ɛgzæm] in careful pronunciation, but in normal speech it usually begins with [ɪg-][iɟ-], or [əg-].

1.4 /æ/

- A. Descriptions: The English /æ/ is classified as a low front unrounded vowel.
 B. Common Spellings : *a* as in hat cat mat
 au as in laugh aunt

Rare Spellings: *ai* as in plaid
 i as in meringue

C. Distributions: The English /æ/ occurs initially and medially in stressed syllables.

Initially:	[æθlit ^h]	athlete
Medially:	[sæd]	sad

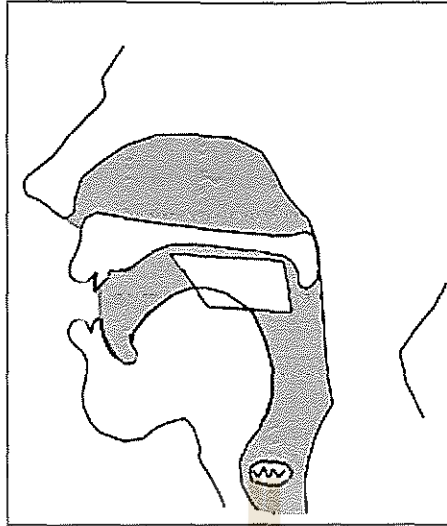


Figure 42

/æ/

The Low Front Unrounded

It also occurs medially in syllables with secondary stress, but does not occur in final position. The word *contract* has secondary stress on the second syllable [k^hɔ̃nt^hræk^t] when used as a noun. In addition, it may occur in unstressed position in words pronounced in careful pronunciation e.g. *admit* [ʔædmɪt^h], *attempt* [ʔæt^hɛmt^h], but in normal speech these words will be replaced with [ə]: thus, [ədmɪt^h], and [ət^hɛmt^h].

There are many cases in English pronunciation when either [æ] or some other sound may be heard. Before /r/ in words such as *marry*, *carry*, *carrel*, the vowel may be heard as [æ] or [ɛ]: thus, [mæri], [kæri], [kæɾət] or [mɛri], [k^hɛri], [k^hɛɾət] respectively. The pronunciation of words like these depends on the habit of the individual speaker.

2. The Central Vowels

The central vowels present a complex problem for analysis because they have even less fixed and well defined tongue positions with which they can be identified. Thus, it is impossible to place them on a vowel diagram with any real accuracy. Since stress plays a far more important part in differentiating the central vowels than it does in relation to the other English vowels, it would be more meaningful to summarize their characteristics in connection with three factors instead of placing them on a vowel diagram. The three factors are: (1) tongue position, (2) degree of stress, and (3) the presence or absence of *r* colouring. The vowels [ɜ̃] [ə̃] [ɜ] and [ə] are conventionally classified as mid central unrounded, and [ʌ] is classified as a lower mid-central vowel.

Stress differences divide the English central vowels into two groups: a) the vowels [ɜ̃], [ɜ], and [ʌ] occurring in stressed syllables, and b) the vowels [ə̃] and [ə] in unstressed syllables. Two of the central vowels are *r*-colored as they occur in general American speech. The central vowels without *r*-coloring are [ɜ], [ʌ] and [ə]. The main difference between the *r*-colored [ɜ̃] and [ə̃] is in the degree of stress.

2.1. /ɜ:/

2.1.1 [ɜ]

A. Description: The English [ɜ] is classified as a mid-central, r-coloured unrounded vowel.

B. Common Spellings: *er* as in term learn jerk
ur as in hurt curse burst
ir as in stir whir fir

Rare Spellings: *or* as in worm word work
urr as in purr burr
our as in journey attorney courage
aur as in restaurant
yr as in myrtle myrmidon
olo as in colonel

C. Distributions: The English [ɜ] occurs only in the stressed syllables. It can occur in all three positions.

Initially:	[ɜ:n]	urn
Medially:	[bɜ:d]	bird
Finally:	[p ^h ɜ]	purr

A variation of this sound as pronounced by the speakers who drop their r's is symbolized by the [ɜ]. Thus, the words above can be pronounced as *urn* [ɜn], *bird* [bɜd], and *purr* [p^hɜ].

2.1.2 [ə]

A. Description: The [ə] is a lax mid-central (r-colored) unrounded vowel.

The term 'lax' refers to a vowel sound produced with relatively little muscular tension, as opposed to 'tense' referring to a vowel sound produced with more muscular tension. The [ə] occurs in unstressed syllables and most often found in the medial and final positions in words. A variation of this sound as pronounced by those who drop their r's is symbolized by the [ə].

B. Common Spellings: *er* as in manner finer player
or as in actor advisor doctor
our as in harbour colour favour
ur as in murmur Saturday Saturn
ar as in burglar altar sugar
yr as in martyr
ir as in elixir

C. Distributions: The [ə] occurs only in unstressed syllables. It appears most often in the medial and final positions in words.

Medially	[stændə:d]	standard
Finally	[æktə]	actor

This sound can be pronounced by the speakers who drop their r's, and is symbolized as [ə]; thus, *permissible* [p^hə-mɪsəbəl], [p^həmɪsəbəl] or *ladder* [lædə-], [lædə].

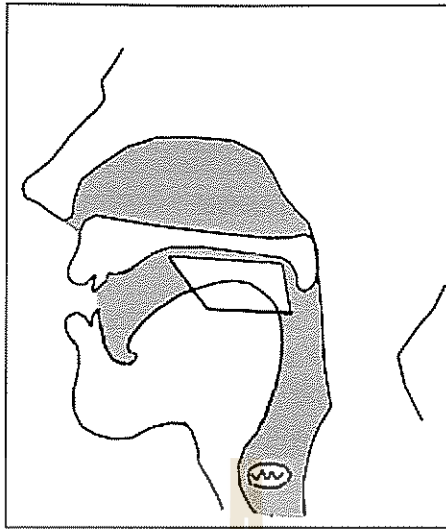


Figure 43

/ɜ:/

The Mid Central Unrounded

2.2. /ʌ/

2.2.1 [ʌ]

A. Descriptions: The English [ʌ] is classified as a lax lower mid-central unrounded vowel.

B.

Common Spellings : u as in cup, gun, fun
 o as in some, above, love
 ou as in couple, double, young
 oe as in does.
 Oo as in flood, blood
 a as in was

C. Distributions: The English /ʌ/ sound occurs initially, and medially in stressed syllables. It does not occur in the final position of words.

Initially: [ʌndə] under

Medially: [sʌm] some

2.2.2 [ə]

A. Description: The English [ə] is classified as a lax mid central unrounded vowel. This sound has been variously called the neutral, unstressed, indefinite, schwa, or obscure vowel.

B. Common Spellings:

a as in alone above soda
 e as in system accident moment
 i as in pencil policy difficult
 B. as in gallop abbot common
 u as in campus circus support
 ai as in fountain mountain
 eo as in dungeon pigeon surgeon
 ei as in mullein
 ea as in sergeant

ia as in parliament
oi as in porpoise
ou as in curious, dangerous,
he as in vehement
iou as in delicious, tedious, obnoxious

C. Distributions: The English [ə] occurs in all three positions. It occurs only in unstressed syllables.

Initially:	[əbʌv]	above
Medially:	[lɛməŋ]	lemon
Finally:	[bənænə]	banana

Francis (1958) proposed another central vowel called *the lower high central unrounded vowel*, which is symbolized as [ɪ]. This sound appears only in unstressed vowels in some pronunciations of words like *sister* [sɪstə], *dinner* [dɪnə]. Some people may pronounce the adverb *just* as [dʒɪst] instead of [dʒʌst]. In certain words, when the speech is formal or careful, the sound in unstressed syllables may be either [ɪ] or [ə] e.g. *regard* [rɪɡɑrd], or [rəɡɑrd], and *demand* [dɪmənd], or [dəmənd].



Figure 44

/ʌ/

The Lower Mid Central Unrounded

3. The Back vowels.

The distinctive feature of the production of the back vowels is the adjustment of the tongue in the back part of the oral cavity. Like the front vowels, the back vowels can be arranged in a series ranging from high to low. Apart from the positions of the tongue, lip rounding plays an important role in producing the back vowels.

