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Department of English

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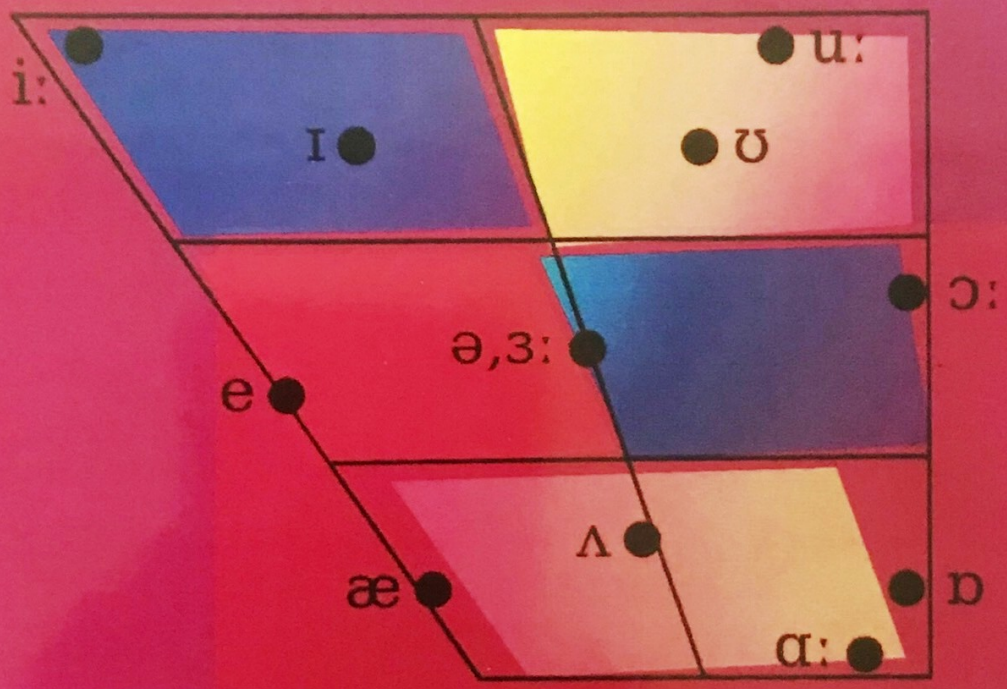

AN INTRODUCTION TO ENGLISH PHONETICS AND PHONOLOGY

(A Coursebook)

HUE UNIVERSITY PUBLISING HOUSE

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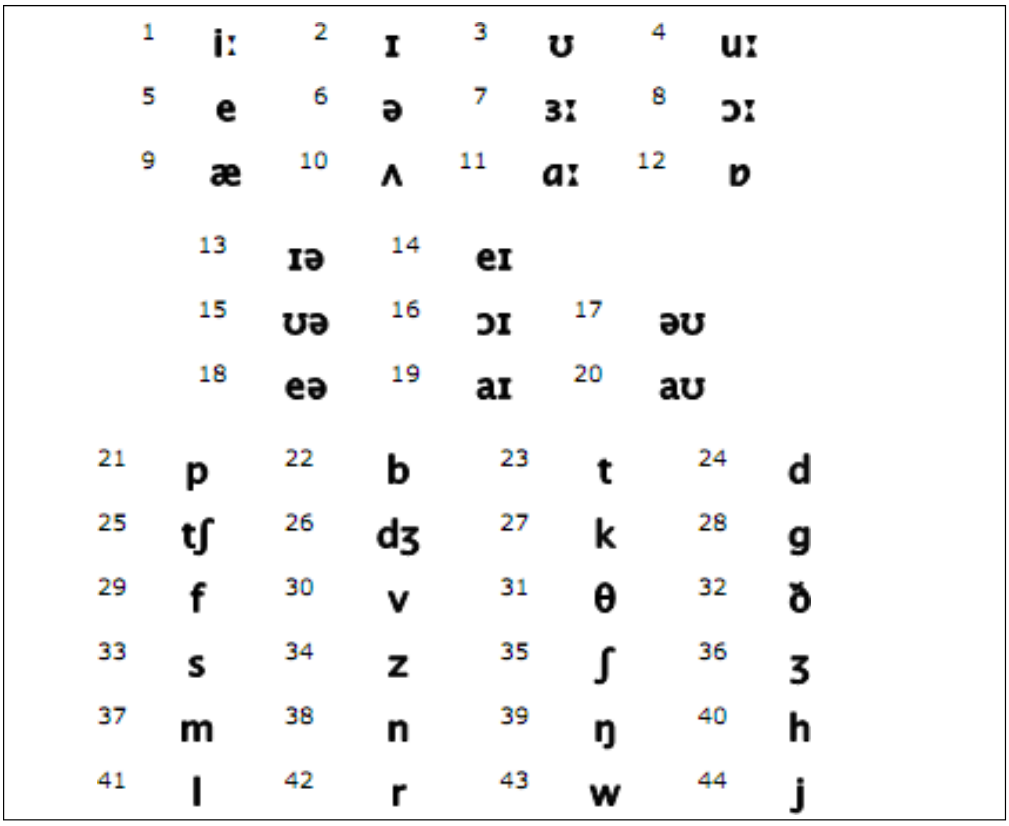


2-Intonation Symbols

Intonation Diacritics			
□	□ **Fall**	□	□**Rise**
□	□ **High Fall**	□	□ **High Rise**
□	□ **Low Fall**	□	□**Low Rise**
↓	↓ **Wide Fall**	↑	↑**Wide Rise**
ᵛ	ᵛ**Fall-Rise**	ᐞ	ᐞ**Rise-Fall**
˗	– Level		
˩	**Long pause**	˧	**Short pause**
ˌ	**Secondary Stress**	ˈ	**Main (tonic) stress**

3. Diacritics [43]

◌̥ Voiceless n̥ d̥	◌̈ Breathy voiced b̤ a̤	◌̪ Dental t̪ d̪
◌̬ Voiced s̬ t̬	◌̰ Creaky voiced b̰ a̰	◌̺ Apical t̺ d̺
◌ʰ Aspirated tʰ dʰ	◌̼ Linguolabial t̼ d̼	◌̻ Laminal t̻ d̻
◌̹ More rounded ɔ̹	◌ʷ Labialized tʷ dʷ	◌̃ Nasalized ẽ
◌̜ Less rounded ɔ̜	◌ʲ Palatalized tʲ dʲ	◌ⁿ Nasal release dⁿ
◌̟ Advanced u̟	◌ˠ Velarized tˠ dˠ	◌ˡ Lateral release dˡ
◌̠ Retracted e̠	◌ˤ Pharyngealized tˤ dˤ	◌̚ No audible release d̚
◌̈ Centralized ë	◌̴ Velarized or pharyngealized ɬ̴	
◌̽ Mid-centralized e̽	◌̝ Raised e̝ (ɹ̝ = voiced alveolar fricative)	
◌̩ Syllabic n̩	◌̞ Lowered e̞ (β̞ = voiced bilabial approximant)	
◌̯ Non-syllabic e̯	◌̘ Advanced Tongue Root e̘	
◌˞ Rhoticity ɚ a˞	◌̙ Retracted Tongue Root e̙	
ˈ Primary stress	ˌ Secondary stress	ˌfoʊnəˈtɪʃən
ː Long eː	ˑ Half-long eˑ	. Syllable break ɹi.ækt

PREFACE

AN INTRODUCTION TO ENGLISH PHONETICS AND PHONOLOGY is a non-commercial theoretical coursebook designed for Vietnamese students of EFL at University level in general and the students of EFL studying at College of Foreign Languages, Hue University, in particular. This 30-period coursebook is intended to equip EFL students with an overview of the traditional as well as the current basic theories of English Phonetics and Phonology. As the tittle suggests, it describes the English sounds from both phonetic and phonological aspects and from both segmental and suprasegmental aspects.

The coursebook is based on the pronunciation standard which is used as a model most often recommended for the foreign learners studying English as a Foreign Language: **Received Pronunciation** (RP). However, other types of pronunciation standards will also be taken into consideration, especially American pronunciation standard. Where necessary, important differences in English phonetics and phonology between British English and American English will be explained carefully since British English and American English are two major types of English in the world.

With the aim of helping Vietnamese students of English as a Foreign Language to achieve the following goals in their studies: 1-to speak English with good pronunciation, 2- to teach English effectively after graduation and 3-to be able to carry out scientific research in the field, there are 8 chapters in the coursebook:

Chapter I: Introduction

Chapter II: The Production of Speech

Chapter III: The Classification of the English Speech Sounds.

Chapter IV: Phonology: The Sound Patterns of the Language

Chapter V: The Syllable

Chapter VI: Word-stress

Chapter VII: Aspects of Connected Speech

Chapter VIII: Intonation

There are two parts in each chapter: 1-theory and 2-chapter exercises. A section on English-Vietnamese terminology is included at the end of the coursebook for students' convenient reference. A CD containing pronunciation illustrations is also provided.

On completion of the current coursebook, above all, we would like to thank College of Foreign Languages, Hue University Publishing House and Hue University for publishing the current coursebook. We would also like to thank Dr. Nguyen Phuoc Bao Kham, Dr. Pham Thi Hong Nhung, Dr. Ton Nu Nhu Huong and Dr. Truong Bach Le for their proofreading and invaluable comments. Last but not least, we would like to express our deepest gratitude towards our teachers, our families, our colleagues, our friends and, especially, our students, for their education, assistance, encouragement and inspiration

However, it goes without saying that errors are inevitable. Therefore, we appreciate and welcome any criticism and comments on the coursebook. We owe our sincere apology and gratitude to the authors whose material sources have been cited in the coursebook. To err is human: this is only a non-commercial coursebook.

Finally, we wish our students success in their studies.

Hue, May 2014

The authors

CHAPTER I: INTRODUCTION

Chapter I Contents

1. PHONETICS: TERMINOLOGY

1.1. What is phonetics?

Speech is a complicated process. To begin with, we produce sounds, using our organs of speech. Then the sounds travel through the air in the form of vibration. Finally, the sounds are received by the listener's ears.

A speech sound is a physical event with three aspects: a- **physiological** (the production of speech sounds by organs of articulation), b- **acoustic** (the transmission of speech sounds), and c- **auditory** (the perception of speech sounds). The study of human speech sounds requires a whole scientific subject: **the science of phonetics**.

Phonetics is the study of human speech sounds. It is a branch of linguistics studying the production, the physical nature, the perception and other aspects of human speech sounds.

There are different areas of phonetics such as **articulatory phonetics**, **acoustic phonetics**, **auditory phonetics**, **generative phonetics** and **experimental phonetics**, three main areas of which we often focus on are articulatory phonetics, acoustic phonetics, and auditory phonetics.

1.2. Articulatory phonetics

Articulatory phonetics is the study of the way in which speech sounds are produced (articulated) by the organs of speech. **The organs of speech** are the parts of the body that are used to modify the stream of air in order to produce different sounds. The production of different speech sounds through the use of the organs of speech is known as **articulation**.

In describing articulation, it is important to know which organs of speech or **articulators** are involved in sound production. **An articulator is a part of the mouth, nose, or throat which is used in producing speech**. It is usual for the learners to distinguish between those articulators that can move under the control of the speaker (**active articulators**) and those that can not be moved (**passive articulators**). According to David Crystal [5, p.130], the passive articulators are: a- the **upper teeth**, b- the **teeth ridge** (the **alveolar ridge**), and c- the **hard palate**. The active articulators are: a- **pharynx**, b- **soft palate** or **velum**, c- **lips**, d- **jaws**, e- **the tongue**, and f- **the vocal cords**.

In addition, sounds produced within the larynx or vocal tract are influenced by the shape of the **pharyngeal**, **oral** (mouth) and **nasal cavities** in the vocal tract through which the air stream passes. These cavities give sounds the **resonance.** Several kinds of resonance can be produced because the vocal tract is able to adopt many different shapes.

The vocal tract is the air passages which are above the vocal cords and which are involved in the production of speech sounds. The vocal tract can be divided into the **nasal cavity** (which is the air passage within and behind the nose), and the **oral cavity** (which is the air passage within the mouth and the throat). The shape of the vocal tract can be changed by changing the position of the tongue or the lips. The change in the shapes of the cavities in the vocal tract causes differences in speech sounds.

1.3. Acoustic phonetics

1.3.1. Acoustic phonetics

Acoustic phonetics studies the physical properties of speech sounds as transmitted in the form of the sound waves through the air. The sounds we produce can be described in terms of how fast the variations of the air pressure occur. This determines the **fundamental frequency** of the sounds, which determines the **pitch**. We can also describe the extent of the variation; the larger the size of the variations in air pressure, the greater the intensity, which determines the loudness of the sound. The particular quality of the sound is determined by the shape of the vibrations, or waves; this, in turn, is determined by the shape of the vocal tract when the air is flowing through it. [8, p.63]

1.3.2. Waveforms [21, pp.30-35]

Waveforms are a kind of graph. Graphs have an **x-axis**, which runs horizontally, and a **y-axis**, which runs vertically. In waveforms of speech, the x-axis represents time and is usually scaled in seconds or milli-seconds, while the y-axis shows (to simplify a great deal) amplitude, a representation of loudness.

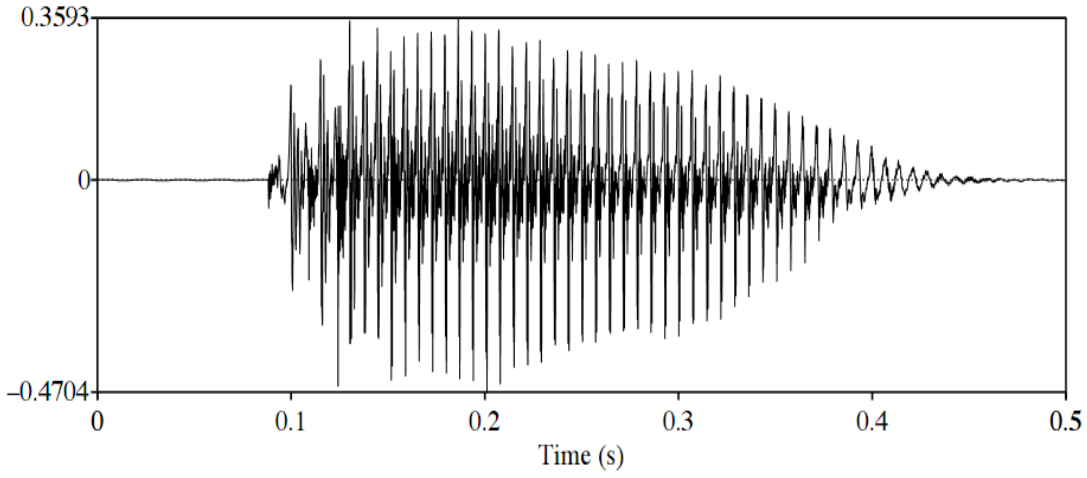


Figure I.1: Waveform of a vowel

Figure I.1 shows a waveform of a vowel. On the x-axis, time is marked at 0.1 second (or 100 ms) intervals. On the y-axis, there is a line marked 0 (the zero crossing) which goes through the waveform. The bigger the displacement from this line, the louder the sound is. The beginning and end of this waveform have no displacement from the zero crossing line, so the recording begins and ends with a period of silence. The sound starts just before 0.1s into the recording, and is loudest around 0.2s. From little after 0.2s to around 0.45s, the sound gets quieter: or, a little more technically, the amplitude decreases. By about 0.45s, the signal has died away.

With a little experience and practice, various other kinds of sounds are also evident in waveforms. We will look at these after we have considered spectrograms.

1.3.3. Spectrograms

An important tool in acoustic research was provided by the invention of a machine called a **sound spectrograph**. When you speak into a microphone connected to this machine, a "picture" is made of the speech signal. The patterns produced are called **spectrograms** or, more vividly, **visible speech**. Over the years, these pictures have been referred to as **voiceprints**. In the spectrogram for each vowel, there are a number of very dark bands which differ in their placement according to their pitch.

These represent the overtones produced by the shape of the vocal tract and are called the **formants** of the vowels. By studying spectrograms of all speech sounds and many different utterances, acoustic phoneticians have learned a great deal about the basic components that are used to synthesize speech. **Acoustic phonetics is the study of the physical properties of sounds**. [8, p.63]

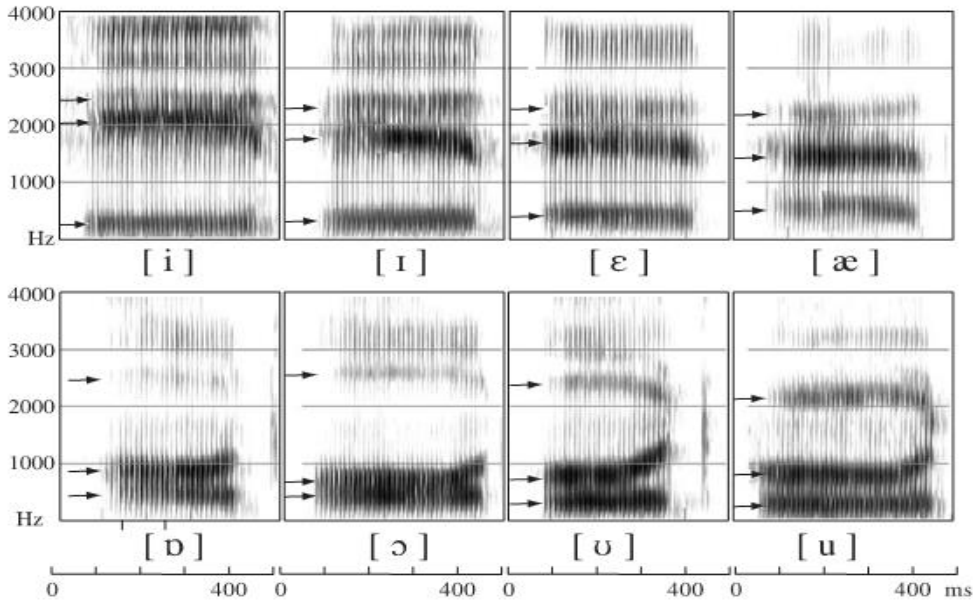


Figure I.2: A spectrogram of the words *heed, hid, head, had, hod, hawed, hood, who'd* as spoken in a British accent. The locations of the first three formants are shown by arrows. [17, p.196]

Spectrograms are just pictures of speech. They provide more complex information than waveforms. Time, as in waveforms, is marked on the x-axis. The y-axis shows frequency. Amplitude is reflected in darkness: the louder a given component in the speech signal is, the darker it appears on the spectrogram.