3.1. /u/

A. Descriptions : The /u/ is classified as a high back rounded vowel. It is the highest and most rounded of the back vowels.

B. Common Spellings :
oo as in too boat moon
u as in rule studious prudent
o as in move prove who

ew as in grew knew shrewd
ue as in blue clue glue
ou as in troupe group soup
ui as in fruit
ough as in through
ous as in rendezvous
wo as in two
oe as in shoe

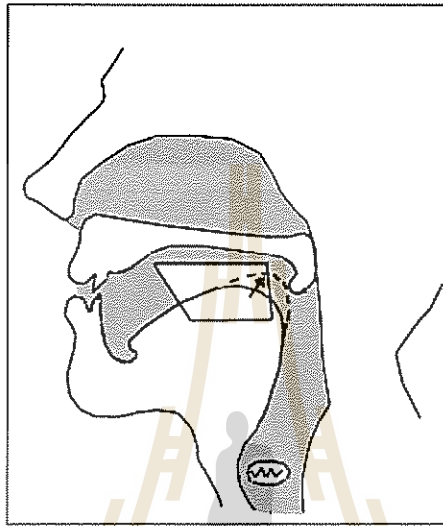


Figure 45

/u/

The High Back Rounded

C. Distributions: The English [u] occurs in three positions, initially, medially and finally, although it seldom occurs initially in English.

Initially:	[uz]	ooze
Medially:	[but ^h]	boot
Finally	[θru]	through

This sound can also occur in unstressed positions as in *lieutenant* [lut^hɛnənt^ʔ].

3.2 /ʊ/

A. Descriptions : The /ʊ/ is classified as a lower high-back rounded vowel.

B. Common Spellings :
oo as in look foot stood
u as in full put bull
oul as in could should would
o as in woman wolf bosom
or as in worsted

C. Distributions: The English [ʊ] occurs only in the medial position. It does not occur initially or finally.

Medially:	[fʊt]	full
	[wʊd]	would
	[stʊd]	stood

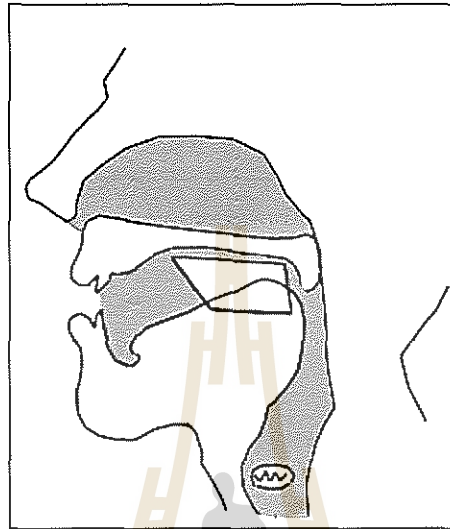


Figure 46

/ɔ/

The Lower High Back Rounded

3.3 /ɔ/

A. Description: The /ɔ/ is classified as a higher low-back rounded vowel.

B. Common Spellings:

- a* as in all call ball
- aw* as in paw raw saw
- au* as in fault vault Paul
- o* as in soft lofty song
- ough* as in ought sought thought
- augh* as in caught taught naught
- oa* as in board broad
- al* as in talk chalk walk

C. Distributions: The English [ɔ] occurs initially, medially and finally.

Initially:	[ɔfət]	awful
Medially:	[rɔŋ]	wrong
Finally:	[strɔ]	straw

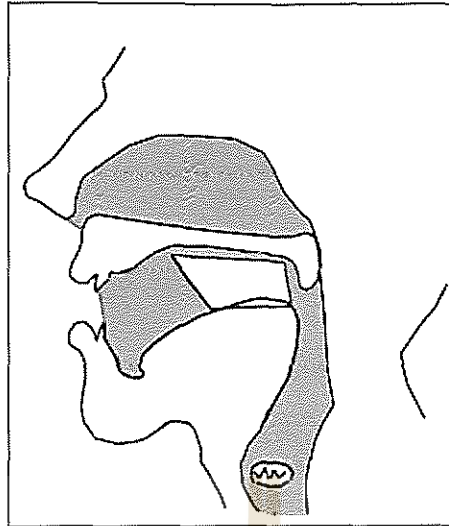


Figure 47

/ɔ/

The Higher Low Back Rounded

3.4 /ɑ/

A. Description: The /ɑ/ is classified as a low mid-back unrounded vowel.

- B. Common Spellings:
- o* as in hot pot cot
 - a* as in father mamma
 - ar* as in car part barn
 - al* as in calm palm psalm
 - e(r)* as in sergeant
 - ua(r)* as in guard guardian
 - ea(r)* as in heart hearth

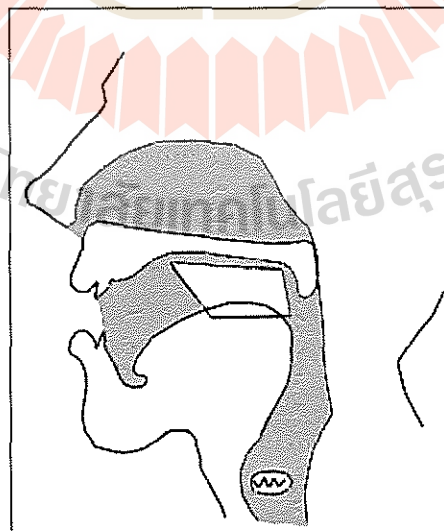


Figure 48

/ɑ/

The Low Mid-Back Unrounded

C. Distributions: The English [ɑ] occurs initially and medially. It does not occur in the final position except in slang as *ma* [mɑ], *pa* [p^hɑ] and *ha* [hɑ].

Initially:	[ɑnestʰ]	honest
Medially:	[fɑðə]	father



CHAPTER V

THE DIPHTHONGS OF ENGLISH

A diphthong consists of two vowels which occur in the same syllable, the tongue moving smoothly from one position to the other without gap in series. A diphthong is considered a single phoneme. It is distinctive if it is phonemic in the sense that meaning would be changed if another sound is substituted. However, phoneticians do not agree completely on which English diphthongs are distinctive, nor do they concur in their choice of symbols. All symbol systems have their inadequacies, but those of International Phonetic Alphabets are used in this book. In this scheme the distinctive diphthongs are /aɪ/ as in *sigh*, /aʊ/ as in *now* /oʊ/, as in *go*, /ɔɪ/ as in *boy* and /eɪ/ as in *day*. Also, Nondistinctive diphthongs based on the International Phonetic Alphabets are used in this book.

One cannot get an accurate idea of English pronunciation if he takes for granted that there are only five diphthongs due to the facts that: a) nearly all the vowels are diphthongized to some extent and these resonance changes are necessary for accurate pronunciation, and b) there are numerous differences within each of the so-called distinctive diphthongs i.e. differences that can be recorded by variations in the choice of symbols. Not all, however, would be distinctive.

1. Distinctive Diphthongs

1.1 /eɪ/

A. Description: This diphthong is classified as a front unrounded diphthong. The [e] portion is the longer nucleus and the [ɪ] portion is the shorter glide.

B. Common Spellings:

<i>a</i>	as in	place	take	taste
<i>ai</i>	as in	rain	pain	train
<i>ay</i>	as in	pay	day	ray
<i>ea</i>	as in	steak	break	sweat
<i>ey</i>	as in	they	obey	prey
<i>au</i>	as in	gauge		
<i>uet</i>	as in	bouquet		
<i>et</i>	as in	chalet	valet	

C. Irregular Spellings:

<i>ei</i>	as in	vein	eight	freight
<i>ee</i>	as in	matinee	melee	
<i>et</i>	as in	sachet	ballet	

D. Distributions: The diphthong [eɪ] occurs initially, medially and finally.

Initially: [eɪdʒ] age

Medially: [k^heɪm] came
 Finally: [əweɪ] away

For some speakers, the glide portion [ɪ] may have a tongue position close to [i] but of shorter duration; thus, the pronunciation of *gain* [geɪn] or [gein] is possible.

1.2 /aɪ/

A. Descriptions: The English diphthong [aɪ] is classified as a low back to high front diphthong. The [a] portion is the longer nucleus and the [ɪ] portion is the short glide.

B. Common Spellings: *i* as in find wind(v) kite
ie as in lie pie tie
i-e as in dice ride file
y as in why by fly
igh as in high sigh light
ai as in aisle
uy as in buy
eye as in eye
ye as in lye

C. Irregular Spellings:
ui as in guide guidance
ei as in height
is as in island
oi as in choir

D. Distributions: The [aɪ] occurs initially, medially and finally in English.

Initially	[aɪlənd]	island
Medially	[faɪnd]	find
Finally:	[dɪnaɪ]	deny

For some speakers the nucleus [a] may be closer to the [ɑ], when the tongue position is farther backward than that of the [a] and the glide close to the [i] but of short duration. The word *kind* may be pronounced as [k^haɪnd] or [k^hɑɪnd].

1.3 /ɔɪ/

A. Description: The [ɔɪ] diphthong is classified as a low back rounded to high front diphthong. The [ɔ] portion is the longer nucleus and the [ɪ] is the shorter glide.

B. Common Spellings: *oy* as in boy toy enjoy
oi as in join coin oil
eu as in Freud

C. Distributions: The [ɔɪ] occurs initially, medially and finally in English.

Initially:	[ɔɪstə]	oyster
Medially	[dʒɔɪn]	join
Finally:	[bɔɪ]	boy

For some speakers, the glide portion [ɪ] may have a tongue position close to the [i] but for a short duration, so the word *toy* may be pronounced as [t^hɔɪ] or [t^hɔi]. The pronunciation of this diphthong may vary normally somewhat toward [oɪ] or [oi]. The word *boy* may be pronounced as [bɔɪ], [boɪ] or [boi].

1.4 /oʊ/

A. Description: This diphthong is classified as a back rounded diphthong. The [o] portion is the longer nucleus and the [ʊ] is the shorter glide.

B. Common Spellings: *ow* as in blow crow row
 o-e as in home note mole
 o as in hold old cold
 oa as in road boat moan
 oe as in doe toe woe

Irregular Spellings: *au* as in chauffeur
 eau as in beau
 ew as in sew
 ough as in dough though
 eo as in yeomen
 oo as in brooch
 ou as in soul

C. Distributions: The [oʊ] occurs initially, medially and finally in English.

Initially: [oʊvə] over
 Medially: [k^hoʊd] code
 Finally [bloʊ] blow

For some speakers, the glide portion [ʊ] may have a tongue position close to [u] but of shorter duration, so the word *road* may be pronounced as [rouɪ] or [roud]. People in some areas may replace the [oʊ] with [əʊ], so the word *home* may be pronounced as [həʊm].

1.5 /aʊ/

A. Description: The [aʊ] is classified as a low back to high back rounded diphthong. The [a] portion is the longer nucleus and the [ʊ] portion is the shorter glide.

B. Common Spellings: *ou* as in out mouse found
 ow as in owl fowl town
 ough as in bough drought
 ou(r) as our hour

B. Distributions: The [aʊ] occurs initially, medially, and finally in English.

Initially: [aʊtˈlaɪn] outline
 Medially [graʊnd] ground
 Finally: [naʊ] now

For some speakers, the nucleus [a] may be closer to the [ɑ] and the glide [ʊ] close to [u] but the duration is shorter. Thus, the word *gown* may be pronounced as [gɑʊn] or [gɑun]. Some phoneticians may prefer to use the symbol [aʊ] for this diphthong. The

glide portion [ʊ] of this diphthong seems to be neglected by people in some areas, so words like *house* and *cloud* may be heard as [has] and [k^hlɑd], which may be considered substandard. In other words, the diphthong [aʊ] is replaced by [ɑ].

1.6 /ju/

A. Description: The [ju] is classified as a high back to high front diphthong. The [u] portion is the longer nucleus and the [j] portion is the shorter glide.

B. Common Spellings:

u	as in	mule	unit	universe
ue	as in	cue	hue	
ew	as in	few	new	hew
you	as in	you	youth	
iew	as in	view	review	
eu	as in	feud		
eau	as in	beauty		
ieu	as in	adieu		
eue	as in	queue		

C. Distributions: The [ju] occurs initially, medially, and finally in English.

Initially:	[juθ]	youth
Medially:	[njuz]	news
Finally:	[rɪvju]	review

A common variant of [ju] is [ɪu] when this diphthong appears in the initial and the final positions.

2. Nondistinctive Diphthongs. All of the nondistinctive diphthongs are centering diphthongs. They are central off-glides, either *r*-coloured or without *r*-coloured, combined with simple vowels.

2.1. [ɪr] or [ɪə̃] or [ɪə]

A. Description: The [ɪr] diphthong is described as a lower high front to central diphthong

B. Common Spellings:

<i>ear</i>	as in	dear	hear	clear
<i>ere</i>	as in	here	mere	sphere
<i>er</i>	as in	material	period	serious
<i>eir</i>	as in	weir	weird	
<i>ier</i>	as in	pier		
<i>ir</i>	as in	spirit	miracle	

C. Distributions: The [ɪr] diphthong occurs in three positions. It occurs in the final position as in *dear* [dɪr], [dɪə̃], [dɪə], followed by a consonant as in *beard* [bɪrd], [bɪə̃d], [bɪəd], and followed by a vowel as in *material* [mət^hɪrət]

2.2 [ɛr] or [ɛə̃] or [ɛə]

A. Description: The [ɛr] diphthong is described as a lower mid front to central diphthong.

B. Common Spellings:

<i>er</i>	as in	very	heron	
<i>err</i>	as in	merry	berry	ferry
<i>ar</i>	as in	character	canary	vary
<i>arr</i>	as in	carry	marry	tarry
<i>are</i>	as in	care	mare	spare
<i>air</i>	as in	air	pair	chair
<i>eir</i>	as in	their	heir	heiress

C. Distributions: The [er] diphthong occurs in three positions. It occurs finally as in *fair* [fer], [fɛə], [fɛə], followed by a consonant as in *scarce* [skɛrs], [skeəs], [skeəs], and followed by a vowel as in *very* [veri], [vɛə-i]. People in some areas may indicate a distinction between *e* and *a* words saying [veri] *very*, [væri] *vary*, and [meri] *merry*, [mæri] *marry*. Either pronunciation is acceptable and it is not likely to be substandard.

2.3 [ar] or [ɑə] or [aə]

A. Description: The [ar] diphthong is described as a low back to central diphthong.

B. Common Spellings: *ar* as in art start part
ear as in heart hearth
er as in sergeant
uar as in guard guardian

C. Distributions: The [ar] diphthong occurs initially as in *army* [armi] or [aə-mi] [aəmi] [ami], medially as in *farther* [fɑðə] [fɑəðə] [fɑəðə] [fɑðə] and finally as in *bar* [bɑr] [bɑə] [bɑə] [bɑ]. Words spelled with *ar* are nearly pronounced with [ar], e.g. *farm* [fɑrm], *guard* [gɑrd], *dark* [dɑrk^h]. However, words with *or* may be pronounced with [ar] or [ɔr], e.g. *foreign* [fɑrɪn] or [fɔrɪn], *borrow* [bɑrou] or [bɔrou], *moral* [mɑrəl] or [mɔrəl].

2.4 [ɔr] or [ɔə] or [ɔə]

A. Description: This diphthong is described as a higher low-back to central diphthong.

B. Common Spellings: *or* as in form
ur as in course court source
oar as in boars oar coarse
eor as in George

C. Distributions: The [ɔr] diphthong occurs initially as in *order* [ɔrdə], [ɔə-də], [ɔə-də] [ɔdə], medially as in *sport* [spɔrt^h] [spɔə-t^h] [spɔə-t^h] [spɔt^h], and finally as in *bore* [bɔr] [bɔə] [bɔə] [bɔ]. Kenyon and Knott (1944) indicated that several words could be pronounced as [our] or [ɔr], for example, *court* [k^hourt^h] or [k^hɔrt^h], *board* [bɔurd] or [bɔrd]. Some other words include *before chorus course force fourth ford toward store torn*.