1.3.4. Three types of sound and their appearance [21, pp.30-35]

There are three main kinds of sound that are easily distinguishable on a spectrogram, corresponding to three acoustic categories. Sounds can be **periodic** (that is, regularly repeating), or **aperiodic** (that is, random). Aperiodic sounds in speech can be either **continuous** (like fricatives such as [sfθ] or **transient** (that is, short and momentary), like [ptk]. Each has a different appearance on a spectrogram and in waveforms.

1.3.4.1. Periodic sounds

Waveforms which repeat themselves are called periodic. In speech, periodicity is associated with the vibration of the vocal folds, so periodic waveforms are associated with voicing. Each one of the major peaks in a periodic waveform corresponds to one opening of the vocal folds. Figure I.4 shows the waveform of the section between 0.3 and 0.4s of Figure I.3, in the middle of the vocalic portion.

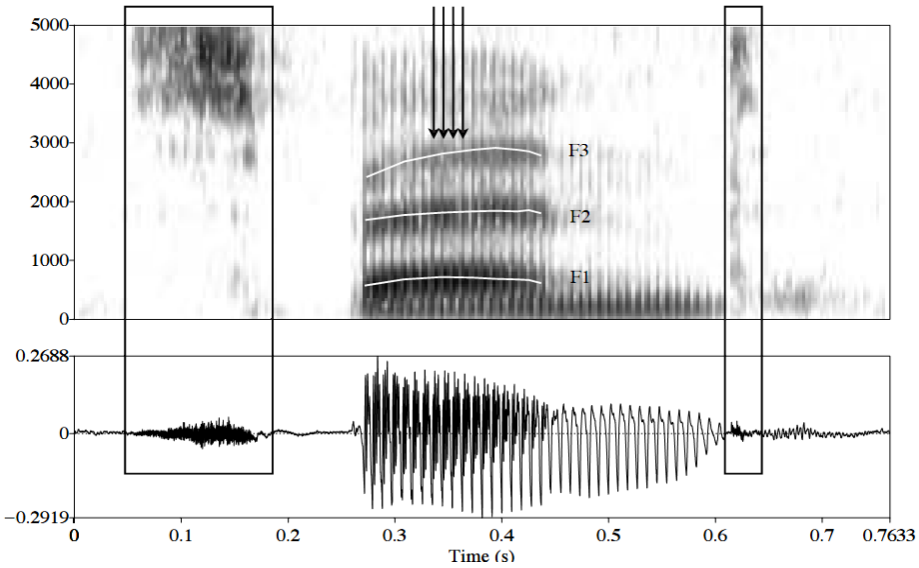


Figure I.3: Spectrogram of the word *spend*, with periodic, aperiodic and transient sounds marked

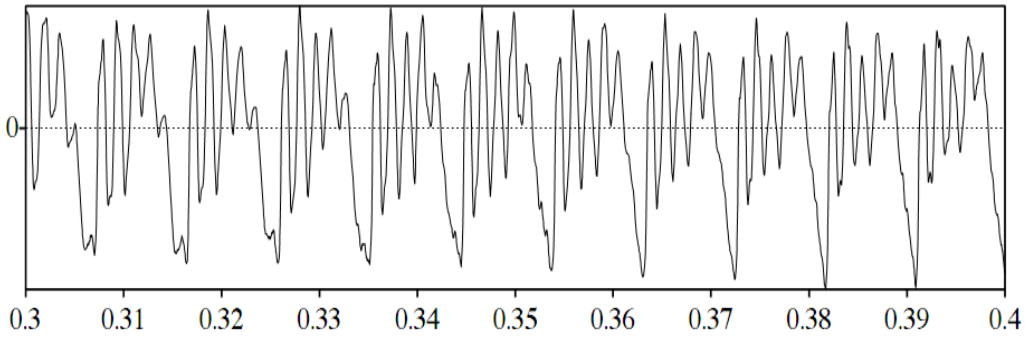


Figure I.4: Expanded version of part of Figure I.3

One complete repetition is called a cycle or period. There are about 10.5 cycles in Figure I.4. This reflects the number of times the vocal folds open in the time represented. The number of complete cycles the vocal folds make in one second is called the **fundamental frequency** (**f0**); it is measured in **Herts** (Hz). A frequency of 1 Hz means that there is one complete cycle per second. A frequency of 100 hz means that there are one hundred complete cycles per second, or alternatively one complete cycle every 0.01s (every one hundredth of a second). In the waveform in Figure I.4, there are approximately 10.5 cycles in 0.1s, which means the fundamental frequency in this stretch of speech is about 105 hz.

In spectrograms, periodic signals have two important visual properties. First, there are vertical striations which correspond to the opening of the vocal folds: each time the vocal folds open and air escapes, there is a sudden increase in amplitude. This shows up in the striations in the spectrogram which line up with the peaks in the waveform. Voicing is seen in regular spikes in a waveform, and corresponding regular striations in a spectrogram.

Secondly, there are a darker horizontal bands running across the spectrogram known as **formants**. There are three clearly visible formants in the periodic part of Figure I.3, one centred at around 700 Hz (labeled as F1), another sound 1800 hz (labelled F2), and a third one around 2800hz (labeled F3). There are in fact more formants, but usually only the first three are of interest.

Formants are named counting upwards. The first one is called the first formants, or F1. The next one up is called the second formants, or F2, and so on.

Formants are natural resonances. Each configuration of the vocal tract has its own natural resonances. Each configuration of the vocal tract has its own natural resonance. Most of us are familiar with the idea of resonances. Imagine a home-made xylophone made of glass bottles. If the bottles are different sizes and shapes, or if there are varying amounts of water in the bottles, then when they are tapped, they will produce different notes. The big bottles will have a deeper ring to them than the little ones, or the ones with more water in them. The vocal tract exhibits similar (though more complex) properties: when the sound wave from the vocal folds passes through the vocal tract, some parts of the acoustic signal are made louder, and some quieter. The frequencies which get amplified (made louder) are the natural resonances of the vocal tract, and are determined by its size and shape. In return, the size and shape of the vocal tract depends on the position of the tongue, velum, lips and all the other articulators, so that different sounds of speech have different natural resonances; and in turn, they look different on a spectrogram.

1.3.4.2. Aperiodic, continuous sounds

For **aperiodic** sounds there is no repetition, but rather random noise. This kind of sound is called **aperiodic**. Figure I.5 shows 0.1s of the voiceless fricative [s] sound. If you compare this with Figure I.4, you will see that it looks very different: [s] has no repeating waveform, and the amplitude varies apparently randomly. Friction noise is generated when the airflow between two articulators is turbulent. The correlate of this in a waveform is very much more

irregular, random pattern than we find for periodic sounds, it lacks the regular ups and downs of a periodic waveform.

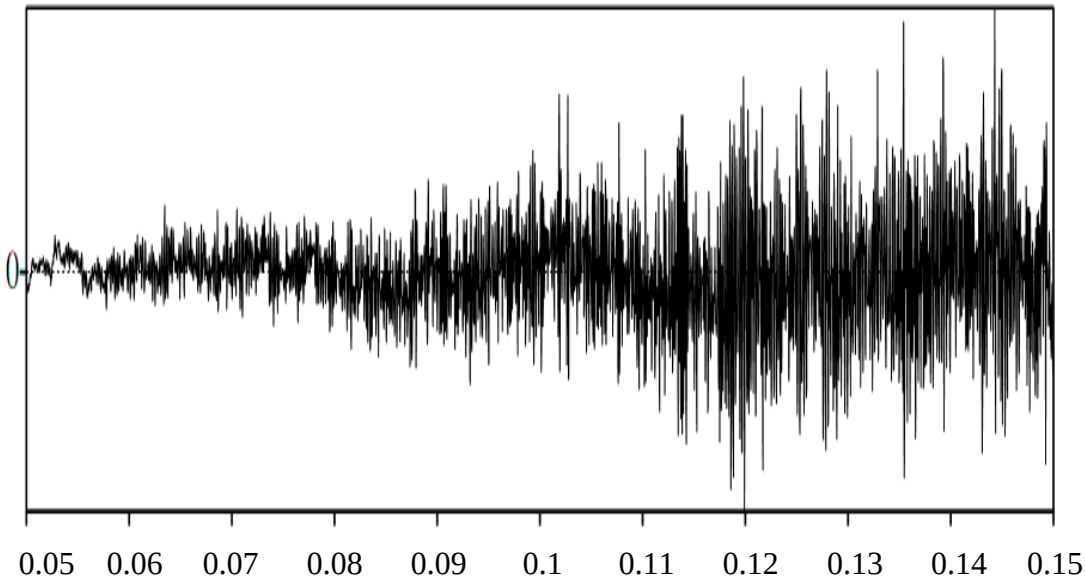


Figure I.5: Waveform of Part of a Voiceless Fricative

In Figure I.5, the aperiodic portion lacks the clear formant structure and the vertical striations we saw for periodic portions. However, the pattern of the frequencies does change. As the lips close to form the [p] sound, the [s] sound changes, and sounds as though it gets lower in pitch: this can be seen in the end of the segment marked "**aperiodic**".

1.3.4.3. Transient sounds

Transient sounds are aperiodic sounds which come and go quickly. Examples from everyday life are a knock on the door or the firework exploding. In speech, the main source of transient sounds is the explosive release of a closure, such as releasing a closure for [p] or [k].

1.4. Auditory phonetics

Auditory phonetics deals with how speech sounds are perceived by the listener [22, p.215]. It is the study of speech sounds from the point of view of the listener, concerned with the way the ears and brains process and perceive the speech sounds reaching the ears.

1.5. Phonemics [22, p.215]

The term **phonemics** has been used by American linguists, particularly in structural linguistics. Lately, the term **phonology** has been preferred. The term **phonemics** has been used to refer to:

a-the study or description of the distinctive sound units (phonemes) of a language and their relationship to one another.

b- procedures for finding the phonemes of a language.

c- the phonemic system of a language.

1.6. Phonology [22, p.216]

The term **phonology** is used to refer to:

a-phonemics

b- a cover term for both phonemics and phonetics.

c-the establishment and description of the distinctive sound units of a language (phonemes) by means of distinctive features. Each phoneme is considered as consisting of a group of these features and differing in at least one feature from the other phoneme.

Phonology is also concerned with:

a-word-to-word relations in sentences; that is, how sound patterns are affected by the combination of words.

b- the investigation of intonation patterns.

According to Sylvia Chalker and Edmund Weiner [2, p.295], **phonology** is the study of the way in which speech sounds are used in a particular language. It is concerned not only with the meaningful contrasts (the phonemic system) and the regular ways in which the phonemes are realised (the **predictable allophonic variations**), but also with the possible combinations of phonemes, the phonotatics. These aspects of phonology together are sometimes labelled **segmental phonology**, and contrasted with **suprasegmental phonology**, which is concerned with features of speech stretching over more than one sound, such as intonation.

1.7. Phonetics and phonology

As seen above, phonetics is the study of pronunciation, that is, the study of human speech sounds. The study of pronunciation consists of two fields, namely **phonetics** and **phonology**. The phonetics of a language concerns the concrete characteristics (articulatory, acoustic and auditory) of the sounds used in a language while phonology concerns how sounds function in a systematic way in a particular language.

Phonetics, as used in this course of study, is the study of all speech sounds and the ways in which they are produced. The main aim of phonetics is to describe and to classify human speech sounds. Phonology is the study and identification of the **distinctive units of sound in a language**. Phonology can mean the phonemic system (the system of distinctive units of sound) in a language.

The course of **An Introduction to English Phonetics and Phonology** will focus on the following theoretical aspects: the production of speech, the classification of the English sounds, the phonemic system of the English language, the syllable, the English word stress, aspects of connected speech, weak forms and intonation. Students completing this course will be able to have the basic theoretical knowledge of English phonetics and phonology and will be able to improve their pronunciation, which will help them teach English effectively after their graduation.

The present course of study has been given the tittle: **An Introduction to English Phonetics and Phonology** because at the comparatively advanced level, the course presents the

information of English pronunciation in the context of a general theory about speech sounds and how they are used in language. The theoretical context is called **phonetics and phonology**.

2. TYPES OF PRONUNCIATION

A language usually has different types of pronunciation (different **accents**). Some of its phonemes are pronounced differently by people from different geographical places, from different social classes, of different ages and of different educational backgrounds. The term **accent** is often confused with the term **dialect**. We use the term **dialect** to refer to a variety of a language which is different from others not just in pronunciation but also in such matters as vocabulary, grammar and word-order. Differences in accents are differences in pronunciation only. The term **accent** is often used to refer to a **particular type of pronunciation**.

In traditional phonetic description, it has been usual to describe the characteristics of one particular type of speech. Where possible, phoneticians have looked for a **standard** or **model** accent. In the case of the English language, there exist different native standard types of pronunciation such as British English, American English, Australian English, New Zealand English. Two major standard Englishes are British English and American English. This course of study is based on the standard pronunciation that is used as a **model** most often recommended for foreign learners studying British English. It is most familiar as the type of accent used in courts, in universities, in government offices, and used by most announcers and newsreaders on serious national and international BBC broadcasting channels. It has for a long time been identified by the rather quaint name: **Received Pronunciation** (usually abbreviated to its initials, **RP**). RP was the pronunciation model of the educated people in the capital city of England. This pronunciation model has also been referred to as **BBC English**, **Queen's English** or **King's English**.

Received Pronunciation is the accent that is widely accepted as the standard accent for both native and foreign speakers of British English. Although only about 5 % of British people speak with an RP accent, it is considered the correct form of speech. Pronunciations given in most dictionaries are RP, or an adapted form of it.

RP is a social accent not linked to any particular region of Britian, though it derived originally from the form of Middle English spoken around London. At that time London was the economic centre of England and the place where people were trained for professions such as the law. From the 15th century it became a centre for publishing. RP was the accent of upper-class people and of the most highly educated people. The connection between RP and education was important in establishing the accent.

People became increasingly conscious of accent and by the late 19th century it was considered necessary to adopt RP and lose any trace of a regional accent in order to have a successful career, especially in the army or government. RP was spread among children of the upper and upper middle classes through the "**public school system**". Others took elocution lessons in order to learn to speak properly. Later, RP was taught in state schools. The public school accent and the Oxford accent, the accent adopted by some members of Oxford

University, which many former public school pupils attended, are now considered by many to be rather artificial.

The status of RP was strengthened in the 1920s after the BBC began radio broadcasts, and the accent became known as the BBC accent. Standard English, the form of English grammar considered correct, is, when spoken with an RP accent, sometimes called BBC English, Oxford English, or the Queen's / King's English [37].

This course of study is based mostly on RP. The reason is simply that RP is the accent that has always been chosen by British teachers to teach foreign learners, and is the accent that has been most fully described and has been used as the basis for textbooks and pronouncing dictionaries. Whereas this concentration on a single variety of a language is a convenient way of keeping one's description clear and simple, we should never forget that there is an enourmous amount of variation in how a language is pronounced. Thus, other types of pronunciation standards will also be taken into consideration, especially American pronunciation standard. Where necessary, important differences in English phonetics and phonology between British English and American English will be explained carefully since British English and American English are two major types of English in the world.

3. TRANSCRIPTION SYMBOLS

3.1. Phonemic symbols in RP

Table I.1: Phonemic Symbols in RP [45]

1	iː	2	ɪ	3	ʊ	4	uː
5	e	6	ə	7	ɜː	8	ɔː
9	æ	10	ʌ	11	ɑː	12	ɒ
13	ɪə	14	eɪ				
15	ʊə	16	ɔɪ	17	əʊ		
18	eə	19	aɪ	20	aʊ		
21	p	22	b	23	t	24	d
25	tʃ	26	dʒ	27	k	28	g
29	f	30	v	31	θ	32	ð
33	s	34	z	35	ʃ	36	ʒ
37	m	38	n	39	ŋ	40	h
41	l	42	r	43	w	44	j

3.2. Phonemic Symbols with examples

Table I.2: Vowel Symbols in RP with examples [24]

Short vowels	/ɪ/ p**i**t	/e/ p**e**t	/æ/ p**a**t	/ʌ/ p**u**tt	/ɒ/ p**o**t	/ʊ/ p**u**t	/ə/ **a**nother	
Long	/iː/ b**ea**n	/ɑː/ b**ar**n	/ɔː/ b**or**n	/uː/ b**oo**n	/ɜː/ b**ur**			
Diphthongs	/eɪ/ b**ay**	/ai/ b**uy**	/ɔɪ/ b**oy**	/əʊ/ n**o**	/aʊ/ n**ow**	/ɪə/ p**eer**	/eə/ p**air**	/ʊə/ p**oor**

Table I.3: Consonant Symbols in RP with examples [24]

/p/ **p**in	/b/ **b**in	/t/ **t**in	/d/ **d**in	/k/ **k**in	/g/ **g**um	/ʧ/ **ch**ain	/ʤ/ **J**ane
/f/ **f**ine	/v/ **v**ine	/θ/ **th**ink	/ð/ **th**is	/s/ **s**eal	/z/ **z**eal	/ʃ/ **sh**eep	/ʒ/ mea**s**ure
/h/ **h**ow	/m/ su**m**	/n/ su**n**	/ŋ/ su**ng**	**/l/** **l**ight	/r/ **r**ight	/w/ **w**et	/j/ **y**et

3.3. Intonation diacritics

Table I.4: Intonation Diacritics

Intonation Diacritics			
↘	**(Fall**	↗	**↗Rise**
˩↘	**˩High Fall**	↗˥	**↗˥ High Rise**
↘	**(Low Fall**	↗	**↗Low Rise**
↓	**↓ Wide Fall**	↑	**↑Wide Rise**
ᵛ	**ᵛFall-Rise**	˄	**˄Rise-Fall**
–	– Level		
‖	**Long pause**	|	**Short pause**
ˌ	**Secondary Stress**	ˈ	**Main (tonic) stress**

CHAPTER I EXERCISES

I- Questions for discussion

1- What is phonetics?