2.5 [ʊr] or [ʊə] or [ʊə]

A. The [ʊr] diphthong is described as a lower high-back to central diphthong.

B. Common Spellings: *our* as in tour
oor as in poor moor boor
ure as in sure cure lure

C. Distributions: The [ʊr] diphthong occurs in the final position as in *poor* [p^hʊr] [p^hʊə̃] [p^hʊə̃]. It is also followed by a consonant as in *surely* [ʃʊrli] [ʃʊə̃li] [ʃʊə̃li], and followed by a vowel as in *mural* [mʊrət]. Some people may prefer to pronounce words with *ur* with [ju] as in *mural* [mjʊrət] instead of [mʊrət], and *pure* [p^hjuə̃] for [p^hʊə̃]. In some subregional dialects, [ʊr] may sometimes be substituted for [ʊr] as in *poor* [p^hʊr] for [p^hʊr]. A frequent variation in the pronunciation of [ʊr] is [ɔ̃r], so the word *poor* may be pronounced more like [p^hɔ̃r] or even [p^hɔ̃] with non-*r*-clouring.



CHAPTER VI

STRESS, PITCH AND JUNCTURE

Stress

Stress refers to the degree of prominence a syllable has. In *agree*, for example, the *gree* sounds more prominent than the *a*. There are four degrees of stress in a stream of speech. They are called **primary**, **secondary**, **tertiary**, and **weak**. The symbols used are $\acute{\quad}$ $\hat{\quad}$ $\grave{\quad}$ $\tilde{\quad}$ respectively. The primary and the secondary stresses are called major stresses and the tertiary and the weak stresses are called minor stresses. Words that belong to the open list, which consists of nouns, verbs, adjectives and most adverbs normally have major stresses and words that belong to the closed list, which is composed of pronouns, articles, prepositions, conjunctions, demonstratives, relatives and interrogatives, have minor stresses. The primary stress, which is the heaviest, is used for a monosyllable word spoken in isolation or for the most important syllable of an important word in context. In the sentence, "Answer the *question*." The first syllable, *An*, and the fourth syllable, *ques*, have primary stress. In the dictionary, this degree of stress is marked with the symbol [ˈ] following the syllable as in "museumˈ." However, the International Phonetic Alphabet uses the symbol [ˈ] before the syllable, as in [mjuˈzɪəm]. Secondary stress has a distinctly lesser degree. We may take the example "television". Both *tel* [tʰɛl] and *vi* [vɪ] are stressed but the [vɪ] is clearly subordinated to the [tʰɛl]. The symbol [ˌ] is used. The IPA uses the symbol [ˌ] below the line and preceding the syllable as in [tʰɛlɪˌvɪʃən]. However, in this book, the author prefers marking the primary stress on the vowel of the syllable which is the nucleus of the stressed syllable. Tertiary stress is the degree of emphasis needed to preserve the normal vowel quality but not giving it the emphasis of a primary or secondary stress. The symbol [ˑ] is used to indicate the tertiary stress, but in common dictionary usage, no special mark is given to indicate pronunciation, for example, *failing* [ˈfeɪlɪŋ] or *fallow* [ˈfæləʊ]. In general, the tertiary stress is given to unstressed syllables but they are not as weak as the schwa [ə]. Weak stress symbolized as [ˑ] is minimal stress with indefinite quality. In the dictionary, it is represented by [ə] or [ə̃].

Word Stress

It should be pointed out that we have to distinguish between word stress and sentence stress. The word stress is concerned with the stressing of individual words of two or more syllables when they are pronounced in isolation. The sentence stress deals with the stress which is put on words of one or more syllables in order to indicate their importance in relation to other words in the sentence. In English, we usually find that simple words consisting of two or more syllables have a strong accent on one of these syllables and a weak accent on the remaining syllable or syllables as in *sentence*, *indicate*, *distinguish*, *consist*, *pronounce*, *relation*, *historical* etc. In certain words of more than two syllables, we find a secondary accent besides the principal accent such as *administrator*, *nationality*, *energetic*, *represent* etc. There are also a great many words that contain two or more syllables that have an equally stress on two of these syllables when pronounced in isolation. When they occur in a context, the main stress may sometimes fall on the first and sometimes on the second syllables according to the position in the sentence. Such words are said to have double or even or level stress.

The words like the following have the **double stress**: *thirteén, afternoón, mísprínt, prehistóric, rebúild* etc.

Compound words may either be strongly stressed on one of the component parts, normally the first, and have a weak or secondary stress on the remaining part, or else the two parts may have an equally strong accent. For examples:

1. houſehöld hóſebäck ſchoólböy
2. houſekeêper hóſepôwer móther-coûntry
3. ármchaír heádmaſter úpſtaírs

The correct stressing of words presents one of the major difficulties in the pronunciation of English. Since English arises during the Middle Ages through a merger of Anglo-Saxon and Norman French, and since owing to this merger it was later able to incorporate a large part of the Latin and Greek vocabulary as well as numerous additional loan words from modern French, it is natural that its modern vocabulary should display a mixture of the two original types of accentuation.

Although it is not possible to lay down any completely satisfactory rules for the stressing of English words, it should be emphasized that there are vast number of words which do not offer any difficulty at all in this respect. If we first look at the matter from the statistical point of view, there are very few words on an average page for which the place of the accent cannot be determined by the aid of various rules that are given below.

1. In dealing with the accentuation of words containing two or more syllables, we may distinguish five principal categories.

1.1. In words of two or three syllables not containing an easily recognized prefix, the stress usually falls on the **first syllable**. To this category belong a vast number of words of native or foreign origin partly simple words and partly such as end in various prefixes.

1.2. Words of native (Anglo-Saxon) origin such as apple needle thousand hundred little chicken heavy water weather freedom golden etc.

Notes: 1. A large number of words of comparatively recent French or other origins retain their foreign accent on the **last syllable** especially words ending in -eer, -ier, -esce, -esque, -ette, -ine, -ique, -oon, e.g. career, pioneer, volunteer, cashier, grenadier, acquiesce, coalesce, convalesce, effervesce, burlesque, grotesque, picturesque, cigarette, etiquette, kitchenette, machine, magazine, marine, ravine, routine, sardine, antique, critique, physique, technique, cartoon, balloon, dragoon, spittoon, typhoon etc.

2. A large number of three-syllable loan-words of various origins, the stress falls on the **second syllable**, for examples, acumen, arena, aroma, assassin, asylum, banana, bonanza, canary, casino, clandestine, diploma

3. Disyllabic words ending in *-ate* are usually stressed on the **first syllable** when they are nouns and adjectives and on the **last syllable** when they are verbs, for example,

a) Nouns and Adjectives: palate, mandate, legate, prelate, senate, climate, pirate, private, dictate, curate except that the words irate, sedate, ornate may be stressed on either the first or second syllable, b) Verbs: create, cremate, legate, dictate, locate, narrate, vacate

2. In Words of two or three syllables having a prefix without any distinct meaning of its own and the part of the word that follow the prefix does not usually

occur as an independent word, especially in words of French or Latin origin, the stressing may be divided into the following groups.

2.1. For verbs, adverbs and predicative adjectives, the stress usually falls on the syllable following the prefix.

2.1.1. Words with native (Anglo-Saxon) prefixes : abide, alight, arise, awake, begin, believe, belong, besiege, betray, outdo, misgive

2.1.2. Words with French or Latin prefixes : absorb, accept, adhere, amass, apply, ascend, collide, commence, commit, conceal, continue

A large number of nouns which are formed by adding the endings *-al*, *-ance*, *-ant*, and *-ment* to a verb are included in this group, for example, approval, arrival, disposal, acceptance, assistance, assistant, attendance, except ignore ignorance, protest, protestant

Notes: Three-syllable verbs ending in *-ate*, *-ize*, *-ute* are usually stressed in the first syllable even when they contain a prefix, for example, compensate, concentrate, dedicate, emigrate, advertise, recognize, constitute, execute

2.2. In nouns and adjectives, the stress falls on the prefix or on the syllable following the prefix.

2.2.1. Nouns and adjectives stressed on the prefix. absence, access, absolute, compass, consequent, deference, effort, eloquent

2.2.2. Nouns and adjective stressed on the syllable following the prefix : abrupt, abstruse, absurd, abyss, adventure, component, complaint, degree, discreet

Notes: 1. The following words are stressed on the prefix when they are used as nouns or adjective but they are stressed on the syllable following the prefix when they are used as verbs: absent, accent, addict, attribute, increase, insult, escort, transfer, rebel.

2. In the following words the stress falls on the prefix not only when they are used as nouns but also when they are used as verbs, for example, combat, comfort, comment, compliment, profit, envy, exile supplement.

3. Words formed through the combination of a prefix with a distinct meaning of its own and a word which occur independently have double stress, for example, decompose, disbelief, disengage, midwinter, preview, semi-final, sub-human, overseas, postdate

Notes: 1. Certain nouns of the same type or of a type similar to those included above are stressed on the prefix. They have mostly native prefixes and are words of a long standing in the language, e. g. aftermath, aftertaste, forefather, half-blood, overcoat, outpost underworld, afternoon.

2. Words with the prefixes *dis-*, *im-*, *in-*, *mis-*, *pre-*, *un-*, are stressed on the syllable immediately following the prefix, for example, disarm, disclose, disgrace, dishonest, discharge, improper, impossible, impromptu, inactive, mislead, misfortune

4. In words of two or more syllables whose accentuation is determined by the suffixes that they contain, the stressing may follow the following three categories.

4.1 Words ending in suffixes containing any one of the vowel combinations *ia*, *iou*, *iu*, *ea*, *eo*, *eou*, *eu*, *ie*, are always stressed on the syllable preceding the suffix. politician, intuition, completion, comedian, magnolia, leukemia, gardenia, hilarious, except that the stress of the following words falls on the last syllables: European, Jacobean, Crimean, Korean, museum, mausoleum, Coliseum, Maria, Sophia, Thalia.

4.2 Words ending in *-ie*, *-ical*, are always stressed on the syllable preceding the suffix e.g. gigantic, pedantic, identical, apoplectic, physical, However, the following words are stressed on the second syllable before *-ic*: Arabic. catholic, choleric (also choleric), politics, (but political) rhetoric (but rhetorical), lunatic

5. In words of four or more syllables, the stress normally falls on the third syllable from the end. However, there are also a large number of words in which the stress falls on the fourth syllable from the end.

5.1. Words stressed on the third syllable from the end e.g. aristocracy, democracy, conspiracy, hypocrisy, machinery, astronomy, centenary

5.2. Words stressed on the fourth syllable from the end e.g. accuracy, delicacy, efficacy, intimacy, temporary, voluntary.

Notes: 1. In a few words, the stress falls on the fifth syllable from the end such as confiscatory, congratulatory, deprecatory, disciplinary etc.

2. In certain words with four or more syllables the main stress falls on the second syllable from the end, for instance, appendicitis, laryngitis, peritonitis, meningitis, tonsillitis, diagnosis, concertina, interference etc.

3. Adjectives ending in **-able** generally preserve the accent of the words from which they are derived e.g. **comfortable**, **valuable**, **imaginable**, **reliable**, **impregnable**, **considerable**, except **admirable**, **comparable**, **lamentable**, **preferable**. These words are derived from **admire**, **compare**, **lament** and **prefer**

4. If there is no distinct basic word from which an adjective ending in **-able** is derived, the stress usually falls on the third or the fourth syllable from the end e.g. **ineffable**, **impeccable**, **indomitable**, **inevitable**. Similar rules apply to adjectives ending in **-ible**, for example, **inaccessible**, **irresistible**, **illegible**, **intelligible**, **negligible** etc.

In a stream of speech, when two words both belong to the open list occur successively, only one of them has the primary stress. The words that belong to the closed list have the minor stress.

N	V
mên	sleép
children	play
cats	mew
Adj	N
prêtty	gírls
good	boys
bad	weather
Pronoun	V
shè	does
we	do
they	arrive

Stress Patterns.

Grammatical patterns are accompanied by regular stress patterns. Sometimes, such stress patterns are the sole means of differentiating one grammatical pattern with its accompanying meaning, from another. At other times the stress patterns just ride along.

Pattern 1. + This is stress pattern of :

1) an adjective preceding a noun

bläck bírd
good gírl
prètty dress

2) an intensifier preceding an adjective

vêry goód
more stupid
pretty blue

Pattern 2. $\hat{+} \hat{+} \acute{}$ This is the pattern of an intensifier, an adjective and a noun.

vêry blâck bóard = the board which is very black
pretty blue shirt = the shirt that is too blue
more silly words = words that are more silly

The same pattern is used for the adjective followed by another adjective preceding a noun.

vêry blâck boárd = the very board which black
pretty blue shirt = the shirt that is pretty and blue
more silly words = more words that are also silly

Pattern 3. $\check{+} \grave{+} \hat{+} \acute{}$ This is the pattern of an article, an intensifier, and adjective preceding a noun.

ã vêry goód boók
a pretty black cow

Pattern 4. $\acute{+} \grave{}$ This is the pattern of:

1. A compound noun

1.1. A compound formed by a noun preceding a noun:

buś drîver
fountain pen
bookstore
sidewalk

1.2. A compound noun formed by a verb preceding a noun:

waśh clòth
scatter brain
worry wart
watch tower

1.3. A compound noun formed by a verb preceding another verb:

seé sàw

1.4. A compound noun formed by a verb preceding an adverb:

dié hàrd
break through
come back

1.5. A compound noun formed by an adjective preceding a verb

deép freèze

1.6. A compound noun formed by an adverb preceding an adjective:

e vér shaìp

1.7. A compound noun formed by an adverb preceding a noun or a verb:

o vérpàss
throughway
afterthought

1.8. A compound noun formed by a verb preceding an adverb:

passover
hangover
stopover
fell out
holdup

1.9. A compound noun formed by an adjective preceding a noun

blackboard
bluebird
greenbeans
sweetheart
deadline

Notes: 1. Compare these compound nouns with adjective preceding a noun, which has the pattern $\hat{\ } + \acute{\ }$

blackboards = boards that are black

blue birds = birds that are blue

2. A Compound noun, and a verb followed by an object are sometimes homophonous sequences, but the stress patterns are different. The compound noun has the pattern $\acute{\ } + \grave{\ }$ and a verb with an object has the pattern $\hat{\ } + \acute{\ }$

Compound Noun

They are *vi*siting professors
They are *pl*aying cards
They are *fl*ying planes

Verb and An Object

They are *vi*siting professors.
They are *pl*aying cards
They are *fl*ying planes

Stress Shift.

The addition of an affix to a word sometimes causes a shift in stress. For example, when *-icity* is added to *simple*, the primary stress moves from the first to the second syllable, becoming *simpli*city. Some other words are as follows:

able	ability
impulse	impulsive
despot	despotic
syntax	syntactic
linguist	linguistic
import	important

Sentence Stress.

Sentence stress refers to extra prominence given to a word or words in a sentence for the sake of emphasis. Every sentence has at least one stress but it may have two or more depending on the length of the sentence or the meaning the speaker wants to convey. A sentence like *What is he doing?* may have stress on *what* and stress on *do* or a short sentence like *Yes, he does.* may have stress on *yes* and on *does*. Almost any word in an English sentence can be stressed depending on the situation and on the meaning one wishes to convey. Compare the meanings of the following sentence according to shift or stress.

- Jack likes fish. (i.e. not Jill, but Jack)
- Jack likes fish. (i.e. there is no question of his hating fish)
- Jack likes fish. (i.e. not meat or poultry. etc.)
- Jack likes fish. (i.e. the meanings of (a) and (c) are combined)

Strong and Weak Forms

The word form pronounced in isolation is called a citation form. At least one syllable is fully stressed with no reduction of vowel quality. However, in connected speech, changes can take place. Some words such as *his*, *and*, *for* may be changed. They will be unstressed. The vowel may be reduced to [ə] or may disappear. One or more consonant sounds may also be dropped or changed. The word *and*, for example, is pronounced as [ænd] in its citation form, but may be reduced and pronounced as [ənd], [ən] or even become syllabic [ŋ]. In English, there are many words that do not maintain their citation form in conversations. These words have two forms of pronunciation called a strong form and a weak form. The strong form occurs when the word is stressed as in "I want both money and honor, not money or honor." The words *and* and *or* will be stressed; thus, they are in a strong form, i.e. *and* [ænd], and *or* [ɔr]. The weak form occurs when the word is unstressed. For example, in the sentence such as "John and Jack are friends." The word *and* is not stressed and it is in a weak form i.e. [ənd], [ən], or [ŋ]. The following table is a list of some strong and weak forms of common English words.