2- What are the three aspects of the speech sound as a physical event?

3- What is articulatory phonetics?

4- What are the passive and active articulators?

5- What is the use of the cavities in sound production?

6- What does acoustic phonetics study?

7-What are three types of sound?

8-What is the fundamental frequency of a sound?

9- What is / are the main differences between phonetics and phonology?

10- What is the main type of pronunciation described in the present textbook?

II- True / False: Decide whether the following statements are true or false:

1- Phonetics is the study of human speech sounds.

2- Three aspects of a speech sound as a physical event are: a- structure, b- arranging and c- auditory.

3- Articulatory phonetics studies the ways in which speech sounds are produced.

4- In describing articulation, we should know which articulators are involved in sound production.

5- The tongue is a passive articulator.

6- Sounds produced are infuenced by the shapes of the cavities.

7- The sounds we produce can be described in terms of the variations of the air pressure.

8- Acoustic phonetics deals with how the speech sounds are produced by the listener.

9-Acoustic phonetics studies the physical properties of speech sounds as transmitted in the form of a sound waves through the air.

10-In the spectrogram for each vowel, there are a number of very dark bands which differ in the placement according to their pitch.

11-Formants are natural resonances.

12-The pitch of a sound is determined by the fundamental frequency of a sound.

13- Articulatory phonetics is the study of the physical properties of sounds.

14-Auditory phonetics deals with how the sounds are made by the organs of speech.

15- The term **phonology** is used to refer to the establishment and description of the distinctive sound units of a language.

16-A periodic sound is a sound that regularly repeats.

17- This course of phonetics describes only RP.

18- RP is the standard New Zealand accent. It is the only accent studied. Other accents are not important and, therefore, should not be taken into consideration.

19- The main aim of phonetics is to study and to identify the distinctive sound units in a language.

20- Some apply the term "**Phonetics**" to the more abstract, the more functional aspect of the sound; others prefer to reserve the term "**phonology**" to refer to physical, including physiological, aspects of speech.

III- MULTIPLE CHOICE: Choose either A, B, C or D

1	.....deals with how speech sounds are produced, transmitted and perceived.			
	A- Grammar	B- Phonotatics	C- Phonetics	D- Textlinguistics
2	.....phonetics deals with how speech sounds are perceived by the listener.			
	A- Articulatory	B- Acoustic	C- Experimental	D- Auditory
3	.....phonetics deals with the transmission of speech sounds through the air?			
	A-Articulatory	B-Acoustic	C- Experimental	D- Auditory
4	Which of the following is not considered as (an) articulator(s)?			
	A- the tongue	B- the lips	C- the velum	D- The ears
5	.....is the study or description of the distinctive sound units of a language and their relationship to one another.			
	A- Phonetics	B- Phonology	C- Semantics	D- Pragmatics
6	The production of different speech sounds through the use of the organs of speech is known as.....			
	A-assimilation	B- dissimilation	C-articulation	D-syllabification
7	Which of the following is not an aspect of the speech sounds as a physical event?			
	A- Physiological	B- Acoustic	C- Articulatory	D- Comprehensive
8	Besides having the physical properties, the speech sounds also have.....function when they are used as distinctive units of sounds in a language.			
	A- thematic	B- stylistic	C- affective	D- distinctive
9	The term.....is applied for the study of the more abstract, the more psychological aspects of speech.			
	A- phonetics	B- phonology	C- grammar	D- semantics

10	Since.....is easily understood in all English speaking countries, it is adapted as the teaching norm in the school and higher educational institutions.			
	A- RP	B-Broad Australian	C-Narrow American	D-Narrow Australian

IV- Give the Vietnamese equivalents for the following terms

Phonetics, articulatory phonetics, acoustic phonetics, formant, auditory phonetics, articulation, phonemics, phonology.

V- Watch the Video I.1: The English Language: An English Accent [39]

CHAPTER II - THE PRODUCTION OF SPEECH

Chapter II Contents

1. THE SPEECH CHAIN

Any manifestation of language by means of speech is a result of highly complicated series of events as shown in the process of communication. For example, a man looks out of the window and see the rain coming down, he would say, "*It's raining*". Thus, such simple sentences as *It's raining* involves a number of activities on the part of the speaker. In the first place, the linguistic formulation of the sentence will take place in the brain. The first stage may, therefore, be said to be **psychological**. The nervous system transmits this message to the so-called "**organs of speech**" and they, in turn, produce a particular pattern of sound. Thus, the second important stage may be said to be **articulatory** or **physiological**. The movement of our organs of speech will create disturbances in the air. These sound waves constitute the third stage in the speech chain: the **physical** or **acoustic**. Since communication generally requires a listener as well as a speaker, these stages will be reversed at the listening end: the reception of the sound waves by the ears and the transmission of the information along the nervous system to the brain where the linguistic interpretation of the message takes place. [20, pp.17-18]

2. THE VOCAL TRACT: THE ORGANS OF SPEECH

All the sounds we make when we speak are the result of muscles contracting. The muscles in the chest that we use for breathing produce the flow of air that is needed for almost all speech sounds; the muscles in the **larynx** produce many different modifications in the flow of air from the chest to the mouth. The larynx is a mass of cartilage at the top of the **trachea**. It is commonly called the **voicebox**.

The larynx contains folds of muscle called the **vocal cords** (or **vocal folds**). These vocal cords are connected to the larynx by the arytenoid cartilage at the front, but the other ends are left free. The opening between the vocal cords is known as the **glottis**. These cords can be relaxed, letting air flow freely through the glottis, or tensed, so that the air vibrates as it passes through the glottis. Sounds that are produced with relaxed vocal cords are known as **voiceless** sounds, and sounds that are produced with tensed vocal cords are known as **voiced** sounds. If the folds are only partially closed, a whispered sound is produced.

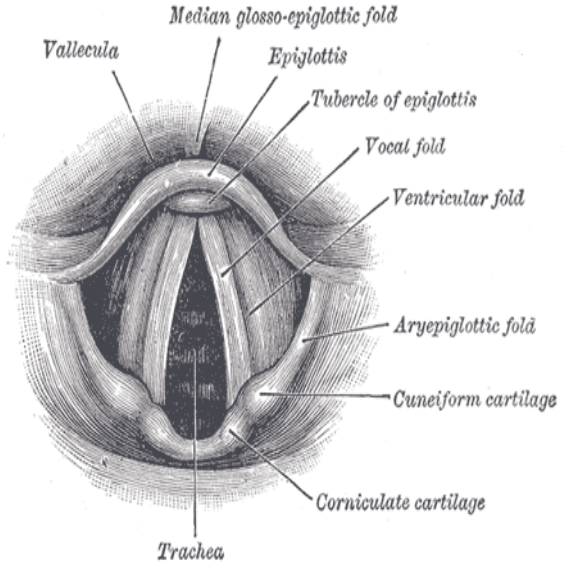


Figure II.1: The Vocal Cords (vocal folds) [38]

After passing through the larynx, the air goes through what we call the **vocal tract**, which ends at the mouth and nostrils. **The vocal tract is the air passages which are above the vocal cords and which are involved in the production of speech sounds.** Here the air from the lungs escapes into the atmosphere. We have a large and complex set of muscles that can produce changes in the shape of the vocal tract, and in order to learn how the sounds of speech are produced it is necessary to become familiar with the different parts of the vocal tract. These different parts are called articulators. Figure II.2 shows the articulators above the larynx.

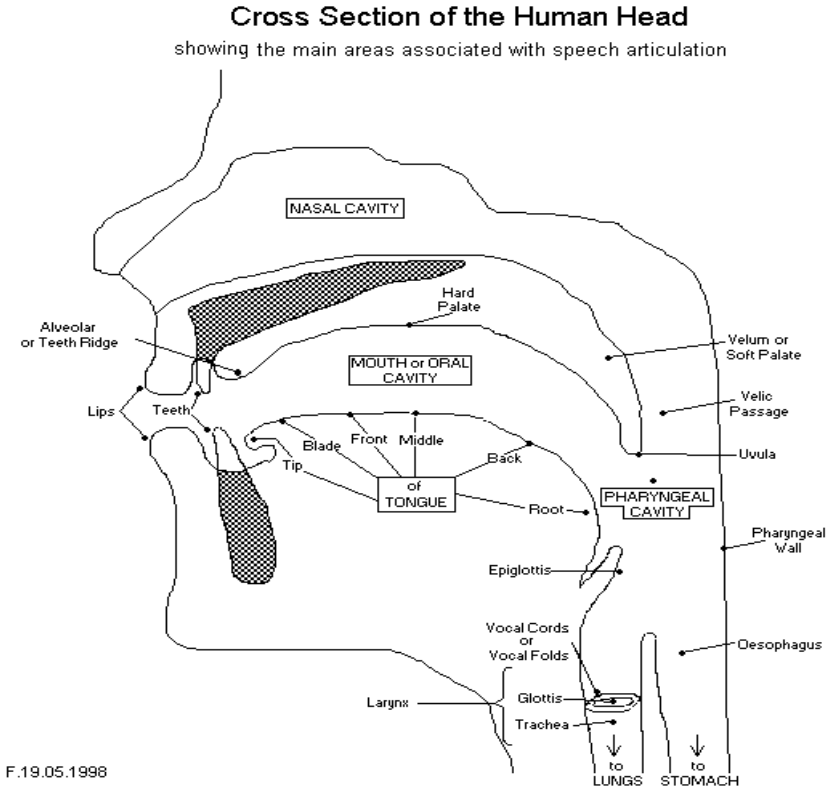


Figure II.2: The articulators above the larynx [42]

According to Roach [23, pp.8-10] the articulators above the larynx are:

a-The pharynx

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

b- The velum or soft palate

The **velum** or **soft palate** is in the position that allows air to pass through the nose and through the mouth. When the velum is raised, the air can escape through the mouth, producing the oral sound. When the velum is lowered, the air can escape through the nose, producing the nasal sound.

c- The hard palate

The **hard palate** is between the alveolar ridge and the soft palate.

d-The alveolar ridge

The **alveolar ridge** is between the top front teeth and the hard palate. Sounds made with the tongue touching the alveolar ridge are called the alveolars.

e- The tongue

The **tongue** is a very important articulator and it can be moved into many different places and different shapes. It is usual to divide the tongue into different parts, though there are no clear dividing lines within the tongue. The tongue has the following parts: a- tip, b- blade, c-front, d-centre and e- back.

f- The teeth (upper and lower)

Sounds made with the tongue touching the front teeth are called **dental**.

g- The lips

The **lips** are important in speech. They can be pressed together, brought into contact with the teeth, or rounded to produce the lip-shape for vowels like /u:/. Sounds in which the lips are in contact with each other are called **bilabial**, while those with lip-to-teeth contact are called **labio-dental**.

3. SPEECH MECHANISMS

The immediate source of speech sounds in the human speech mechanism has developed and perfected in the process of the historical development of man. The most usual source of energy for our vocal activities is provided by an air stream expelled from the lungs. Our utterances are, therefore, largely shaped by the physical limitations imposed by the capacity of our lungs and the muscles which control the action. We are obliged to pause in articulation in order to refill our lungs with the air.

The air stream provided by the lungs undergoes important modifications before it acquires the quality of a speech sound. First of all, in the windpipe, it passes through the larynx containing the so-called vocal cords. The larynx is situated in the upper part of the

wind-pipe. Its forward position is prominent in the neck below the chin and is commonly called the **Adam's apple**. Housed from back to front are the **vocal cords** (or **vocal folds**): two thick flaps of muscle rather like a pair of lips.

The action of the vocal cords consists in their role as a **vibrator** set in motion by the lung air - the production of **voice** (or phonotation). We are able by means of vibrations in the pressure from the lungs to modify the size of the puff of air which escapes at each vibration of the vocal cords; in other words, we can alter the amplitude of the vibration, with the corresponding change of loudness of the sound heard by a listener. The normal human being soon learns to manipulate his speech mechanism so that most delicate changes of pitch and loudness are achieved. Control of his mechanism is, however, very largely exercised by the air.

We use the term **glottis** to refer to the opening between the vocal cords. If the vocal cords are apart we say that the glottis is open; if they are pressed together we say that the glottis is closed. According to Peter Roach [23, pp.27-28], there would be four easily recognizable states of the vocal cords.

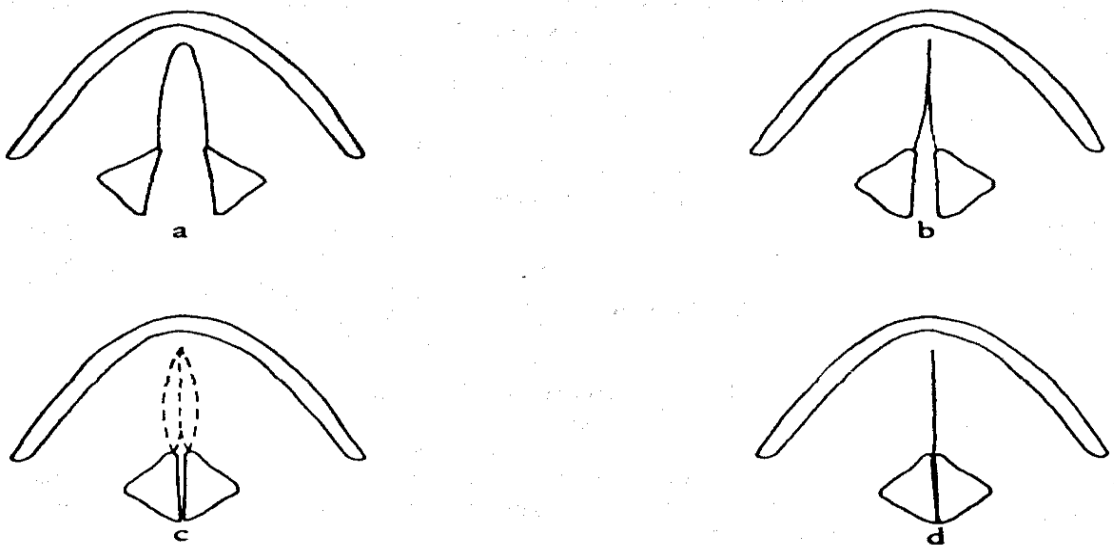


Figure II.3: Different States of the Vocal Cords [23, p. 28]

a-Wide apart

The vocal cords are wide apart for normal breathing and usually during voiceless consonants like p, f, s

b- Narrow glottis

If air is passed through the glottis when it is narrowed the result is a fricative sound for which the symbol is h. The sound is not very different from a whispered vowel. It is called a voiceless glottal fricative.

c- Position for vocal cord vibration

When the edges of the vocal cords are touching each other, or nearly touching, air passing through the glottis will usually cause vibration. Air is pressed up from the lungs and this air pushes the vocal cords apart so that little air escapes. As the air flows quickly past the

edges of the vocal cords, the cords are brought together again. This opening and closing happens very rapidly and is repeated regularly, averaging roughly between two and three hundred times per second in a woman's voice and about half that rate in adult men's.

d- Vocal cords tightly closed

The vocal cords can be firmly pressed together so that air can not pass between them. When this happens in speech we call it a glottal stop or glottal plossive, for which we use the symbol?.

If the vocal cords are brought close together, but not tightly closed, air passing between them causes them to vibrate, producing sounds that are said to be voiced. By touching the fingers to the larynx, you can sense the vibration of the vocal cords within the larynx. The vocal cord vibration causes **voicing** or **phonation**. There are many different sorts of voicing that we can produce. We can make changes in the vocal cords themselves - they can be made longer or shorter, more tense or more relaxed or be more or less strongly pressed together. Sounds that are produced with relaxed vocal cords are known as **voiceless** sounds, and sounds that are produced with tensed vocal cords are known as **voiced** sounds. The pressure of the air below the vocal cords can also be varied. Three main differences are found:

a-Variations in intensity - we produce voicing with high intensity for shouting, for example, and with low intensity for speaking quietly.

b-Variations in frequency - if the vocal cords vibrate rapidly, the voicing is at high frequency; if there are fewer vibrations per second the frequency is lower

c-Variations in quality - we can produce different-sounding voice qualities, such as those we might call harsh, breathy, murmured or creaky.

The air-stream, having passed through the larynx, is now subjected to further modifications according to the shape assumed by the upper cavities of the pharynx and mouth, and according to whether the nasal cavity is brought into use or not. These cavities function as the principal resonators of the note produced in the larynx. The pharyngeal cavity extends from the top of the larynx, past the epiglottis and to the root of the tongue to the rear of the soft palate.

If the air passes through the nose, the sounds produced can be called **nasal** sounds. If the air passes through the mouth, the sounds produced can be called **oral** sounds.

It is convenient for our purposes to divide the roof of the mouth into three parts: moving backwards from the upper teeth, first, the **alveolar** or **teeth-ridge** which can be clearly felt behind the teeth; secondly, the bony ridge which forms the **hard palate** and finally, the **soft palate** (which is capable of being raised or lowered), and at extremity of which is the **uvula**. All these parts can be easily observed by means of a mirror. The main divisions will be referred to as: **dental**, **alveolar**, **hard palate**, and **soft palate**.

The tongue has no physical divisions like the palate. It is, however, convenient for the purposes of phonetics to imagine the surface of the tongue to be divided into the parts (the **tip**, the **blade**, the **front**, the **middle** and the **back**) corresponding to the roof of the mouth. The **front** is opposite the hard palate. The **back** is opposite the soft palate.

The lips constitute the final part of the mouth cavity. The shape which they assume will affect very considerably the shape of the total cavity. They may form a complete obstruction to the air-stream, which may be momentarily prevented from escaping at all or may be directed through the nose by lowering of the soft palate. They may be **rounded**, **neutral** or **unrounded** (spread). [20. pp.18-19]

CHAPTER II EXERCISES

I-Questions for Discussion:

1-How many states are there in the speech chain? What are they?

2- Where does the most usual source of energy for our vocal activities come from?

3-What role do the cavities play in the production of sounds?

4-How important are the vocal cords? What is the shape of the vocal cords like when we produce voiced sounds?

5-What kind of sound is produced when the soft palate is raised? lowered?

6-What are the important parts of the roof of the mouth?