Table 1
Some common strong and weak forms.

word	strong form	Weak form	Example of a weak form
a	[eɪ]	[ə]	a boy [ə bɔɪ]
an	[æn]	[ən, ɪ]	an army [ən ɑrmi]
and	[ænd]	[ənd, ən, ɪd, ɪ]	cats and dogs [kæt'sən dɔgz]
as	[æz]	[əz]	as well as [əz wel əz]
at	[ætʃ]	[ətʃ]	at home [ət' hoʊm]
been	[bi:n]	[bən, bi:n]	he has been [hi hæz bən]
can	[kʰæn]	[kʰən, kʰɪ]	we can stay [wi kʰən steɪ]
could	[kʰʊd]	[kʰəd]	she could go [ʃi kʰəd goʊ]

Some other words include *am* [əm, m], *he* [hi, i, i], *his* [həz, əz], *is* [əz, z], *was* [wəz], *that* [ðətʃ], *to* [tʰəwəd], *would* [wəd] and etc.

Pitch and Juncture

Because vowels and many consonants are voiced, they possess the tonal quality of pitch. There are four pitch levels in English. They are **extra-high**, **high**, **mid**, and **low**. Numbers have been used to designate these pitch levels. :

- 4 = extra-high
- 3 = high
- 2 = mid
- 1 = low

In normal speech, extra-high does not occur often. It often indicates excitement. In a stream of speech, one's pitch level may remain the same to form a pitch pattern, it may change from one level to another to form a different pitch pattern. There are many pitch patterns in English. The normal pitch of one's speaking voice, whatever its usual height, is called level 2, and from this he makes departures upwards and downwards. The commonest and most colorless pattern is 231, with its 3 on the

strongest (primary stress) syllable. This pattern is used, among other meanings, for simple statement.

Example :

He² is going ³home₁

The 2 belongs to every syllable until it is replaced by the 3, but from the strongest to the end 1 the pitch slides smoothly. If the statement is colored by extra meaning, other patterns are used. Pitches combine into patterns to make meaningful melodies over the whole phrase or sentence like 2 3 1, which means that a statement is being spoken.

These melodies have 3 methods of closure called **terminal junctures** or merely **terminals**. The first terminal juncture, which occurs at the end of a sentence, is the **falling juncture** or the **fading juncture** represented in transcription by a falling arrow / ↓ /. It occurs when there is a drop in pitch as the voice fades into silence. This symbol should be used to indicate the closure of the following sentences:

He² is going ³home₁ ↓
We² are reading a ³a novel₁ ↓

The second terminal juncture is the **rising juncture**. It is a short slight rise in pitch from the last level heard, but does not go all the way up to the next level. It is symbolized by / ↑ /, a rising arrow. It occurs when the pitch of the voice rises before a pause, in counting, listening, listing items or at the end of yes-no questions. For examples:

²Are you going ³home³ ↑
or ²Is she ³dancing³ ↑

The third terminal juncture is the **sustained juncture**. It is represented in transcription by an arrow / → /. It occurs when the pitch of the voice is sustained. This pitch level is usually heard at the end of long sentence.

²All of the ³people² → ²seemed puzzled by the ³shock¹ ↓
or ²All of the ³animals² → ²were frightened by the ³roar¹ ↓

Pitch patterns, with their accompanying terminal junctures, like the two above, 231 ↓ and 233 ↑ are called **intonation contours** or merely **intonation**.

Pitch Patterns

1. 2 3 1 ↓ This patterns occurs in four kinds of utterances.

A. Statements or declarative sentences.

²We drove to the ³town¹ ↓

B. Commands

²Go to your ³room¹ ↓

C. QW-Questions (or a supplement question) A question that begins with a question word, like who, what, which, where, when, why, how.

²Who is your ³friend¹ ↓

D. Conversely, if the pattern 231 ↓ is used, with the yes-no question word order, the result is a statement of the question. That is, we might have:

²Is he from ³Thailand¹ ↓

This can mean "I am asking whether he is from Thailand."

2. 2 3 3 ↑ This is a basic pattern for yes-no questions.

Basic yes-no question: ²Is he ³hungry³ ↑

Doubt-a-fact statement: ²He is ³gone³ ↑

3. $2\ 3\ 2 \rightarrow$ This pattern signals incompleteness. It is used in two situations.

A. Initial grammatical units (Phrase or Clause)

2 For 3 example $^2 \rightarrow$

2 If you can 3 wait $^2 \rightarrow$

B. Statement. It is used to indicate that the speaker has more to say:

2 She's a good 3 girl $^2 \rightarrow$

2 He finished 3 it $^2 \rightarrow$

4. $3\ 2\ 2\ \uparrow$ This is a reassuring pitch pattern.

3 He is from 2 Bangkok $^2\ \uparrow$

This can be understood to mean "Don't worry. He's from there all right."

5. $3\ 2\ \downarrow$ or $2\ 2\ 3\ \uparrow$ This is used as a call such as that may be heard from neighborhood mother.

2 Ge 3 orge $^1\ \uparrow$

Others take either pattern:

3 Juliet $^2\ \downarrow$ or 2 Juliet $^3\ \uparrow$

If these patterns do not bring results, the mother may change the pattern to a threatening one:

3 Juliet $^1\ \downarrow$

6. $2\ 3\ \uparrow$ On an individual word, this pattern is used to signal a request for repetition of some part of the preceding message:

2 John has a new 3 Italian roommate $^1\ \downarrow$ 2 Who $^3\ \uparrow$

7. $3\ 1\ \downarrow$ On an individual word, this pattern signals a request for further information:

2 John has a new 3 Italian roommate $^1\ \downarrow$ 3 Who $^1\ \downarrow$

8. $2\ 2\ 3\ \uparrow$ or $2\ 3\ \uparrow$ This pattern is used in a stressed word, phrase or clause in a series, with the exception of the last thing. Observe that for each sentence there are three patterns because there are three primary stresses.

2 Jane bought 2 books $^3\ \uparrow$ 2 pencils $^3\ \uparrow$ and 3 rulers $^1\ \downarrow$

9. $2\ 3\ 3\ \uparrow$ $3\ 3\ 3\ \uparrow$ This pattern is used when the clause is quoted e.g. "he asked" or "he said". When the clause is in medial position, it follows pattern $2\ 3\ 3\ \uparrow$ $3\ 3\ 3\ \uparrow$. When the clause is in final position, it follows pattern $2\ 3\ 1\ \downarrow$ $1\ 1\ 1$.

2 Is he 3 coming 3 , 3 he 3 asked $^3\ \uparrow$

2 It's 3 gone 1 , \downarrow 1 he 1 said $^1\ \downarrow$

10. $1\ 2\ \uparrow$ or $3\ 3\ \uparrow$ This pattern is used with the name of the person being addressed. The name is accompanied by different contours. The following contours are commonly used.

2 What are you 3 doing $^1 \rightarrow$ 1 Paul 2

2 Is he 3 leaving $^3\ \uparrow$ 3 George $^3\ \uparrow$

11. 233 ↑231 ↓ This pattern is used with *or questions* when it signals a choice of two possibilities.

²Would you like ³Coke³↑²or ³Pepsi¹ ↓

This means “Which of the two do you want, Coke or Pepsi?”

12. 233 ↑233 ↑ This pattern is used *or questions* but it signal a choice of preference to the two possibilities.

²Would you like ³Coke³↑²or ³Pepsi³ ↑

This means “Would you like Coke or Pepsi more than something else?”

Internal Open Juncture

The terminal junctures were described in the previous section and noted that they occur at the end of grammatical units and sentences. The fourth juncture of English differs from the others in that it occurs within grammatical units or sentences, and is called an **internal open juncture**. It is indicated by a plus sign /+/ and is sometimes called a **plus juncture**.

By means of internal open juncture, it is possible to make distinctions between pairs of words :

keep sticking	/ kip + stɪkɪŋ /
keeps ticking	/ kɪps + tɪkɪŋ /
its praise	/ ɪts + preɪz /
it sprays	/ ɪt + spreɪz /
an /+/ itch	/ ən + ɪtʃ /
a /+/ niche	/ ə + nɪtʃ /
gray /+/ day	/ greɪ + deɪ /
Grade /+/ A	/ greɪd + eɪ /
see /+/ Mable	/ si + məbəl /
seem /+/ able	/ si:m + əbəl /
ice /+/ cream	/ aɪs + kri:m /
I /+/ scream	/ aɪ + skri:m /

Other examples are:

that /+/ stuff	that's /+/ tough
its /+/ lid	it /+/ slid
new /+/ deal	nude /+/ eel
its /+/ wings	it /+/ swings

The terminal junctures /↑/ /→/ and /↓/ occur at the end of utterances. However, the sustained juncture, /→/ occurs only in the middle of an utterance. These three terminals, /↑/, /→/, /↓/ mark the end of an intonation block.

In a series, such as numbers or enumeration of a list of names, /→/ and /↑/ both occur. The difference is a matter of style.

one /→/ two /→/ three /→/ four /→/ five (Colorless)

one /↑/ two /↑/ there /↑/ four /↑/ five (Deliberate)

Sustain or rise is in contrast with /+/. In English, There is a possible sequence of an adjective followed by a noun, a conjunction, and another noun. When /+/ occurs after the first noun, the adjective describes either the first noun and both nouns. When /→/ or /↑/ occurs, the adjective describes the first noun only. For examples,

The adjective describes the first noun or both nouns :-

pretty flowers /+ / and trees
 short phrases /+ / and sentences
 colored pencil /+ / and paper
 interesting boys /+ / and girls

The adjective describes the first noun only :-

pretty flowers /→ / and trees
 pretty flowers /↑ / and trees
 short phrases /→ / and sentences
 short phrases /↑ / and sentences
 colored pencils /→ / and paper
 colored pencils /↑ / and paper
 interesting boys /→ / and girls
 interesting boys /↑ / and girls

Also, there is a possible sequence of an adverb followed by an adjective, a conjunction and another adjective. When the internal open juncture /+ / occurs after the first adjective, the adverb may describe either or both adjectives. When /→ / or /↑ / occurs after the first adjective, the adverb describes the first adjective only :-

The adverb describes the first adjective or both adjective.

very hot /+ / and dry weather
 very short /+ / and easy formulas
 very slow /+ / and boring trip

The adverb describes only the first adjective :-

very hot / → / and dry weather
 very hot /↑ / and dry weather
 very short / → / and easy formulas
 very short /↑ / and easy formulas
 very slow / → / and boring trip
 very slow /↑ / and boring trip

It is possible to have a sequence of a noun, a conjunction, a noun followed by a modifier. When /+ / occurs after the first nouns, the modifier may describe the first noun or both nouns. When / → / or /↑ / occurs, the modifier modifies only the second noun :-

The modifier may describe either or both nouns :

I saw some boys /+ / and some dogs running around.
 There were some men /+ / and some children playing there.
 There are teachers /+ / and students sitting in the room

The modifier describes only the second noun:

I saw some boys /→ / and some dogs running around
 I saw some boys /↑ / and some dogs running around
 There were some men / → / and some children playing there
 There were some men /↑ / and some children playing there
 There are teachers / → / and students sitting in the room.
 There are teachers /↑ / and students sitting in the room.

Intonation

Intonation is the name given to the levels of pitch (the relative height of voice) in a sentence. When we talk about intonation, we include, too, the rising of the voice or the fading of the voice into silence at the end of an utterance as well as the sustained

pitch of the voice in Cretans sentences. These pitch changes provide audible intonation contours, which can give a level of meaning over the string of phonemes. This is an added meaning rather than a change in meaning. There are 3 important intonation patterns in English.

1. Falling Intonation. A falling intonation pattern signals the termination or completion of an utterance, suggesting that no verbal response is required of the listener. It is most often found at the end of a phrase or a sentence. For example :-

“There is no more discussion on the subject. It’s over”.

The intonation pattern for “It’s over.” is 21↓ or 31↓ e.g.

²It’s over ₁↓ or ³It’s over ₁↓

“I want to tell you that I am sorry for what I have done. That’s all.”

²That’s all ₁↓ or ³That’s all ₁↓

2. Rising-Falling Intonation. This pattern is used in the following :-

1. Simple statements

³He came to ³see us ₁↓

2. Commands

²Go to the ³door ₁↓

3. Supplement questions (beginning with question words)

²What time did he ³leave ₁↓

4. Tag questions, (The information is not really needed)

²He didn’t go, ³did he ₁↓

3. Rising Intonation

A Rising Intonation pattern signals an unfinished situation in which something is needed from the listener or something more is to come from the speaker. This pattern occurs in the following sentences :-

1. Basic Yes-No Questions

²Are you ³coming ³↑

²Can you get it for ³me ³↑

2. Direct address and Introduction

²Mr. ³Brown, ³ ²this is Mr. ³Smith ³↑

²How are ³you, ² ³Mrs. ³Smith ³↑

3. In a series, rising intonation is used until the last item where rising-falling intonation is used.

²I need ³books ³↑, ² ³pencil ³↑, ² ³and ³erasers ₁↓

4. In tag question (information needed)

²He didn’t ³go, ³ ² ³did ³he ³↑

5. Unfinished sentences, where sustained pitch is designated.

²Hel³lo³ ... →..... (Is anybody home) ↑

²Are you ³there³→..... (John) ↑

6. In sarcasm, (using a declarative word order)

²That’s a ³good idea ³↑

(You may think it’s a good idea but I don’t think that, myself)

CHAPTER VII

ENGLISH PHONOTACTICS

When phonemes are joined together in syllables and words, it is apparent that there are limitations to the positions they may occupy and to the ways in which they may be arranged in sequences. For example, English words never begin with /ŋ/ or end with /h/. Tagalog words do not begin with /p^h/ or /t^h/. Spanish words do not begin with /st/. In the Thai language, /fr/ never occurs in any position while /l/ can appear in the initial position and in second position in a consonant cluster, but never occupies the final position. Therefore, languages vary not only in their stock of phonemes, but also in the way they permit their phonemes to associate together. The totality of the positions in which elements in any language may occur is called its **distributions**.

The distribution of phonemes is known as **phonotactics**. Let us begin with the English consonants. First, we need to understand the meaning of two terms that will be used frequently in dealing with phonotactics. They are initial position and final position. Initial position means a position that begins a syllable. A group of consonants in initial position, like /str/ will, occur not only at the beginning of the word but also within the word, at the beginning of a syllable, as in **restrain** /ri+strem/. The second term, final position means a position that follows a vowel and ends a syllable. It simply means the position at the end of words. English consonant phonemes occur singly or in groups. A group of two or more consonants which adjoin each other in the same syllable is called a **consonant cluster**. A cluster that is in the beginning of a word is called an **initial cluster**. In English the maximum number of an initial consonant cluster is three phonemes and that of a final consonant cluster is five phonemes. The following list are arrangements of English consonant clusters classified as initial clusters and final clusters. The arrangements of the three phonemes of these consonant clusters follows the following rules.

1. Only /s/ can occur in first position.
2. Only the voiceless stops /p t k/ occupy second position.
3. Only the glides /r j w/ and the lateral /l/ appear in third position.

Let us first examine the distributions of English two-consonant initial clusters. There are 55 clusters altogether.