7-What are the important parts of the tongue?

8-How are the lips important in sound production?

II- True / False: Decide whether the following are true or false:

1-It is said that there are four states in the speech chain: a-psychological, b-articulatory, c-acoustic, and d-interpretive.

2-The vocal tract is the air passages which are above the vocal cords and which are involved in the production of speech sounds

3-The larynx, which is situated in the upper part of the windpipe, contains the so called vocal cords.

4-The action of the vocal cords consists in their role as a vibrator set in motion by lung air.

5-When the edges of the vocal cords are touching or nearly touching, the air passing through the glottis will usually cause vibration, which produces voiced sounds.

6- When the vocal cords are wide apart, the sounds produced are voiced sounds.

7-The most important parts of the tongue for producing vowel sounds are front, central and back.

8-Nasal, oral and pharyngeal cavities function as the principal resonators.

9-The lip shape is important in producing rounded, neutral and unrounded vowels.

10-The main division of the roof of the mouth are dental, alveolar, hard palate, and soft palate.

III- Multiple Choice: Choose the best answer:

1	Which of the following is not a state of the speech chain:			
	A-psychological	B-articulatory	C-acoustic	D-interpretive
2	The……..provides the most usual source of energy.			
	A-lungs	B-ears	C-eyes	D-lips
3	The larynx is situated in the upper part of the……			
	A-mouth	B-windpipe	C-eye	D-ear
4	When the vocal cords are touching or nearly touching, the sounds they produced might be:			
	A-/ p, t and k/	B-/s, k and t/	C-/p, s and k/	D-/a:, ɪ and i:/
5	The oral, nasal and laryngeal cavities function as……. of the note produced in the larynx.			
	A-vibrators	B-resonators	C-joiner	D-filler
6	Which of the following is / are not the articulators above the larynx?			
	A-The lungs	B-The stomach	C-The tongue	D-The eyes
7	The ……is between the teethridge and the hard palate.			
	A-soft palate	B-tongue	C-nose	D-lungs
8	We use the word **glottis** to refer to the opening between……			
	A-the eyes	B-the ears	C-the vocal cords	D-the mouth
9	The……can be rounded, neutral or unrounded.			
	A-lips	B-tongue	C-lungs	D-teeth
10	Which of the following states of the vocal cords is important in the production of vibration?			
	A-wide apart	B-touching or nearly touching	C-narrow glottis	D-half apart

CHAPTER III - THE CLASSIFICATION OF THE ENGLISH SPEECH SOUNDS

Chapter III Contents

1. VOWELS AND CONSONANTS

Speech sounds are divided into vowels and consonants. Vowels can be divided into **pure vowels** (**monophthong**) and **diphthongs** (and possibly **trithongs**). Vowels and consonants differ in **distribution** and **production**. In terms of distribution, the vowel is in the center of the syllable and the consonant either precedes or follows the vowel. The following table shows major differences between vowels and consonants in terms of production.

Table III.1: Major Differences between Vowels and Consonants

Vowels	Consonants
are produced with no obstruction in the vocal tract	are produced with a narrow or complete closure in the vocal tract.
are more sonorous	are less sonorous
are voiced	are either voiced or voiceless
are syllabic	are generally not syllabic

According to Crystal [4, p.152], the description and classification of speech sounds is the main aim of phonetic science. The phonetic sounds may be identified with reference to their production (or articulation) in the vocal tract, their acoustic transmission, or their auditory reception. The most widely used descriptions are articulatory because the vocal tract provides a convenient and well-understood reference point. An articulatory description generally makes reference to seven main factors: a-**air stream**, b-**vocal folds**, c-**soft palate**, d- **place of articulation**, e-**manner of articulation**, f- **tongue** and g-**lips**. The following part will present the description and classification of the English sounds in accordance with Daniel Jones' 1922 classification [13, pp.11-21].

2. ENGLISH VOWELS

2.1. Cardinal vowels [21, pp.56-57]

The IPA describes vowels using a set of reference vowels called **cardinal vowels**. **Cardinal vowels** are a set of reference vowels used by phoneticians in describing the sounds of languages. **A cardinal vowel is a basic vowel sound produced when the tongue is in an extreme position, either front or back, high or low**. The current system was systematised by Daniel Jones in the early 20th century, though the idea goes back to earlier phoneticians, notably Ellis and Bell.

Cardinal vowels are a set of reference vowels that have predetermined phonetic values. Other vowels are described with reference to the cardinal vowels. There are **primary cardinal vowels** (the vowels that are most familiar to the speakers of most European languages), and **secondary cardinal vowels** (that sounds less familiar).

It has become traditional to locate cardinal vowels on a four-sided figure diagramme (quadrilateral). **The Cardinal vowel diagram is a set of standard reference points based on the combination of articulatory and auditory judgements**. The front, central, and back of the tongue are distinguished, as are the four levels of tongue height.

Once the cardinal vowel values are learned, it is possible to place the vowels of a speaker or of any language on to the chart in a precise way.

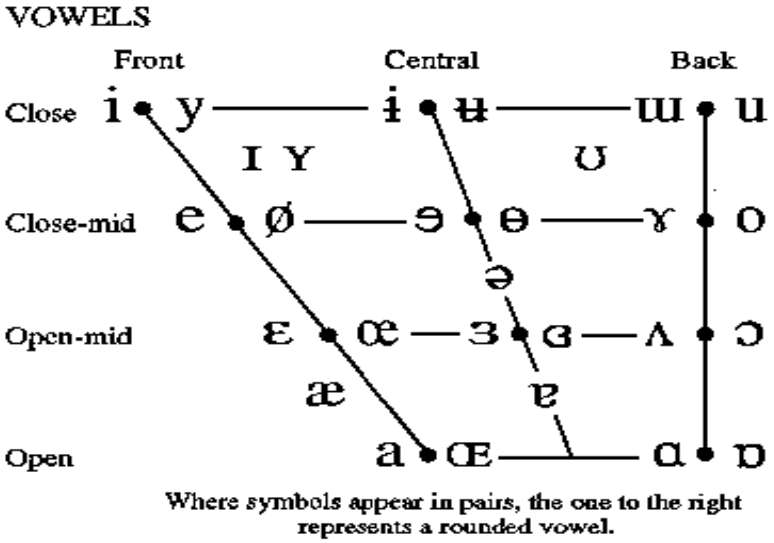


Figure III.1: The Cardinal Vowel Diagramme [32]

Video III.1: The Cardinal Vowels [47]

Table III.2: Description of Cardinal Vowels [32]

Cardinal	IPA	Description
1	[i]	close front unrounded vowel
2	[e]	close-mid front unrounded vowel
3	[ɛ]	open-mid front unrounded vowel
4	[a]	open front unrounded vowel
5	[ɑ]	open back unrounded vowel
6	[ɔ]	open-mid back rounded vowel
7	[o]	close-mid back rounded vowel
8	[u]	close back rounded vowel
9	[y]	close front rounded vowel
10	[ø]	close-mid front rounded vowel
11	[œ]	open-mid front rounded vowel
12	[ɶ]	open front rounded vowel
13	[ɒ]	open back rounded vowel
14	[ʌ]	open-mid back unrounded vowel
15	[ɤ]	close-mid back unrounded vowel
16	[ɯ]	close back unrounded vowel
17	[ɨ]	Close central unrounded vowel
18	[ʉ]	Close central rounded vowel

2.2. English pure vowels (monophthongs)

A vowel is defined as a voiced sound in which the air has a free passage through the mouth, and does not produce any audible friction [13, p.11]. All vowels are voiced sounds. In the English language vowels can be classified into **pure vowels** (**monophthongs**) and **diphthongs**.

A pure vowel (monophthong) is an unchanging sound in the pronunciation of which the organs of speech do not perceptibly change the position throughout the duration of the vowel in a syllable.

In the production of the English sounds the tongue may move forward or backward or it may be raised or lowered. Pure vowel sounds may be classified according to the following principles:

2.2.1. The raised part of the tongue

According to which part of the tongue is raised (i.e. according to whether the **back**, the **front** or the **center** (or middle) of tongue is raised towards the roof of the mouth), vowels can be **front**, **central** or **back**.

2.2.1.1. Front vowels

There are four **front vowels in the English language in the production of which the front of the tongue is raised in the direction of the hard palate**. The front vowels are: /i:/ (as in *see, teeth*), /ɪ/ (as in *sit, lip*), /e/ (as in *head, met***)** and /æ/ (as in *man, sand*).

2.2.1.2. Central vowels

There are vowels intermediate between front and back. We call them **central** vowel sounds. In the articulation of these sounds, the **center (or middle) of the tongue is raised toward the palate**. The central vowels are /ɜ:/ (as in *bird, shirt*), /ə/ (as in *again, along*) and /ʌ/ (as in *sun, run*).

2.2.1.3. Back vowels

There are five **back vowels in the production of which the back of the tongue is raised in the direction of the soft palate**. The back vowels are: /u:/ (as in *shoe, fool*), /ʊ/ (as in *full, pull*), /a:/ (as in *heart, hard*), /ɒ/ (as in *hot, shock)* and /ɔ:/ (as in *short, folk*).

2.2.2. The height of the raised part of the tongue

According to the height to which the tongue is raised, vowels can be classified as **close** (or **high**), **mid-open** / **mid-close**, **open** (or **low**).

2.2.2.1. Close (High) vowels

There are four **close (or high) vowels in the production of which one part of the tongue comes close to the palate without touching it and the air passage is narrow, but not so much as to form a consonant**. The close vowels are /i:/, /ɪ/, /ʊ/ and /u:/.

2.2.2.2. Mid-open / mid-close vowels

There are 4 **mid-open vowels in the production of which the tongue is half-way between its high and low position**. They are /e/, /ə/, /ɜ:/ and /ɔ:/.

2.2.2.3. Open (or low) vowels

There are 4 **open (or low) vowels in the production of which one part of the tongue is very low and the air passage is very wide**. They are /æ/, /a:/, /ɒ/, /ɔ:/ and /ʌ/.

2.2.3. The lip shape

According to the lip shapes, vowels can be **rounded**, **neutral** or **unrounded** (**spread**).

2.2.3.1. Rounded vowels

There are **rounded vowels in the production of which the lips are drawn together so that the opening between them is more or less round**. They are /ʊ/, /u:/, /ɒ/, and /ɔ:/

2.2.3.2. Neutral vowels

There are **neutral vowels in the production of which the lips are not noticeably rounded or spread**. They are /ə/, /ɜ:/ and /ʌ/.

2.2.3.3. Unrounded (spread) vowels

There are **unrounded or spread vowels in the production of which the lips may be spread out so as to leave a long narrow opening between them**. They are /i:/, /ɪ/, /e/ and /æ/.

2.2.4. The Vowel length

According to the length vowels may be **long** or **short**. The colon (:) is used with the phonemic symbols for the vowels which are long. The English long vowels are /i:/, /u:/, /ɜ:/, /ɔ:/ and /ɑ:/.

Table III.3: The English monophthongs (Pure Vowels) (RP) [37] [25]

	Front		**Central (Mid)**		**Back**	
	long	**short**	**long**	**short**	**long**	**short**
Close	iː	ɪ			uː	ʊ
Mid		e	ɜː	ə	ɔː	
Open		æ		ʌ	ɑː	ɒ

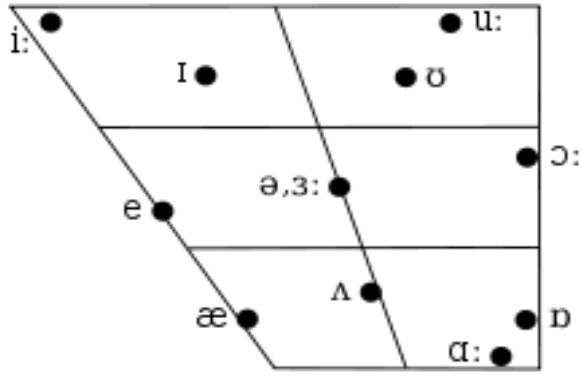


Figure III.2: The English Monophthongs (RP) [25]

2.3. Diphthongs

According to Peter Roach [23], a **diphthong is a combination of two vowels pronounced within one syllable.** The first element of a dipthong is called the nucleus, the second element is called the glide. In the English language, the nucleus is a strong, clear and distinct vowel sound. The glide is weak in the articulation of a diphthong. The organs of

speech start from the position necessary for the first vowels and glide in the direction of the second vowels. The first element is in all the diphthongs is is stressed and is stronger than the second. In some other languages, the second element is louder, stronger and more distinct than the first. Diphthongs can be classified into a- **retracting** (ending in /ʊ/, as in *now*, *town*, *go*, *show*), b-**fronting** (ending in /i/, as in *eye*, *why*, *say*, *day*, *boy*, *destroy*) and c-**closing** (ending in /ə/, as in *hear*, *near*). Diphthongs can also be classified into a-**closing** (ending in either /i/ /or /u/, as in *life*, *like*, *say*, *waiter*, *phone*, *know*) or b-**centring** (ending in /ə/, as in *here*, *near*, *hair*, *sure*).

The following diagramme shows the classification of the diphthongs in English according to the ending elements

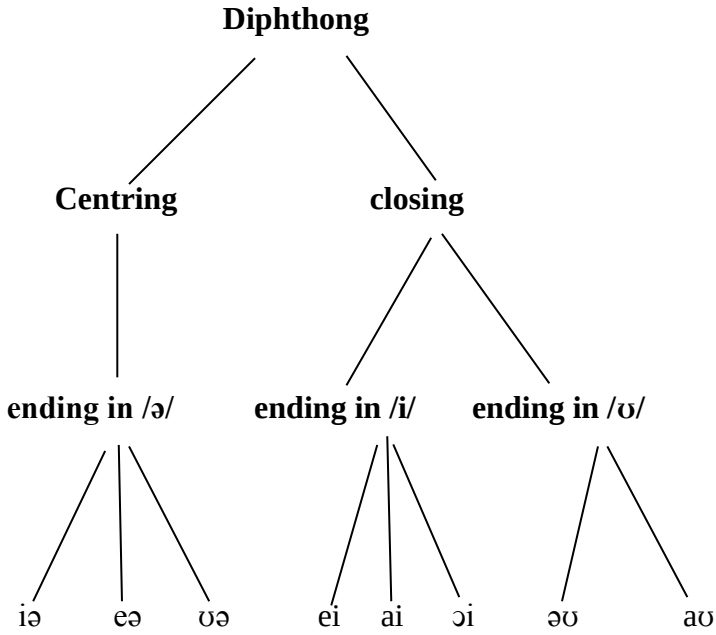


Figure III.3: The English Diphthongs (RP) [23, p.20]

Table III.4: The English Diphthongs (RP) [25]

Diphthong	**Example**	
Closing		
/eɪ/	/beɪ/	bay
/aɪ/	/baɪ/	buy
/ɔɪ/	/bɔɪ/	boy
/əʊ/	/bəʊ/	beau
/aʊ/	/baʊ/	bough
Centring		
/ɪə/	/bɪə/	beer
/eə/	/beə/	bear
/ʊə/	/bʊə/	boor

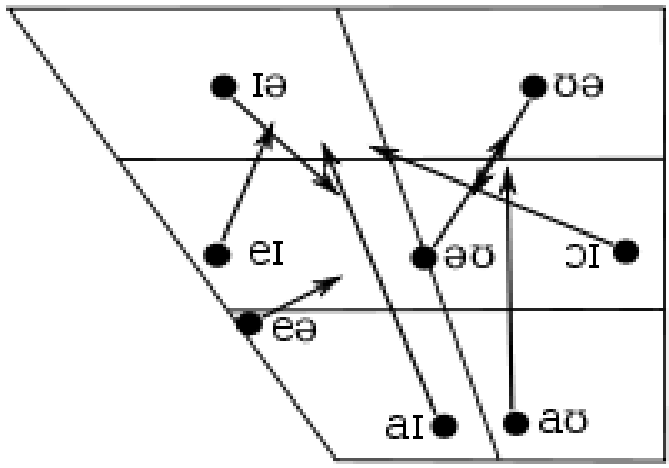


Figure III.4: English Diphthongs (RP) [25]

Follow-up Activity III.1:

Describe the English pure vowels according to the criteria given:

	Front / central / back	**Close/mid/open**	**Long / Short**	**Rounded / Unrounded**
iː	front	Close / high	long	unrounded

3. CONSONANTS

3.1. Consonants

A consonant is a sound in the production of which an obstruction is formed in the mouth by the active organs of speech. A consonant is a speech sound where the airstream from the lungs is either completely blocked (stop), partially blocked (lateral) or where the opening is so narrow that the air escapes with audible friction (fricative) [22, p.59].

3.2. Consonant classification

A consonant is a sound produced with an obstruction to the air stream. The organs of speech are tense at the place of obstruction. In the articulation of voiceless consonants the air stream is strong whereas in voiced consonants it is weaker.

The particular quality of a consonant depends on the work of the vocal cords, the position of the soft palate and the kind of noise that results when the tongue or the lips obstruct the air-passage.

There are two types of articulatory obstruction: complete and incomplete.

A complete obstruction is formed when two organs of speech come into contact with each other and the air-passage through the mouth is blocked.

An incomlete obstruction is formed when an articulating organ is held so close to a point of articulation as to narrow, or constrict, the air-passage without blocking it.

According to David Crystal [4, p.155], consonants are normally described with reference to six criteria:

a-the source of the air stream - whether from the lungs (**pulmonic**) or from some other source (**non-pulmonic**),

b-the direction of the air stream-whether moving outwards (**egressive**) or inwards (**ingressive**),

c-the state of vibration of the vocal cords-whether vibrating (**voiced**) or not (**voiceless**),

d-the position of the soft palate - whether raised (**oral**) or lowered (**nasal**);

e- the place of articulation in the vocal tract, and

f-the manner of articulation.

In the following part, the traditional classification of consonants will be presented based on the three criteria, viz.

a-according to the organs of articulation;

b-according to the manner of articulation, and

c-according to the state of vibration of the vocal cords.

3.2.1. If we classify the consonants according to the organs of articulation we can distinguished seven main classes of consonants

3.2.1.1. Labials or lip sounds, which may be subdivided into

a-Bi-labial, namely **sounds articulated by the two lips**. The bi-labials are /p/ (as in *pen, put*), /b/ (as in best, bill), /w/ (as in *well*) and /m/ (as in *much*).

b-Labio-dental, namely **sounds articulated by the lower lip against the upper teeth**. The labio-dentals are /f/ (as in *fine, five*) and /v/ (as in *very, van*).

3.2.1.2. Dentals (or interdentals), namely sounds articulated by the tip of the tongue against the upper teeth. The dentals are /θ/ (as in thin) and /ð/ (as in this).

3.2.1.3. Alveolars, namely sounds articulated by the tip or blade of the tongue against the teethridge. The alveolars are /t/ (as in *ten, top*), /d/ (as in *did, do*), /n/ (as in *nose, not*), /l/ (as in *letter, little*), /s/ (as in *six, seen*), and /z/ (as in *zero, zoom*).

3.2.1.4. Palato-alveolars (or post-alveolars), namely **sounds which have alveolar articulation together with a simultaneous raising of the main body of the tongue towards the roof of the mouth**. The palato-alveolars are /ʧ/ (as in *chair, choice*), /ʤ/ (as in *bridge, just*), /ʃ/ (as in *shall, she*) and /r/ (as in *very*).

3.2.1.5. Palatals, namely sounds articulated by the tongue against the hard palate. The palatal is /j/ (as in *yes, you*).

3.2.1.6. Velars, namely **sounds articulated by the back of the tongue against the soft palate**. Velars are /k/ (as in *cut, kiss*), /g/ (as in *good, give*) and /ŋ/ (as in *song, sing*).

3.2.1.7. Glottals, namely **sounds articulated in the glottis** (the opening between the vocal cords is known as glottis). The glottal is /h/ (as in *he, head*).

3.2.2. If we classify the consonants according to the manner in which the organs articulate them, we distinguish seven main classes, too

3.2.2.1. Plosives (stop sounds / explosive sounds)

It is so called because the **air stream is completely stopped for a moment, after which it is allowed to rush out of the mouth with an explosive sound**. They are /p/, /b/, /t/, /d/, /k/ and /g/.

All plosives can occur at the beginning of a word (in initial position), between other sounds (in medial position) and at the end of the word (in final position)

3.2.2.2. Affricatives (Affricates)

An affricative (affricate) is a combination of a plosive consonant with an immediately following fricative /ʃ/ or /ʒ/. Affricatives are /ʧ/ (as in *chair, choice*) and /ʤ/ (as in *bridge, just*). Affricatives can occur initially, medially and finally.

3.2.2.3. Nasals

A nasal is the sound in the production of which all the air from the lungs escapes down the nose and not through the mouth at all. Nasals are /m/, /n/ and /ŋ/. /m/ and /n/ can occur initially, medially and finally. /ŋ/ can occur only medially and finally. *–ng* can be pronounced differently in different contexts.

-ng

A	B
Finger [fiŋgə]	singer [siŋə]
Anger [æŋgə]	hanger [hæŋə]

Within a word containing the letters *-ng*, /ŋ/ occurs without a following [g] if it occurs at the end of a morpheme. If it occurs in the middle of a morpheme it has a following [g].

3.2.2.4. Laterals

A lateral is the sound formed by the tip of the tongue firmly pressed against the teethridge or the teeth so that the air can escape at one or both sides of the tongue, such as /l/. This sound occurs initially, medially and finally. Initial /l/ (as in like) is called clear /l/. Final /l/ (as in *little*) is called **dark** [ɬ].

3.2.2.5. Rolled

A rolled is the sound in the production of which the tip of the tongue vibrates in the stream of air, such as /r/. /r/ only occurs before a vowel. In the words such as *car, ever, hard, verse*, there is no /r/ in the pronunciation. However, most Americans and Scots pronounce /r/ in final position. Accents which have /r/ in final position and before a consonant are called **rhotic** accents, while accents in which /r/ only occurs before vowels are called **non-rhotic**.

3.2.2.6. Fricatives

A fricative is the sound formed by a narrowing of the air passage at some point so that the air in escaping makes a kind of hissing, such as /f/, /s/ or buzzing /z/ sound. The fricatives in the English language are /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, and /h/. /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/ can occur in initial, medial and final positions. /ʒ/ can occur only medially. /h/ occurs initially and medially.

3.2.2.7. Semi-vowel

A semi-vowel is a gliding sound in which the speech organs start at or near a close vowel and immediately move away to some other vowels. The semi-vowels are /w/ and /j/.

3.2.3. State of vocal cord vibration

If we classify the English consonants according to the state of vibration of the vocal cords (that is according to whether the vocal cords are vibrating or not vibrating), consonants can be **voiced** (when the vocal cords are vibrating) or **voiceless** (when the vocal cords are not vibrating).

3.2.3.1. Voiced consonants: b, m, w, v, d, n, l, z, r, ð, ʤ, ʒ, g, ŋ, j

3.2.3.2. Voiceless consonants: p, f, θ, t, s, ʧ, ʃ, k, h

Table III.5: The English Consonants (RP)

Place of articulation	**Labial**				**Dental**		**Alveolar**		**Palato-alveolar**		**Palatal**		**Velar**		**Glottal**	
	Bilabial		**Labio-dental**													
Manner of articulation	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**
Plosive	p	**b**					t	**d**					k	**g**		
Affricative									ʧ	**ʤ**						
Nasal		**m**						**n**								
Lateral								**l**								
Rolled										**r**						
Fricative			f	**v**	θ	**ð**	s	**z**	ʃ	**ʒ**					**h**	
Semi-vowel		**w**										**j**				

Audio III.1: The English Phonemes (TEphonemic_GreyBlue21.exe) [46]

4. SYLLABIC CONSONANTS [23, pp.78-82]

4.1. Syllabic consonants

In the syllable, the central position (usually occupied by the V(owel) element) is normally referred to as the nucleus. The sound which forms the centre or the nucleus of a syllable is called the **syllabic sound**. In the distinctive feature theory of phonology proposed by Chomsky and Halle, **syllabic** is used to replace the earlier term "**vocalic**", referring to all segments constituting a syllabic nucleus. All vowels are syllabic ([+syllabic] or [+syll]). Most of consonants are non-syllabic or asyllabic ([−syll]). Some consonants can either be normal consonants or syllabic consonants [22, p.283]. **A syllabic consonant is a consonant which forms the nucleus or the centre of a syllable**. **It is the combination of vowel and a consonant in one sound: the syllabic consonant**. In the English language, the syllabic consonants are **l̩, m̩, n̩, ŋ̩** and **r̩.**

4.2. Syllabic [l̩] *occurs*

a-with alveolar consonant preceding

e.g. cattle	[kætl̩]	bottle	[bɒtl̩]
wrestle	[restl̩]	muddle	[mʌdl̩]

b-with non-alveolar consonant preceding:

e.g. couple	[kʌpl̩]	trouble	[trʌbl̩]
struggle	[strʌgl̩]	knuckle	[nʌkl̩]

Such words usually lose their final letter **e** when a suffix beginning with a vowel is attached, but the **l** usually remains syllabic:

e.g. bottle	[bɒtl̩]	bottling	[bɒtl̩iŋ]
muddle	[mʌdl̩]	muddling	[mʌdl̩iŋ]

We also find syllabic l̩ in words spelt with, at the end, one or more consonant letters followed by *al* or *el*,

e.g. Panel	Papal
Petal	Parcel
Kernel	Babel
Pedal	Ducal

4.3. Syllabic [n̩]

Of the syllabic nasals, the most frequently found and the most important is **n̩**. Syllabic **n̩** is most common after alveolar plosives and fricatives. We do not find **n̩** after /l/ or /ʧ/, /ʤ/ so that, for example, *sullen* must be pronounced as [sʌlən], *Christian* as [krisʧən] and *pigeon* as [piʤən].

Syllabic **ṇ** after non-alveolar consonants is not so widespread. In words where the syllable following a velar consonant is spelt *an*or *on* (for example, *toboggan*, *wagon*) it is rarely heard, the more usual pronunciation being [təbɒgən], [wægən]. After bilabial consonants, such as in words like *happen*, *happening*, *ribbon*, we can consider it equally acceptable to pronounce them with syllabic **[ṇ]** or with [**ən]**.

After /f /or /v/, syllabic [ṇ] is more common than [ən]. Thus *seven*, *heaven*, *often* are more usually [sevṇ], [hevṇ], [ɒfṇ] ¸ than [sevən], [hevən], [ɒfən].

4.4. Syllabic [ṃ], [ŋ̩]

Both /m/ and /ŋ/ can occur as the syllabic, but only as a result of processes such as assimilation and elision. We find that *happen* can be pronounced as [hæpṃ]; *thicken* [θikŋ̩**]**

4.5. Syllabic [**ṛ]

In many accents of the type called **rhotic** such as most American accent, syllabic ṛ is very common. The word *particular***,** for example, would probably be pronounced [pṛtikjəlṛ] by most Americans, while RP speakers would pronounce this word [pətikjələ].

Syllabic [ṛ] is less common in RP and in most cases where it occurs there are perfectly acceptable alternative pronunciations without the syllabic consonant. Here are some examples:

a-where non-syllabic [r] is also acceptable

e.g. history [histṛi] or [histri]

b-where [ər] is also acceptable,

e.g. 1. buttering [bʌtṛiŋ], [bʌtəriŋ]

2. flattery [flætṛi], [flætəri]

4.6. Combination of syllabic consonants

It is not unusual to find two syllabic consonants together**.** Examples are *national* [næʃṇl̩] and *literal* [litṛl̩]

5. FORTIS – LENIS [24]

It is claimed that in some languages (including English) there are pairs of consonants whose members can be distinguished from each other in terms of whether they are "**strong**" (**fortis**) or "**weak**" (**lenis)**. These terms refer to the amount of energy used in their production, and are similar to the terms *tense* and *lax* more usually used in relation to vowels. The **fortis / lenis** distinction does not (in English, at least) cut across any other distinction, but rather it duplicates the voiceless / voiced distinction. **Voiceless consonants are called fortis** (meaning **strong**) and **voiced consonants are called lenis** (meaning **weak**).

CHAPTER III EXERCISES

I-Questions for Discussion

1-What are the differences between vowels and consonants?

2-What is the Cardinal Vowel Diagramme used for?

3-What is a vowel? pure vowel? a diphthong?

4-How do we classify English pure vowels?

5-How do we classify English diphthongs?

6-What is a consonant? How do we classify English consonants?

7- What is a syllabic consonants?

8-Which of the English consonants can be syllabic consonants?

9-What is a fortis consonant? a lenis consonant?

II- True / False: Decide if the following statements are true or false

1-Speech sounds are divided into pure vowels and diphthongs.

2-All vowels are voiced.

3-A pure vowel is an unchanging sound in the pronunciation of which the organs of speech do not perceptibly change the position throughout the duration of the vowel.

4-The front vowel is the one in the production of which the front of the tongue is raised in the direction of the hard palate.

5-According to the height to which a part of the tongue is raised, vowels can be classified into close and open vowels.

6-A close vowel is the one in the production of which the tongue is as low as possible.

7-A rounded vowel is the one in the production of which the tongue is as low as possible.

8-Vowels can be long or short.

9- /i:/ is a long vowel.

10- /e/ is a long vowel.

11- A diphthong is a pure vowel.

12- Diphthongs can be divided into centring and closing diphthongs according to the second element of the diphthong.

13-The word **learn** contains a diphthong.

14-A consonant is a sound in the pronunciation of which no obstruction is formed in the mouth by the active organs of speech.

15-Consonants may be classified according to a-the organs of speech, and b-the manner of articulation.

16-If we classify the consonants according to the state of vibration of the vocal cords, they can be voiced or voiceless.

17-Labials are bilabials and labio-dentals.

18-Palatals are sounds articulated in the glottis.

19-A plosive is a stop sound.

20-A nasal is a sound formed by the tip of the tongue firmly pressed against the teeth ridge or the teeth so that the air can escape at one or both sides of the tongue.

III- Multiple Choice: Choose the best answer.

1	Speech sounds are divided into vowels and……			
	A-phonemes	B-syllables	C-words	D-consonants
2	Which of the following is incorrect? A-All vowels are voiced. B-Vowels are less sonorous than consonants. C-All vowels are syllabic. D-Consonants are either voiced or voiceless.			
3	The cardinal vowel diagramme is a……..based on a combination of articulatory and auditory judgements.			
	A-a system of guessing	B-a system of stress patterns	C-a system of letters	D-a set of standard reference points
4	A……is an unchanging sound in the pronunciation of which the organs of speech do not perceptibly change the position throughout the duration of the vowel.			
	A-diphthong	B-monophthong	C-consonant	D-trithong
5	In the articulation of the…….sound, the central of the tongue is raised toward the palate.			
	A-front	B-back	C-central	D-open
6	A/an……..vowel is the one in the production of which one part of the tongue comes close to the palate without touching it and the air passage is narrow, but not so much as to form a consonant.			
	A-open	B-mid-open	C-mid-close	D-close
7	Which of the following words contains a close vowel?			
	A-sand	B-hard	C-sit	D-hot
8	Which of the following word does not contain an open vowel?			
	A-seen	B-hat	C-hot	D-not
9	According to the……, vowels can be classified as rounded, neutral or unrounded. A-height of the raised part of the tongue B-raised part of the tongue C-length of the vowel D-shape of the lips			

10	…….vowels are the ones in the production of which the lips are drawn together so that the opening between them is more or less round.			
	A-Rounded	B-Unrounded	C-Long	D-Short
11	……vowels are the ones in the production of which the lips may be spread out so as to leave a long narrow opening between them			
	A-long	B-spread	C-rounded	D-short
12	A / An……..is a combination of two vowels pronounced within one syllable.			
	A-diphthong	B-consonant	C-front vowel	D-open vowel
13	Which of the following words contains a closing diphthong?			
	A-hear	B-sure	C-day	D-very
14	Which of the following criteria can not be used as a classifying criterion for consonant classification?			
	A-The vibration of the vocal cords	B-The manner of articulation	C-The place of articulation	D-The shape of the lips
15	/a:/ as in **heart** is a / an……..vowel.			
	A-open front short	B-open central long	C-close front long	D-open back long
16	/i:/ as in **seen** is a……..			
	A-diphthong	B-consonant	C-pure vowel	D-syllable
17	/ai/as in **like** is a……..			
	A-diphthong	B-consonant	C-pure vowel	D-syllable
18	Which of the following is true? A-vowels are produced with complete closure in the vocal tract. B-Consonants are produced with no obstruction in the vocal tract. C-Consonants are more sonorous than vowels D-All vowels are syllabic			
19	Which of the following is not used as a criterion in the vowel classification? A-The height to which the tongue is raised. B-The part of the tongue which is raised C-The windpipe D-The vowel length			
20	……are sounds articulated by the lower lip against the upper teeth.			
	A-Labio-dentals	B-Alveolars	C-Velars	D-Glottals

IV-Gap-filling: Fill in the blanks with appropriate words

1-We can describe vowels by referring to the part of the tongue which is at the highest point in the mouth. If the front of the tongue is at the highest point near the hard palate, we have a…….(i)……vowel.

2-If the back of the tongue is at the highest point near the soft palate, we have a …….(ii)…….vowel.

3-Vowels which are produced between the positions for a front and back vowel are called……..(iii)…..vowels.

4-One element in the description of vowels is the part of the tongue which is at the highest point in the mouth. A second element is the……(iv)…….to which that part is raised.

5-If the tongue is placed as low as possible in the mouth, the vowel which results is an…….(v)……vowel.

6-If the tongue is raised as high as possible in the mouth, without touching the roof of the mouth, the vowel which results is a……(vi)……vowel.

7-the vowel /i:/ in /fi:d/ and /u:/ in /fu:/ are both…….(vii)……and the vowel /a:/ in /fa:/ is an……(viii)…..vowel.

8-The position of the lips also has an effect on vowel quality. If the lips are drawn together so that the opening between them is round, we have a…….(ix)…….vowel. And if the lips are not drawn together the vowel is……(x)……..vowel.

9-According to the length vowels may be……..(xi)……or……(xii)

10-A combination of vowels pronounced within one syllable is called a…..(xiii).

11-If the organs of speech start in the position for one vowel and then immediately glide to the position of another, the result is a……..(xiv).

12-Diphthongs are represented by two symbols in phonemic transcription, the first symbol shows the position of the organs of speech at the……(xv)….. of the glide, and the second shows their approximate position at the……(xvi) ….of the glide.

13-Labio-dental consonants are articulated by…..(xvii)…..lip against the……(xviii).

14-Alveolar consonants are articulated by the tip of the tongue against the …..(xix).

15-Consonants that have alveolar articulation together with a simultaneous raising of the main body of the tongue towards the roof of the mouth are called….(xx)…consonants.

16-An affricative is a combination of a…….(xxi)….consonant with an immediately following…….(xxii)…..sound.

17-Semi-vowels are……..(xxiii)……sounds in the production of which the organs of speech start at or near a …..(xxiv)…..and immediately move away to some other……(xxv)…..sound.

18-……(xxvi) are the sounds produced when the air stream is completely stopped for a moment, after which it is allowed to rush out of the mouth with an explosive sound.

19-…….(xxvii)….are sounds articulated in the glottis.

20-……(xxviii)….are the sounds formed by the tip of the tongue firmly pressed against the teethridge or the teeth so that the air can escape at one or both sides of the tongue.