1. Initial Clusters

1.1. /CC-/

1. /pl-/	play please	17. /dʒj-/	juice
2. /pr-/	prey prune	18. /fl-/	fly flight
3. /pj-/	puny pure	19. /fj-/	few fuse
4. /pw-/	Pueblo	20. /fr-/	fry free
5. /tr-/	try tree	21. /θj-/	thews
6. /ts-/	tsetse	22. /θr-/	three thread
7. /tj-/	tuition	23. /θw-/	thwart thwack
8. /tw-/	tweed twin	24. /bl-/	blue blood
9. /dj-/	due dew	25. /br-/	breed bread
10. /dr-/	dry draw	26. /bj-/	bugle bureau

11. /dw-/	dwell dwarf	27. /bw-/	Buena Vista
12. /gl-/	glow glue	28. /kl-/	clue clay
13. /gj-/	gules	29. /kj-/	cure cute
14. /gw-/	gewgaw	30. /kw-/	quick queen
15. /gr-/	green grow	31. /kr-/	cry crew
16. /tʃj-/	chew	32. /sp-/	speak split
33. /st-/	stand steak	34. /sk-/	sky skin
35. /sf-/	sphere sphinx	36. /sv-/	svelt
37. /sl-/	slide slay	38. /sm-/	small smell
39. /sn-/	snail snare	40. /sj-/	sue suitor
41. /sw-/	sweet swing	42. /ʃn-/	schnapps
43. /ʃr-/	shrew shrimp	44. /ʃw-/	schwa
45. /hj-/	hue huge	46. /hw-/	when which
47. /vj-/	view	48. /vw-/	voyager
49. /zl-/	zloty	50. /zj-/	zeugma
51. /zw-/	zouave	52. /lj-/	lute
53. /mj-/	mute music	54. /mw-/	moire
55. /nj-/	new nude		

There are 10 three-consonant initial clusters in English.

1.2 / CCC- /

1. /spr-/	spring sprite	2. /str-/	string stripe
3. /skr-/	screen screw	4. /spl-/	spli spleen
5. /skl-/	sclerosis	6. /spj-/	spew
7. /stj-/	student stew	8. /skj-/	skewer skew
9. /skw-/	square squid	10. /smj-/	smew

2. **Final Cluster.** In final position - that is, a cluster occurring after a vowel and ending a syllable, the maximum number of consonants that can appear together is five. However, it may be doubtful whether or not five-consonant final clusters are heard sounded in normal speech. Let us begin with the two-consonant final cluster. The list excludes the proper name.

2.1 / -CC /

1. / -pt/	script apt	2. / -pθ/	depth
3. / -ps/	lapse caps	4. / -tθ/	eighth
5. / -ts/	blitz cats	6. / -kt/	act tact
7. / -ks/	mix box	8. / -bz/	cabs robs
9. / -dθ/	width breadth	10. / -dz/	adze beads
11. / -gz/	dogs bags	12. / -ft/	tuft craft
13. / -fθ/	fifth twelfth	14. / -sp/	wasp lisp
15. / -st/	mist fist	16. / -sk/	risk task
17. / -vz/	cloves gloves	18. / -lp/	gulp whelp
19. / -lt/	belt built	20. / -lk/	milk elk
21. / -lb/	bulb	22. / -ld/	weild weld
23. / -ltʃ/	belch gulch	24. / -ldʒ/	bulge bilge
25. / -lf/	shelf elf	26. / -lθ/	wealth health
27. / -ls/	false pulse	28. / -lf/	Welsh Walsh
29. / -nt /	ant hint	30. / -nd/	second pond

31. /-ntʃ/	bench trench	32. /-ndʒ/	change hinge
33. /-nθ/	tenth ninth	34. /-ns/	tense dense
35. /-nz/	lens pens	36. /-ŋk/	monk rank
37. /-ŋz/	rings sings	38. /-rp/	warp chirp
39. /-rt/	cart mart	40. /-rk/	lark bark
41. /-rb/	curb herb	42. /-rd/	herd ward
43. /-lv/	twelve valve	44. /-lz/	wells calls
45. /-lm/	elm film	46. /-ln/	kiln
47. /-mp/	pump hump	48. /-mb/	limb lamb
49. /-mf/	nymph triumph	50. /-mz/	dreams rams
51. /-rg/	iceberg	52. /-rtʃ/	search church
53. /-rdʒ/	merge urge	54. /-rf/	turf serf
55. /-rθ/	worth hearth	56. /-rs/	horse hoarse
57. /-rʃ/	harsh marsh	58. /-rv/	curve nerve
59. /-rz/	furze hears	60. /-rl/	curl pearl
61. /-rm/	harm warm	62. /-rn/	barn burn

There are 26 three-consonant final clusters in English.

2.2 /-CCC/

1. /-kst/	text	2. /-ksθ/	sixth
3. /-dst/	midst	4. /-lst/	waltz belts
5. /-lkt/	mulct hulked	6. /-lks/	calx silks
7. /-lft/	delft engulfed	8. /-lftθ/	twelfth
9. /-lst/	whilst pulsed	10. /-mpt/	tempt attempt
11. /-mps/	glimpse shrimps	12. /-nts/	chants ants
13. /-ndθ/	thousandth	14. /-ŋkt/	instinct linked
15. /-ŋks/	lynx ranks	16. /-ŋst/	amongst jinxed
17. /-rpt/	excerpt chirped	18. /-rps/	corpse warps
19. /-rts/	quarts carts	20. /-rks/	larks marks
21. /-rst/	first burst	22. /-rld/	world hurled
23. /-rmθ/	warmth	24. /-rms/	prince turns
25. /-rmz/	warms storms	26. /-rnz/	warns burns

There are 8 four-consonant final clusters in English.

2.3 /-CCCC/

1. /-ksts/	texts	2. /-mpts/	tempts
3. /-ndθs/	thousands	4. /-ŋkts/	instincts
5. /-rmθt/	warmthed	6. /-rst/	bursts
7. /-rpts/	excerpts	8. /-lkts/	mulcts

There are 2 five-consonant final clusters in English.

2.4 /-CCCCC/

1. /-kstθs/	sixths	2. /-lftθs/	twelfths
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Some of the clusters especially those that consist of 3 or more consonants might possibly be heard in deliberate speech. Many speakers assimilate through the consonant sounds. For example, one may find it easy to say *masked* /mæskt/, but frequently the /k/ is assimilated to the /t/, becoming /æst/. And in *twelfths*, one is likely to say a shortened form /twelfts/ instead of the full form /twelfs/.

There is another arrangement of English consonant clusters occurring between vowels. This is called the **interlude**. The interlude may consist of one consonant phoneme or of consonant clusters. For examples:

1. -C-

/-n-/	violinist	/-p-/	typist
/-l-/	finalist		
2. -CC-

/-ks-/	boxer	/-kl-/	cyclist
/-tʃ-/	cheaply		
3. -CCC-

/-rps-/	harpsichord	/-ksp-/	expensive
/-kst-/	extend		
4. -CCCC-

/-mstr-/	hamstrung	/-kspl-/	explain
/-kstr-/	extract	/-bstr-/	bstract

Generally, vowels do not cluster and English is no exception. However, when two or more vowels occur successively or next to each other, one of the two things takes place: a) one vowel glides easily into the other vowel, making a diphthong, as in *pray* [preɪ] or *boy* [bɔɪ]; or b) the two vowels are separated by an the internal open juncture, [+], as in *naïve* /na + iv/, *reuse* /ri + juz/, and *react* /rɪ + ækt/. English vowels distribute in three positions.

1. Every vowel of English can occur initially in an English word. The following are some examples of the English vowels that begin English words.

eat	[i ^h]	it	[ɪ ^h]
ate	[eɪ ^h]	every	[ɛvrɪ]
ago	[əgəʊ]	awful	[ɔ ^h fʊl]
oil	[ɔɪ ^h]	island	[aɪlənd]

2. Every vowel of English can be preceded and followed by a single consonant sound.

let	[lɛ ^h t]	dub	[dʌb]
sud	[sʌd]	hack	[hæk ^h]
pub	[p ^h ʌb]	duck	[dʌk ^h]

3. Only free vowels, /i/, /eɪ/, /ə/, /ɛ/, /u/, /oʊ/, /ɔ/, can occur at the end of a word and morpheme. Some examples are as follows:

day	[deɪ]	wee	[wi]
winner	[wɪnə]	through	[θru]
though	[ðəʊ]	saw	[sɔ]

4. Checked vowels – that is, /ɪ/, /e/, /a/, /æ/, /ʊ/, cannot occur at the end of a word and morpheme with some exceptions in exclamation, like *hurrah*, *aha*, colloquials, e.g. *pa*, *ma*, and borrowed words such as, *Allah*, and

shah. Another exception is the pronunciation of /ɑ/ in an r-dropping area. For example, the words *far* [fɑr], *car* [k^hɑr] are pronounced as [fɑ], [k^hɑ] in the r-dropping region.



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