V-Cirlce the word that

1-contains a front close long vowel:

seat sit hot met

2-contains a central mid-open long vowel

Hot heat learner sitting

3-contains a back close short vowel

Hot seat hard put

4- contains a front mid-open short vowel

Met sat but hot

5- contains a centring diphthong

Say poor noisy near

6- begins with a bilabial plosive voiced consonant

Begin sit learn turn

7-begins with an alveolar affricative voiceless consonant

Church judge she sea

8-begins with a dental fricative voiced consonant

This thin the teeth

9-ends with an alveolar nasal voiced consonant

Listen voice hot clock

10-ends with a labial dental fricative voiced consonant

Five like sister long

VI-In the spaces provided bellow, 1- state the place of articulation, 2- state the manner of articulation, 3- indicate whether the sound is voiced or voiceless and 4- give an example of an English word beginning with the sound:

	1-Place of Articulation	2-Manner of Articulation	3-Voiced or voiceless	4-Examples
k				
l				
m				
n				
f				
v				
s				
z				
tʃ				
dʒ				
ʒ				
ʃ				

VII-How many distinctive sounds are there in each of the following words. Circle the correct answer:

1	laugh	1	2	3	4	5	6	7
2	begged	1	2	3	4	5	6	7
3	graphic	1	2	3	4	5	6	7
4	fish	1	2	3	4	5	6	7
5	fishes	1	2	3	4	5	6	7
6	batting	1	2	3	4	5	6	7
7	quick	1	2	3	4	5	6	7
8	beautiful	1	2	3	4	5	6	7
9	these	1	2	3	4	5	6	7
10	physics	1	2	3	4	5	6	7
11	knowledge	1	2	3	4	5	6	7
12	axis	1	2	3	4	5	6	7

VIII-In the following sets of words, the sound of the vowel is the same in every case but one. Circle the word that has a different vowel sound:

1	pen	said	death	mess	mean
2	meat	steak	weak	theme	green
3	sane	paid	eight	lace	mash
4	ton	toast	both	note	toes
5	hoot	good	moon	grew	surt
6	dread	died	mine	eye	guy

IX- Practice: Listen to the English phonemes using Track 3 (Audio III.2): [45]

1-/iː/ **Ea**t. Ch**ee**se T**ea**m	**2-** /ɪ/ **I**t S**y**stem B**e**gin	**3-** /ʊ/ P**u**t C**ou**ld G**oo**d	**4-** /uː/ B**oo**t M**o**ve Kangar**oo**	**5-** /e/ **E**dge S**ai**d Fr**ie**nd
6- /ə/ **A**sleep **C**olour Th**e**	**7-** /ɜː/ **Ear**th J**our**nal H**ear**d	**8-** /ɔː/ B**a**ll Fl**oo**r C**au**ght	**9-** /æ/ **A**t B**a**d Gl**a**d	**10-** /ʌ/ C**u**t S**o**me Bl**oo**d
11- /ɑː/ **Ar**t H**ea**rt March	**12-** /ɒ/ Pot W**a**tch Cl**o**ck	**13-** /ɪə/ H**ere** **Ear** B**eer**	**14-** /eiː/ M**a**ke T**ai**l **Ai**m	**15-** /ʊə/ P**ure** T**our** C**ure**
16- /ɔɪ/ B**oy** **Oi**l L**awy**er	**17-** /əʊ/ N**o**te S**oa**p **O**pen	**18-** /eə/ Th**ere** **Air** C**are**	**19-** /aɪ/ Sk**y** B**i**te P**ie**	**20-** /aʊ/ C**ow** **Aw**l M**ouse**
21- /p/ **P**ut **H**appy **P**assport	**22-** /b/ **B**ack Ru**bb**er **B**right	**23-**/ t / **T**ea **B**utter **W**alked	**24-**/d/ **D**ay **L**adder **C**alled	**25-** /ʧ/ **Ch**urch **M**arch **N**ature
26-/ʤ/ **J**udge **E**dge **A**ge	**27-** /k/ **K**ey **C**oal **Ch**eque	**28-** /g/ **Gh**ost **B**igger **B**ag	**29-** /f/ **F**at Co**ff**ee **Ph**ysics	**30-** /v/ **V**iew **L**eave O**f**
31- /θ/ **Th**ing Ma**th**s Hea**th**	**32-** /ð/ **Th**en Fa**th**er Ei**th**er	**33-** /s/ **C**ity Hi**s**tory Lo**ss**	**34-** /z/ **Z**ero Ea**s**y Plea**s**e	**35-** /ʃ/ **S**ure Mo**t**ion Fi**sh**
36- /ʒ/ Plea**s**ure A**s**ia Le**s**ure	**37-** /m/ **M**ad Ha**mm**er So**m**e	**38-** /n / K**n**ow Fu**nn**y Su**n**	**39-** /ŋ/ Su**ng** Fi**ng**er Si**n**k	**40-** /h/ **H**ot **Wh**ole **H**igh
41- /l/ **L**ed Ba**ll**oon Cand**l**e	**42-** /r/ **R**ed Ma**rr**y **Wr**ong	**43-** /w/ **W**et No **o**ne **Qu**een	**44-** /j/ **Y**et **Eu**rope Exc**u**se	

(Audio III.2) [45]

CHAPTER IV- PHONOLOGY: THE SOUND PATTERNS OF LANGUAGE

Chapter IV Contents

1. PHONOLOGY: TERMINOLOGY

Phonetics, as discussed in the previous chapter, provides the means for describing speech sounds. **Phonology** studies the ways in which speech sounds form systems and patterns in human language. The phonology of a language is then the system and patterns in human language. Phonology is thus used in two ways, either as the study of sound patterns in a language or the sound patterns of a language.

Part of one's knowledge of a language is the knowledge of the sound system – the phonology of that language. The phonology of the language includes the inventory of **phonemes**. Phonemes are the segments used to differentiate between the meanings of morphemes and words. These are distinguished by distinctive features. **A phonetic unit or phonetic segment is called a phone**. When the **phones** of a phoneme occur in complementary distribution, they are **allophones** – **predictable phonetic variants** – of a phoneme [7, p.108].

In the following parts, we will look at the notion of the phoneme and related concepts.

2. THE PHONEME

According to Fudge (in [1, pp.3151-3158]), there have been many attempts and approaches in the study of the phoneme. The French linguist, Dufriche-Degenettes, is said to have been the first to use the term **phoneme** (phonēme) in 1873, simply to refer to a speech sound. Earliest theories of the phoneme have been formulated by Baudouin de Courtenay, J. Winteler, Henry Sweet, Scerba, F.D. Sausure, Daniel Jones, Nikolai Trubetzkoy and Roman

Jakobson. The study of the phoneme was later carried out by the American structuralist phonologists such as Edward Sapir, Leonard Bloomfield, Morrish Swadesh, W. Freeman Twaddel and Kenneth Pike. The approaches to the phoneme have seen it as a psychological entity (Boudouin de Courteny, Edward Sapir), as a family of physical sounds (with its principal and other subsidiary variants) (Scerba & Daniel Jones) and as a functional unit to be identified by the oppositions obtaining between it and other phonemes of the language in question (N.S. Trubetzkoy and R. Jakobson).

2.1. The Phoneme Theories

According to Fudge (in [18, pp.79-81]) views of the phoneme fall into four main classes:

2.1.1. The "mentalist" or "psychological" view

The **mentalist** or **psychological** view regards the phoneme as an ideal sound at which the speaker aims (originated by the Polish linguist Jan Baudouin de Courtenay (1845-1920)

2.1.2. The "physical" view

The **physical view** regards the phoneme as a family of sounds satisfying certain conditions, noteably:

a-The various members of the "family" must show phonetic similarity to one another, in other words be "related in character".

b- No member of the "family" may occur in the same phonetic context as any other, this condition is often referred to as the requirement of complementary distribution (propounded by Daniel Jones in 1950). (**Distribution** is the set of contexts in which a linguistic unit characteristically occurs. Two sounds are in complementary distribution if they never occur in the same context. A good example is provided by the allophones of the /l/ phoneme in English: there is a **voiceless** allophone [l̥] (when /l/ occurs after /p/, /t/ or /k/ at the beginning of a syllable), **clear** [l] (which occurs before vowels) and **dark** [ɬ] (which occurs elsewhere (i.e. before consonants or a pause).

e.g. The phoneme /l/ has the following phonetic properties:

{ +Consonantal
  +Voiced
  +Alveolar
  +Lateral }

When the phoneme /l/ is realized in speech, its pronunciation may slightly change. It may have the following variants as its realizations:

[l]: **clear** variant when used initially, e.g. ***l****ike.*

[l̥]: **devoiced** variant after voiceless /p/, e.g. ***p****lay*.

[ɬ]: **dark** variant when used finally or medially, e.g. ***m****idlle*.

Although these variants are slightly different, they still share such similar phonetic properties as <+consonantal>, <+voiced>, <+alveolar>, <+lateral> as the original phoneme. They occur in different phonetic contexts (in complementary distribution). They are variants (allophones) of the phoneme /l/.

e.g. The phoneme /t/ has the following features:

{ +consonantal
  -voiced
  +plosive
  +alveolar }

When used in speech, /t/ has the following variants:

[t^h] (aspirated) (before a short vowel in stressed position), e.g. ***t****ill* [t^hil]

[t] (unaspirated (after a voiceless fricative), e.g. ***s****till* [stil].

These two variants still have the same phonetic properties (<+consonantal><-voiced><+plosive><+alveolar>). However, they occur in different phonetic contexts. They are variants (allophones of the same phoneme /t/).

Thus, the phoneme has been viewed as a family of sounds (allophones) in which the members of the family exhibit a certain family resemblance (**phonetic similarity**) and which no member of the family ever occur in a phonetic context where another member of the family could occur (**complementary distribution**).

In transcription, if the unit being transcribed are phonemes rather than allophones, it is customary to enclose the symbols in slant lines, e.g. /l/. If, on the other hand, the transcription specifies allophones, square brackets are used, e.g. [ɬ].

2.1.3. The "functional" view

The **functional view** regards the phoneme as the minimal distinctive unit of sound in a language by which meanings may be differentiated (originated by N.S. Trubetzkoy and R. Jakobson).

e.g. beat – bought

sea – she

three – free

According to this view, the phoneme is defined as **the minimal distinctive unit of sound in a language**. Its main function is to distinguish between the meanings of two morphemes or two words.

2.1.4. The "abstract" view

The **abstract view** regards phonemes as essentially independent of the phonetic properties associated with them.

2.2. Identify the phonemes: The minimal pair test [14, p.22]

When the two words are identical in all respects, except for one segment, they are referred to as minimal pairs.

e.g. Beat – bought

Bit – boot

Bat – bite

But – bot

Thin – tin

The pairs of words above are minimal pairs. The **minimal pair test** (i.e. the method of determining that a single sound difference distinguishes the meanings of two words) is a key principle of phonemic analysis. Sounds are classified as separate phonemes if they are responsible for a difference in meaning in a minimal pair.

Another way of saying this is to state that sounds are separate phonemes if they contrast in identical environments, i.e. if either sound can occur in a given context and the choice of one or the other does alter the meaning of a word (in **contrastive distribution**). The words above show minimal pairs in which /i:/ and /ɔ:/, /ɪ/ and /u:/, /æ/ and /ai/, /ʊ/ and /ɔ/, and /θ/ and /t/ contrast in identical environments and are, therefore, distinct phonemes.

Sometimes it is not possible to find minimal pairs contrasting each simple phoneme. In such circumstances, the phonologist has to settle for something less rigorous: **contrast in analogous environments.**

Using this principle, sounds are isolated as belonging to separate phonemes if they occur in phonetically very similar, though not identical environments, provided that the differences between them can not be reasonably attributed to the influence of neighbouring sounds.

Using the **Minimal Pair Test**, we can identify the system of phonemes in a language. The following shows the RP phonemes:

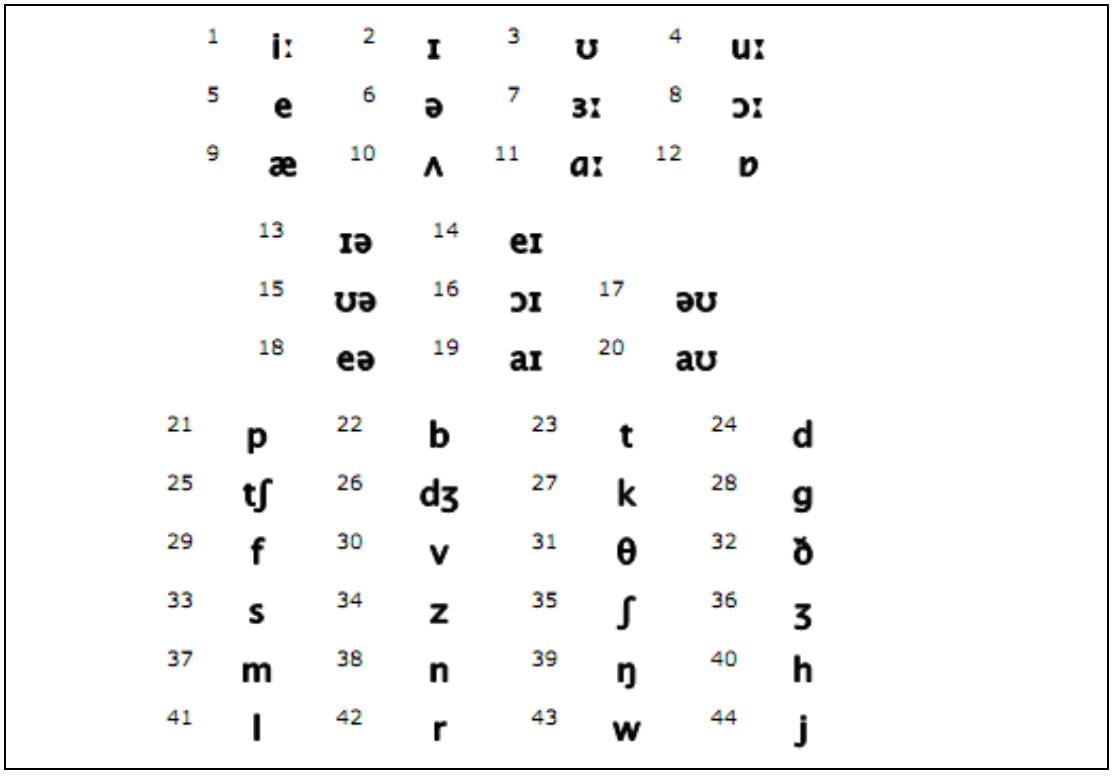


Figure IV.1: The English Phonemes (RP) [45]

3. PHONEME, PHONE, AND ALLOPHONE

Let us look at the use of three terms: **phoneme, phone**, and **allophone**. A phoneme is an abstract unit. It is **a minimal distinctive unit of sound in a language.** It is also defined as **the smallest unit of language existing as such a speech-sound which is capable of distinguishing one word from another or one grammatical form of a word from another form of the same word**.

For each language we examine, we are able to identify a number of phonemes which function in that language as distinctive – they work to distinguish meanings of different words in the language. In the theory of the phoneme, the phoneme is abstract, and what you hear is the realization of the phoneme – its physical forms: the **phones**.

Phone is a term used in phonetics to refer to the **smallest perceptible discrete segment of sound in a stream of speech** (**phonic continuum** or **phonic substance**). **A phonetic unit or phonetic segment is called a phone.** From the viewpoint of segmental phonology, phones are the physical realizations of phonemes; phonic varieties of a phoneme are referred to as allophones. Phonemes can have several different physical forms (variants or realizations), or **allophones**.

allo- is a prefix used generally in linguistics to refer to any noticeable variation in the form of a linguistic unit which does not affect that unit's functional identity in the language. The formal variation noted is not linguistically distinctive, i.e. no change of meaning is involved [24].

An allophone is a predictable phonetic variant of a phoneme [9, p.308]. It can be also defined as a **contextually determined variant of a phoneme** [21, p.173]. An allophone is any of the variants in which an (idealized) phoneme is actually realized. The allophones of a phoneme form a set of sounds that a- do not change the meaning of a word, b- are all very similar to one another, and c- occur in phonetic contexts different from one another and d- have non-distinctive differences [17, p.305]

Among the variants of one and the same phoneme, there is always one that preserves all the articulatory – acoustic features of the phoneme which are listed in the phonetic definition given in the classification. It is usually the sound which would be pronounced by a native speaker of the language if he were asked to say the sound in isolation. This sound is called the **principal variant** of the phoneme. All the other variants of the same phoneme are called **subsidiary variants** [27, p.76].

Thus, the phoneme /l/ has the principal variant which has the following features:

{ +consonantal
  +voiced
  +alveolar
  +lateral }

The phoneme /t/ has the principal variant which has the following phonetic features:

{ +consonantal
  -voiced
  +plosive
  +alveolar }

Thus, in addition to the principal variant, the phoneme /l/ has at least other 3 allophones [l], [ɬ] and [l̥], /r/ has at least four. All vowels may have a shortened variant (before a voiceless sound, e.g. /i:/ in *beat*) and non-shortened variant (before a voiced sound, e.g. /i:/ in *bead*).

The phonemes of a language are abstractions, and the particular phonetic shape they take depends on many factors, especially their position in relation to other sounds in an utterance. The English phoneme /t/ for example, is usually articulated in alveolar position (as in *eight*), but it may occur in dental position, as in *eighth*, where it has been influenced by the place of articulation of the *th* sound following. We would thus talk of the alveolar and dental allophones of /t/ in this example.

The allophones of the same phoneme have phonetic differences which do not give rise to a corresponding phonemic differences. These phonetic differences between the variants of the same phoneme are non-distinctive.

The types of non-distinctive variation in the realisation of a phoneme are as follows (Fudge (in [18, pp.77-78]):

a-variation tolerated from one repetition of an utterance to another;

b-variation of a sound according to the position in which it occurs;

c-variation of a sound under the influence of a neighbouring sound;

d-variation of pronunciation from speaker to speaker;

e-free variation.

We noted that in some words two phonemes may occur interchangeably without changing the meaning of a word, as in the initial sound of *economics* which people pronounce with an /i/ or an /e/. We said that these two phonemes were in free variation in that particular word.

We have seen that a single phoneme may be phonetically realised or pronounced as two or more phones. The different phones that "represent" or are derived from one phoneme are called the **allophones** of that phoneme. When two or more sounds never occur in the same phonetic context or environment, they are said to be in complementary distribution. The choice of an allophone is not random or haphazard in most cases; it is rule-governed.

4. DISTINCTIVE FEATURES

4.1. Distinctive features

As we have seen, where a particular phonetic difference does not give rise to a corresponding phonemic difference, linguists say that this phonetic difference is non-distinctive. However, differences which give rise to a change of meaning are referred to as

distinctive differences. In English we have many pairs of distinctive words called minimal pairs. These are pairs of words which are identical in every way except for one sound segment that occurs in the same place in the sound sequence.

e.g. Beat - bought
Bit - boot
Bat - bite
But - bot
Thin - tin

In the definition, the phoneme is defined as the minimal distinctive unit of sound in a language. However, according to Trubetzkoy and his followers, the phoneme can be further analysable into **distinctive features**, which are **particular characteristics distinguishing one distinctive sound of a language from another or one group of sounds from another group** [22, p.85]. Consider, for example, the differences between /p/ and /b/:

e.g.

/p/	/b/
+bilabial	+bilabial
-voiced	+voiced
+stop	+stop
+ consonantal	+consonantal

These two phonemes differ in only one respect: voice. This difference is significant or is of functional value. Hence, **voicing** is a distinctive feature. Other examples are /p-g/ which differ in two aspects (voiceless - voiced; bilabial - velar), and /p-z/, which differ in three aspects (voiceless - voiced; bilabial-alveolar; plosive-fricative).

4.2. Jakobsonian features [14, p.38] (Advanced reading)

Current distinctive feature theory has its roots in the work of the Russian scholars Trubetzkoy and Jakobson. The key publications are Trubetzkoy (1939) and Jakobson, Fant and Halle (1952). Trubetzkoy was mainly interested in devising a system of classifying the phonemic OPPOSITIONS (i.e. constrasts) in the use of common phonological parameters like voicing and aspiration. His approach was TYPOLOGICAL, i.e. concerned with the classification and comparison of the sound systems of different languages in order to show that there is a limited number of ways in which phoneme inventories can be organized.

To take one example, Polish and English have only two bilabial stops, namely /p/ and /b/; the two sounds are almost identical except for the fact that the latter has the additional property or “mark” of being voiced. It can therefore be referred to as being MARKED while the former, which lacks that additional property, can be said to be UNMARKED. Note that the question of MARKEDNESS only arises when the two sounds are in two-way opposition. In the case of a multi-dimensional opposition like the place of articulation constrast between /p t k/, where no one sound is in any sense more basic than the others, the question of markedness does not arise.

While Trubetzkoy was primarily concerned with phonological typology, Jakobson and his collaborators concentrated their invetstigations on phonological oppositions that occur universally. Jakobson hypotheisized that although languages show an almost infinite amount of phonetic variation, the range of phonemically contrasting features is severely restricted by universal principles. The initial proposal was that just a dozen acoustically defined pertinent contrasts would be found in all languages.

Jakobson and his co-workers further hypothesized that the presence of certain oppositions in a language precludes the existence of other oppositions. For instance, they suggested that no language phonemically contrasts labialized consonants (i.e. consonants produced with rounded lips) with pharyngealised consonants (i.e. consonants made with a constriction in the pharynx). Although labialization and pharyngealisation are distinct as far as articulation is concerned, they are phonologically merely implementations of the same acoustic distinctive feature FLAT.

Another aspect of the Jakobsonion feature system was BINARISM. Jakobson et al. (1952) insisted on a binary interpretation of all features. This was done by pushing the phonemicist's principle of distinctiveness to its logical conclusion: in order to distinguish between the meanings of words, they argued, what counts is either the presence or absence of a given feature (respectively indicated by a "+" or "-" before the feature in question). For example, to discriminate between the following words, what is crucial is the presence or absence of voicing in the first segment:

e.g. [+voice]	[-voice]
Bet	pet
Den	ten

Admittedly, binarism works well where there exists a two-way opposition, but it does not yield entirely satisfactory results where multilateral contrast is involved.

The most famous elaboration of dinsctinctive feature approach is expounded in works by Jakobson, Fant and Halle (1952) and Jakobson and Hall (1956). This scheme uses perceptual terms which reflects acoustic cues rather than articulatory mechanics. Jakobson and Halle employed 12 features, which were listed with articulatiory correlates as well as acoustic cues. All of the features are polar oppositions, allowing relative values. Each feature is never the less binary, with only two opposed values along a single dimension.

Table IV.1: Jakobson and Halle's distinctive features (based on Jakobson and Halle 1956) [14]

± Vocalic	± Consonantal	± Compact	± Tense
± Voiced	± Nasal	± Cotinuant	± Strident
± Checked	± Grave	± Flat	± Sharp

4.3. The SPE system of distinctive feature [14, p.40] **(Advanced reading)**

Various shortcomings of the Jakobsonian features came to light in the 1950s and 1960s. It was discovered that the model was too parsimonious. Because of the inadequacies in Jakobsonian features, Chomsky and Halle (1968) in their book **The Sound Pattern of English** proposed a major revision of the theory of distinctive features. They replaced acoustically-defined phonological features with a set of features that have, in most cases, articulatory correlates. Furthermore, the number of features was also substantially increased. But, like their original Jakobsonian precursors SPE features remain binary. They have only two coefficient or values, plus (+) indicating the presence of a feature and minus (-) its absence, so that, for example, among other things, a sound like [p] is said to be [-voice] and [-nasal] while [m] is [+voice] and [+nasal].

5. SEGMENTAL AND SUPRASEGMENTAL PHONEMES

In the study of the phonemic system in a language, a distinction is made between the vowels and consonants of a particular language, which are referred to as segmental phonemes, and such phenomena as stress, pitch and intonation, which stretch over more than one segment as suprasegmental phonemes.

Suprasegmentals make use of such parameters as loudness, pitch, and duration. From the phonological point of view, their description is complicated by the fact that the correspondence between the phonological categories and the phonetic parameters is not one-to-one.

The phonological categories to be dealt within the scope of suprasegmentals are are:

a-word-stress

b-tone

c-sentence-stress

d-intonation, and

e-quantity (e.g. /i:/ in beat is somewhat different from /i:/ in bead)

6. UNITS LARGER THAN THE PHONEME

The phoneme has been defined as the smallest distinctive unit of sound in a language. There are other units larger than the phoneme. These include:

a-the syllable

b-the word

c-the stress-group

d-the foot, and

e-the tone-group.

Units a, b,c, d and e form a hierarchy: a tone-group consists of an integral number of stress-groups, a stress-group of an integral number of words, a word of an integral number of syllables, and a syllable of an integral number of segments. These units have a particular role to play in connection with suprasegmentals.

Follow-up Activity IV.1

I-Answer the following questions

1-What is the main difference between **phonetics** and **phonology**?

2-What is a phoneme? An allophone?

3-Does a phoneme have both distinctive features and non-distinctive features?

4-What is a distinctive feature? Give the distinctive features of the following phoneme: /a:/, /i:/, /e/, /s/, /z/, /l/, /k/.

5- List the phonemes in the phonemic system of the English language.

II- True / False : Decide whether the following statements are true or false:

1-Phonology can mean the study of sound patterns in a language and the system of the sound patterns in a language.

2-The phoneme is the smallest distinctive unit of sound in a language.

3-An allophone is a physical form of a phoneme.

4-Distinctive features are particular characteristics distinguishing one distinctive sound of a language from another or one group of sound from another group.

5-Segmental phonemes in English include stress and intonation.

7. PRONUNCIATION STANDARDS

7.1. Two major pronunciation standards: Received Pronunciation and General American

English is spoken as the mother tongue in many countries such as Great Britain, America, Australia, New Zealand. English was originally spoken in England and South-eastern Scotland. Then it was introduced into the greater part of Scotland and Southern Ireland. In the 17th and 18th centuries it was brought to North America (mainly from the West of England). Later in the 18th and 19th centuries English was exported to Australia, New Zealand and South Africa owing to the colonial expansion. A flow of emigrants who went to invade, explore and inhabit those lands came mostly from the South-eastern parts of England. English became wide-spread in Wales at about the same time. Welsh English is very similar to southern English, although the influence of Welsh has played a role in its formation. Then in the 20th century American English began to spread in Canada, Latin America, on the Bermudas, and in other parts of the world. Within each country a national standard is employed, which is associated with a particular way of pronunciation or accent. **An accent is a particular way of pronunciation which tells the listener something about the speaker's background** [22, p.1]. A person's pronunciation may show: a-the country or region s / he comes from, e.g. a northern accent, an American accent; b-what social class s/he belongs to, e.g. a lower middle class accent; and c-whether or not the speaker is a native speaker of the language. Pronunciation distinguishes one national standard from another most immediately and completely, and links in a most obvious way the national standards to the regional varieties.

Today, all the English-speaking nations have their own national variants of pronunciation and each of them has peculiar features that distinguish it from other varieties of English.

Two major pronunciation standards in the world are **English English** and **American** pronunciation standards.

It is generally accepted that for the "**English English**" it is "**Received Pronunciation**" or **RP**; for "**The American English**": "**General American pronunciation**" or **GA** [26].

7.2. Standard British Pronunciation: Received Pronunciation (RP) [37]

7.2.1. History

Received Pronunciation (RP), also called the Queen's (or King's) English, Oxford English, or BBC English, is the accent of Standard English in England, with a relationship to regional accents similar to the relationship in other European languages between their standard varieties and their regional forms. RP is defined in the Concise Oxford Dictionary as "**the standard accent of English as spoken in the south of England**", but some have argued that it can be heard from native speakers throughout England and Wales. Although there is nothing intrinsic about RP that marks it as superior to any other variety, sociolinguistic factors have given Received Pronunciation particular prestige in parts of Britain. It has thus been the accent of those with power, money and influence since the early to mid 20th century, though it has more recently been criticised as a symbol of undeserved privilege. However, since the 1960s, a greater permissiveness towards allowing regional English varieties has taken hold in education and the media in Britain; in some contexts conservative RP is now perceived negatively.

The introduction of the term **Received Pronunciation** is usually credited to Daniel Jones after his comment in 1917 "**In what follows I call it Received Pronunciation (abbreviation RP), for want of a better term**." However, the expression had actually been used much earlier by Alexander Ellis in 1869 and Peter DuPonceau in 1818 (the term used by Henry C. K. Wyld in 1927 was "**received standard**"). According to **Fowler's Modern English Usage** (1965), the correct term is "**the Received Pronunciation**". The word **received** conveys its original meaning of **accepted** or **approved** – as in "**received wisdom**". The reference to this pronunciation as Oxford English is because it was traditionally the common speech of Oxford University; the production of dictionaries gave Oxford University prestige in matters of language. The extended versions of the *Oxford English Dictionary* give Received Pronunciation guidelines for each word.

RP is an accent (a form of pronunciation) and a register, rather than a dialect (a form of vocabulary and grammar as well as pronunciation). It may show a great deal about the social and educational background of a person who uses English. Anyone using RP will typically speak Standard English although the reverse is not necessarily true (e.g. the standard language may be pronounced with a regional accent, such as a Yorkshire accent; but it is very unlikely that someone speaking RP would use it to speak Scots).

RP is often believed to be based on the Southern accents of England, but it actually has most in common with the Early Modern English dialects of the East Midlands. This was the

most populated and most prosperous area of England during the 14th and 15th centuries. In the sixteenth century one regional accent began to acquire social prestige. For reasons of politics, commerce, and the presence of the court, it was the pronunciation of the South-east of England, and more particularly to that of London region, that this prestige was first attached. The early phonetician John Hart notes (1570) that it is "**in the Court and London speeches, where the general flower of all English countries speeches are chosen and read. And though some would say it was not so, reason would we should grount no lesse: for that unto these two places, do daily resort from all towns and countries, of the best of all professions, as well of the own landsmen, as of aliens and strangers**…" Puttenham's celebrated advice in the **Arte of English Posie** (1589) recommends "**the usual speech of the Court, and that of London and the shires lying about London within 60 miles and not much above… Northern men, whether they be noblemen or gentlemen, or of their best clerks, [use and English] which is not so courtly or so current as our Southern English is**." The speech of the Court, however, phonetically largely that of London area, increasingly acquired a prestige value and, in some time, lost some of the local characteristics of London speech. It was finally fixed as the speech of the then ruling class, through the conformist influence of the public schools of the nineteenth century. Thus, a mixture of London speech with elements from East Midlands, Middlesex and Essex, became known as Received Pronunciation.

In the history of the development of the English language, the standardisation of the English language was accelerated by the introduction of printing. In 1476, William Caxton, the first English printer, set up his printing press in Westminster. It is difficult to overestimate the influence of the first printers in fixing and spreading the written form of English. The language they used was the London literary English. With cheap printed books becoming available to a great number of readers all over England, the London form of speech was carried to other regions and became the standard form of literary English recognized throughout the country. In the 17th century the type of speech used in London and in the universities was unanimously proclaimed the best type of English. The phoneticians and grammarians recommended it as a model of correct English pronunciation: **RP**

Some linguists have used the concept of RP but dismissed the name as too politically-loaded. The Cambridge-published English Pronunciation Dictionary (aimed at those learning English as a foreign language) uses the term **BBC English**, on the basis that the name **Received Pronunciation** is **archaic** and that BBC news-presenters no longer suggest high social class and privilege to their listeners. The phonetician Jack Windsor Lewis frequently criticises the name **Received Pronunciation** on his blog: he has called it **invidious**, a **ridiculously archaic, parochial and question-begging term** and argued that American scholars find the term **quite curious**. He used the term **General British** [to parallel **General American**] in his 1970s publications of *A Concise Pronouncing Dictionary of American and British English*. Beverley Collins and Inger Mees use the phrase **Non-Regional Pronunciation** for the concept on the grounds that the name **Received Pronunciation** has dated – and to some people objectionable – social connotations.

Researchers generally distinguish between three different forms of RP: **Conservative**, **General**, and **Advanced**. **Conservative RP** refers to a traditional accent associated with older speakers with certain social backgrounds; **General RP** is often considered neutral regarding age, occupation, or lifestyle of the speaker; and **Advanced RP** refers to speech of a younger generation of speakers.

The modern style of RP (MRP) is an accent often taught to non-native speakers learning British English. RP is often used as the standard for English in most books on general phonology and phonetics and is represented in the pronunciation schemes of most dictionaries published in the United Kingdom.

Traditionally, Received Pronunciation was the **everyday speech in the families of Southern English persons whose men-folk [had] been educated at the great public boarding-schools** and which conveyed no information about that speaker's region of origin prior to attending the school.

7.2.2. Phonology

7.2.2.1. Vowels

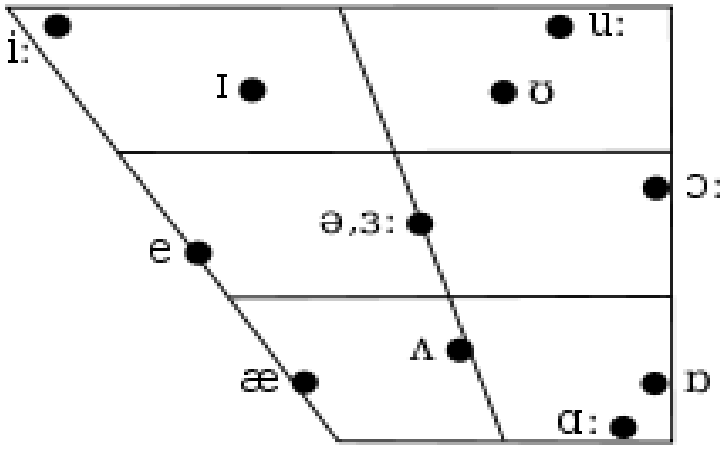


Figure IV.2: The English Monophthongs (RP) [25]

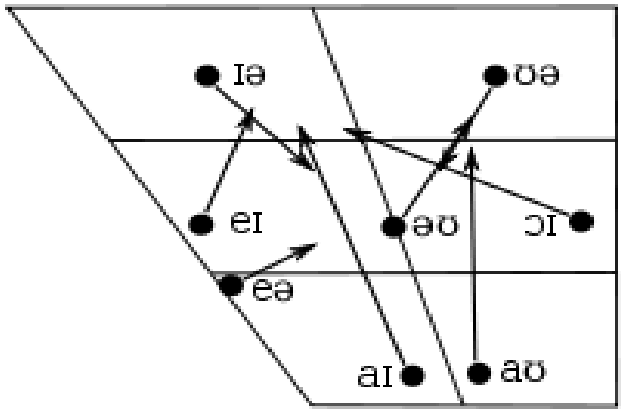


Figure IV.3: The English Diphthongs (RP) [25]

7.2.2.2. Consonants

Table IV.2: The English Consonants (RP)

Place of articulation	**Labial**				**Dental**		**Alveolar**		**Palato-alveolar**		**Palatal**		**Velar**		**Glottal**	
	Bilabial		**Labio-dental**													
Manner of articulation	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**	**voiceless**	**voiced**
Plosive	p	**b**					t	**d**					k	**g**		
Affricative									ʧ	ʤ						
Nasal		**m**						**n**						**ŋ**		
Lateral								**l**								
Rolled										**r**						
Fricative			f	**v**	θ	**ð**	s	**z**	ʃ	ʒ					**h**	
Semi-vowel		**w**										**j**				

7.2.3. Changes in RP

Like all accents, RP has changed with time. For example, sound recordings and films from the first half of the 20th century demonstrate that it was usual for speakers of RP to pronounce the /æ/ sound, as in *land*, with a vowel close to [ɛ], so that *land* would sound similar to a present-day pronunciation of *lend*. RP is sometimes known as the Queen's English, but recordings show that even Queen Elizabeth II has changed her pronunciation over the past 50 years, no longer using an [ɛ]-like vowel in words like *land*.

There have been changes in **General RP** during the last over 70 years [10, pp.80-82]. There have been the changes almost complete:

a-The distinction between /ɔ:/ and /ɔə/ is lost, e.g. *paw* and *pour* are both /ɔ:/;

b- /j/ is lost following /i, s, z/, e.g. *luminiuous* and *suit* are /ˈluminə/ and [su:t];

c-The diphthong /eə/ is realised monothongally as [ɛ:], e.g. *fare* and *tear* are [fɛ:] and [tɛ:];

d- /r/ is realised as a post-alveolar approximant in all positions and not, as formally, as a tap [r] in intervocalic position following an accented syllable, e.g. *very* and *error* as [veɹi] and [eɹə] rather than [veri] and [erə];

e-/əʊ/ is now regularly realised as [əʊ] rather than the older realization as [oʊ], e.g. *over, boat* and *comb* as [əʊvə], [bəʊt] and [kəʊm] rather than [oʊvə], [boʊt], [koʊm];

f- /tj, dj/ in unaccented positions are regularly changed to /ʧ, ʤ/.

There have been changes well-established in **General RP**:

a-/ɪ/ in many unaccented syllables is replaced by /ə/;

b-/ɔ:/ used in place of /ʊə/;

c- Final /i/ is replaced by /i:/ in words like *city*, *pretty*, *happy*…;

d-The quality of the vowel /æ/ becoming more open;

e-Preconsonantal /t/ becoming [?], e.g. not very [no? veɹi];

f-Loss of /j/ following /n/, e.g. *news* [nu:z], *neuter* nu: tə];

g- Fronting of /ʊ, u:/ to [ʉ, ʉ:], e.g. *soon* [sʉ:n];

h-Accented /tj, dj/ *become* /ʧ, ʤ/;

i-The increased use of /ʒ/ in imports where formerly they were anglicized to /ʤ/, e.g. *beige*, *genre*, *Beijing*.

There have been recent innovations:

a-/iə/ and /uə/ are realised as [i:] and [u:], e.g. *beer* [bi:], *sure* [ʃu:];

b-Unrounding of /ʊ/ and /u:/ to [i] and [i:], e.g. *good* [gid], *soon* [si:n];

c-The realization of /r/ with no upwards curl of the tongue tip;

d-/e/ following the lowering of /æ/.

7.3. Standard American Pronunciation: General American (GA)[34]

7.3.1. History

General American (GA), also known as **Standard American English** (SAE), is a major accent of American English. The accent is not restricted to the United States. Within American English, General American and accents approximating it are contrasted with Southern American English, several Northeastern accents, and other distinct regional accents and social group accents like African American Vernacular English.

General American, like British Received Pronunciation (RP) and most standard language varieties of many other societies, has never been the accent of the entire nation. However, it has become widely spoken in many American films, TV series, national news, commercial ads, and American radio broadcasts.

The General American accent is most closely related to a generalized Midwestern accent and is spoken particularly by many newscasters. This has led the accent to sometimes be referred to as a **newscaster accent** or **television English** (or **Network English**). General American is sometimes promoted as preferable to other, regional accents. General American is also the accent typically taught to people learning English as a second language in the United States, as well as outside the country to anyone who wishes to learn "**American English**," although in much of Asia and some other places ESL teachers are strongly encouraged to teach American English no matter their own origins or accents.

It is commonly believed that General American English evolved as a result of an aggregation of rural and suburban Midwestern dialects, though the English of the Upper Midwest can deviate quite dramatically from what would be considered a "regular" American

Accent. The local accent often gets more distinct the farther north one goes within the Midwest, and the more rural the area, with the Northern Midwest featuring its own dialect North Central American English. The fact that a Midwestern dialect became the basis of what is General American English is often attributed to the mass migration of Midwestern farmers to California and the Pacific Northwest from where it spread.

7.3.2. Phonology

7.3.2.1. Vowels

General American has sixteen or seventeen vowel sounds that can be used in stressed syllables as well as two that can be used only in unstressed syllables. Most of the vowel sounds are monophthongs

Table IV.3: General American Vowels [33]

	Front		Central		Back	
	long	short	long	short	long	short
Close	iː	ɪ			uː	ʊ
Mid		ɛ	(ɜː)	ə	ɔː	
Open		æ		(ʌ)	ɑː	
Diphthongs	eɪ aɪ ɔɪ aʊ oʊ (ɪə) (eə)					

7.3.2.2. Consonants

Table IV.4: General American consonants [33]

	Bilabial	**Labio-dental**	**Dental**	**Alveolar**	**Post-alveolar**	**Palatal**	**Velar**	**Glottal**
Plosive	p b			t d			k g	
Affricate					tʃ dʒ			
Fricative		f v	θ ð	s z	ʃ ʒ			h
Nasal	m			n			ŋ	
Lateral				l				
Approximant				ɹ		j	(ʍ) w	

7.3.3. Phonological differences between RP and GA

The earliest changes in the English language in America, distinguishing it from the language of the mother country, were in the vocabulary. From the time when the early colonists came, however, divergence in pronunciation began gradually to develop. This has been due in part to changes that have occurred here but has resulted still more from the fact that the pronunciation of England has come to be recognized as the English received standard. At the present time American pronunciation shows certain well-marked differences from English use.

7.3.3.1. Perhaps the most noticeable of these differences is in the vowel sound in such words as *fast, path, grass, dance, canˈt, half*. At the end of the eighteenth century southern England began to change from what is called a flat **a** /æ/ to a broad **a** /a:/ in these words, that is from a sound like the **a** /æ/ in *man* /mæn/ to one like the **a** /a:/ in *father*/fa:ðə/. The change affected words in which the vowel occurred before **f, sk, sp, st, ss, th**, and **n** followed by certain consonants. In parts of New England the same change took place, but in most other parts of the country the old sound was preserved, and *fast, path*, etc., are pronounced with the vowel of *pan* /pæn/. In some speakers there is a tendency to employ an intermediate vowel, halfway between the **a** of **pan** and **father**, but the **"flat a"/æ/ must be regarded as the typical American pronunciation.**

7.3.3.2. In terms of phonemic differences, the phoneme /ɒ/ does not occur in American English, and words which have this vowel in British pronunciation will instead have /a:/ or /ɔ:/ in American English. For instance, *got* is /gɒt/ in British English, but /ga:t/ in American English, while *dog* is British /dɒg/, American /dɔ:g/.

7.3.3.3. The three diphthongs /iə, eə, uə/ are found only in British English. In corresponding places, American English has a simple vowel followed by /r/, so *near* is /nir/, *hair* is /her/ and *pure* is /pjur/.

7.3.3.4. RP has a marked degree of contrast of length between "short" and "long" vowels (The long vowels being the diphthongs, and /iː/, /uː/, /ɜː/, /ɔː/, /ɑː/). In GAm this contrast is much less evident, and the IPA length symbol (ː) is often omitted.

7.3.3.5. The distinction between unstressed /ɪ/ and /ə/ (e.g. *roses* vs *Rosaˈs*) is sometimes lost in GAm. In RP it is retained, in part because it helps avoid non-rhotic homophones (e.g. *batted* vs *battered* as /ˈbætɪd/ vs /ˈbætəd/. It is, however, lost in Australian English (which is also non-rhotic) meaning both words are pronounced the same, unlike American or British English.

7.3.3.6. Where GAm has /iː/ in an unstressed syllable at the end of a morpheme, conservative RP has /ɪ/, not having undergone *happY tensing*. This distinction is retained in inflected forms (e.g. *candied* and *candid* are homophones in RP, but not in GAm).

7.3.3.7. GAm is rhotic while RP is non-rhotic; that is, the phoneme /r/, or what was historically a phoneme /r/, is only pronounced in RP when it is immediately followed by a vowel sound. Where GAm pronounces /r/ before a consonant and at the end of an utterance, RP either has nothing (if the preceding vowel is /ɔː/ or /ɑː/, as in *bore* and *bar*) or has a schwa instead (the resulting sequences are diphthongs or triphthongs). In America, eastern New England and some of the South follow the English practice, but in the Middle States and the West the **r** is pronounced in all positions. Thus in the received standard of England *lord* has the same sound as *laud* and *there* is pronounced [ðɛə] with the indeterminate vowel [ə̯] as a glide at the end. The American **r** is either a retention of older English pronunciation or the result of north-of-England influence in our speech.

7.3.3.8. The "**intrusive R**" of many RP speakers (in such sequences as "the idea-r-of it") is absent in GAm; this is a consequence of the rhotic / non-rhotic distinction.

7.3.3.9. For some RP speakers (upper class), unlike in GAm, some or all of *tire, tower*, and *tar* are homophones; this reflects the merger of the relevant vowels; similarly the *pour–poor* merger is common in RP but not in GAm.

7.3.3.10. In GAm, flapping is common: when either a /t/ or a /d/ occurs between a sonorant phoneme and an unstressed vowel phoneme, it is realized as an alveolar-flap allophone [ɾ]. This sounds like a /d/ to RP speakers, although many GAm speakers distinguish the two phonemes by aspirating /t/ in this environment, especially after /ɪ/ or /eɪ/ (thus *bitter* and *rated* are distinguishable from *bidder* and *raided*), or by lengthening the vowel preceding an underlying /d/. [ɾ] is an allophone of /r/ in conservative RP, which is hence caricatured in America as a "**veddy British**" accent. The degree of flapping varies considerably among speakers, and is often reduced in more formal settings. It does occur to an extent in nearly all speakers of American English, with *better* pronounced with a flap almost ubiquitously regardless of background. Pronouncing the [**t**] would be considered overly formal. This does not mean it always completely merges with *bedder*, as many speakers enunciate the [**d]** so as to distinguish it slightly from the flapped [**t]**.

7.3.3.11. Yod dropping occurs in GAm after all alveolar consonants, including /t/, /d/, /θ/, /s/, /z/, /n/, /l/; i.e. historic /juː/ (from spellings *u, ue, eu, ew*), is pronounced /uː/ in a stressed syllable. In contrast, RP speakers:

a-always retain /j/ after /n/: e.g. *new* is RP /njuː/, GAm /nuː/;

b-retain or coalesce it after /t/, /d/: e.g. *due* is RP /djuː/ or /dʒuː/, GAm /duː/;

c-retain or drop it after /θ/, /l/: e.g. *allude* is RP /əˈljuːd/ or (as GAm) /əˈ luːd/.

d-retain, coalesce or drop it after /s/, /z/: e.g. *assume* is RP /əˈsjuːm/ or /əˈʃuːm/, or (as GAm) /əˈsuːm/;

e-In some words where /j/ has been coalesced in GAm, it may be retained in RP: e.g. *issue* is RP /ˈɪsjuː/ or (as GAm) /ˈɪʃuː/.

7.4. Australian English (Advanced reading) [31]

Australian English is a non-rhotic dialect that is highly distinctive from other varieties of English. It shares most similarity with other Southern Hemisphere accents, in particular New Zealand English. Like most dialects of English it is distinguished primarily by its vowel phonology.

The vowels of Australian English can be divided according to length. The long vowels, which include monophthongs and diphthongs, mostly correspond to the tense vowels used in analyses of Received Pronunciation (RP) as well as its centring diphthongs. The short vowels, consisting only of monophthongs, correspond to the RP lax vowels. There exist pairs of long and short vowels with overlapping vowel quality giving Australian English phonemic length distinction, which is unusual amongst the various dialects of English.

There is little variation with respect to the sets of consonants used in various English dialects. There are, however, variations in how these consonants are used. Australian English is no exception. (For better understanding of Australian English, please, refer to [32]).

Three main varieties of Australian English are spoken according to linguists: **broad**, **general** and **cultivated.** They are part of a continuum, reflecting variations in accent. They can, but do not always reflect the social class, education and urban or rural background of the speaker.

Broad Australian English is recognisable and familiar to English speakers around the world. It is prevalent nationwide but is especially common in rural areas. In Australia, this dialect is sometimes called **Strine** (or "Strayan"), a shortening of the word *Australian*, and a speaker of the dialect may be referred to as an Ocker.

The most common of Australian accents is known as General Australian English. It is especially prominent in urban Australia and is used as a standard language for Australian films, television programs and advertising.

Cultivated Australian English has some similarities to Received Pronunciation. It has become less common, especially within younger generations. Cultivated Australian English has been perceived as indicating high social class or education.

Table IV.5: Australian English Vowels [33]

	Front		Central		Back	
	long	short	long	short	long	short
Close	iː	ɪ	ʉː			ʊ
Mid	eː	e	ɜː	ə	oː	ɔ
Open	æː	æ	aː	a		
Diphthongs	æɪ ɑe oɪ æɔ əʉ ɪə (ʊə)					

8. VARIATION IN VOWELS IN ENGLISH KEY WORDS FROM DIFFERENT COUNTRIES [21] (ADVANCED READING)

Table IV.6: Vowels in English Key Words [21, p.67]

Keyword	*RP (Roach 2004)*	*Tyneside (Tyn) (Watt and Allen 2003)*	*General American (US) (Laderfoged 1999)*	*Australian (Aus) (Cox et al. 2007)*	*New Zealand (NZ) (Bauer et al. 2007)*
KIT	ɪ	ɪ	ɪ	ɪ	ə
DRESS	e	ɛ	ɛ	e	e
TRAP	æ	a	æ	æ	ɛ
LOT	ɒ	ɒ	ɑ	ɔ	ɒ
STRUT	ʌ	ʊ	ʌ	ɐ	ɐ
FOOT	ʊ	ʊ	ʊ	ʊ	ʊ
BATH	ɑː	a	æ	ɐː	ɐː
CLOTH	ɒ	ɒ	ɑ	ɔ	ɒ
NURSE	ɜː	øː	ɚː	ɜː	ɵː
FLEECE	iː	iː	iː	iː	iː
FACE	eɪ	eː	eː	æɪ	æe
PALM	ɑː	ɒː	ɑ	ɐː	ɐː
THOUGHT	ɔː	ɔː	ɑ	oː	oː
GOAT	əʊ	oː	oː	əʉ	ɐʉ
GOOSE	uː	uː	uː	ʉː	ʉː
PRICE	aɪ	ai	aɪ	ɑe	ɑe
CHOICE	ɔɪ	oe	ɔɪ	oɪ	oe
MOUTH	aʊ	æʊ	aʊ	æɔ	æo
NEAR	ɪə	iɐ	iːr	ɪə	iə
SQUARE	eə	ɛː	eːr	eː	eə
START	ɑː	ɒː	ɑr	ɐː	ɐː
NORTH	ɔː	ɔː	or	oː	oː
FORCE	ɔː	ɔː	or	oː	oː
CURE	ʊə	uɐ	ur	ʉ.ə or oː	ʉə
HAPPY	i	i	i	iː	i
LETTER	ə	ə	ɚ	ə	ɘ
COMMA	ə	ə	ə	ə	ɘ

Thus, the vowel differences between RP, G.A. and Australian English are [33]:

a. The absence of length marks in the General American table is largely a matter of notational convention.

b. In General American, the vowels [ə], [ʌ] and [ɜ] may be considered a single phoneme.

c. General American lacks a phoneme corresponding to RP /ɒ/ (lot, cloth), instead using /ɑː/ or /ɔː/ in such words.

d. General American does not have the centering diphthong phonemes /ɪə/, /ɛə/, and /ʊə/; in *near*, *square*, and *cure* it has the combinations /ɪr/, /ɛr/, /ʊr/. (However in some descriptions these words are analyzed as diphthongs even in rhotic dialects.

e. In certain General American dialects, the diphthongs /ɪə/ and /eə/ can be found in words such as *ideas* and *rail*, respectively.

f. The different notations used for the vowel of *goat* in RP and General American (/əʊ/ and /oʊ/) reflect a difference in the most common phonetic realizations of that vowel.

g. The different notations used here for some of the Australian vowels reflect the phonetic realization of those vowels in Australian: a central [ʉː] rather than [uː] in *goose*, a more closed [e] rather than [ɛ] in *dress*, an open-mid [ɔ] rather than RP's [ɒ] in *lot* and *cloth*, a more close [oː] rather than [ɔː] in *thought*, *North* and *force*, a fronted [a] rather than [ʌ] in *strut*, a fronted [aː] rather than [ɑː] in *calm* and *start*, and somewhat different pronunciations of most of the diphthongs.

h. The Australian monophthong /eː/ corresponds to the RP diphthong /ɛə/ (SQUARE).

i. Australian has the **bad–lad** split, with distinctive short and long variants of [æ] in various words of the TRAP set.

j. The vowel /ʊə/ is often omitted from descriptions of Australian, as for most speakers it has split into the long monophthong /ɔː/ (e.g. *poor*, *sure*) or the sequence /ʉː.ə/ (e.g. *cure, lure*).

9. INTERNATIONAL PHONETIC ALPHABETS [35]

(**Advanced Reading**)

The International Phonetic Alphabet (IPA) is an alphabetic system of phonetic notation based primarily on the Latin alphabet. It was devised by the **International Phonetic Association** as a standardized representation of the sounds of oral language. The IPA is used by foreign language students and teachers, linguists, Speech-Language Pathologists, singers, actors, lexicographers, constructed language creators, and translators.

The IPA is designed to represent only those qualities of speech that are distinctive in oral language: phonemes, intonation, and the separation of words and syllables. IPA symbols are composed of one or more elements of two basic types, letters and diacritics. For example, the sound of the English letter ⟨t⟩ may be transcribed in IPA with a single letter, [t], or with a letter plus diacritics, [tʰ], depending on how precise one wishes to be. Often, slashes are used to signal broad or phonemic transcription; thus, /t/ is less specific than, and could refer to, either [tʰ] or [t] depending on the context and language.

Occasionally letters or diacritics are added, removed, or modified by the International Phonetic Association. As of the most recent change in 2005, there are 107 letters, 52 diacritics, and four prosodic marks in the IPA. These are shown in the current IPA chart, posted below in this article and at the website of the IPA.

In 1886, a group of French and British language teachers, led by the French linguist Paul Passy, formed what would come to be known from 1897 onwards as the **International Phonetic Association** (in French, **l'Association phonétique internationale**). Their original alphabet was based on a spelling reform for English known as the Romic alphabet, but in order to make it usable for other languages, the values of the symbols were allowed to vary from language to language. However, in 1888, the alphabet was revised so as to be uniform across languages, thus providing the base for all future revisions.

Since its creation, the IPA has undergone a number of revisions. After major revisions and expansions in 1900 and 1932, the IPA remained unchanged until the IPA Kiel Convention in 1989. A minor revision took place in 1993 with the addition of four letters for mid-central vowels and the removal of letters for voiceless implosives. The alphabet was last revised in May 2005 with the addition of a letter for a labiodental flap. Apart from the addition and removal of symbols, changes to the IPA have consisted largely in renaming symbols and categories and in modifying typefaces.

The general principle of the IPA is to provide **one letter for each distinctive sound** (speech segment) although this practice is not followed if the sound itself is complex. This means that it does not normally use combinations of letters to represent single sounds, the way Among the symbols of the IPA, 107 letters represent consonants and vowels, 31 diacritics are used to modify these, and 19 additional signs indicate suprasegmental qualities such as length, tone, stress, and intonation. These are organized into a chart; the chart displayed here is an unofficial expansion and re-organization of the official chart posted at the website of the IPA and below:

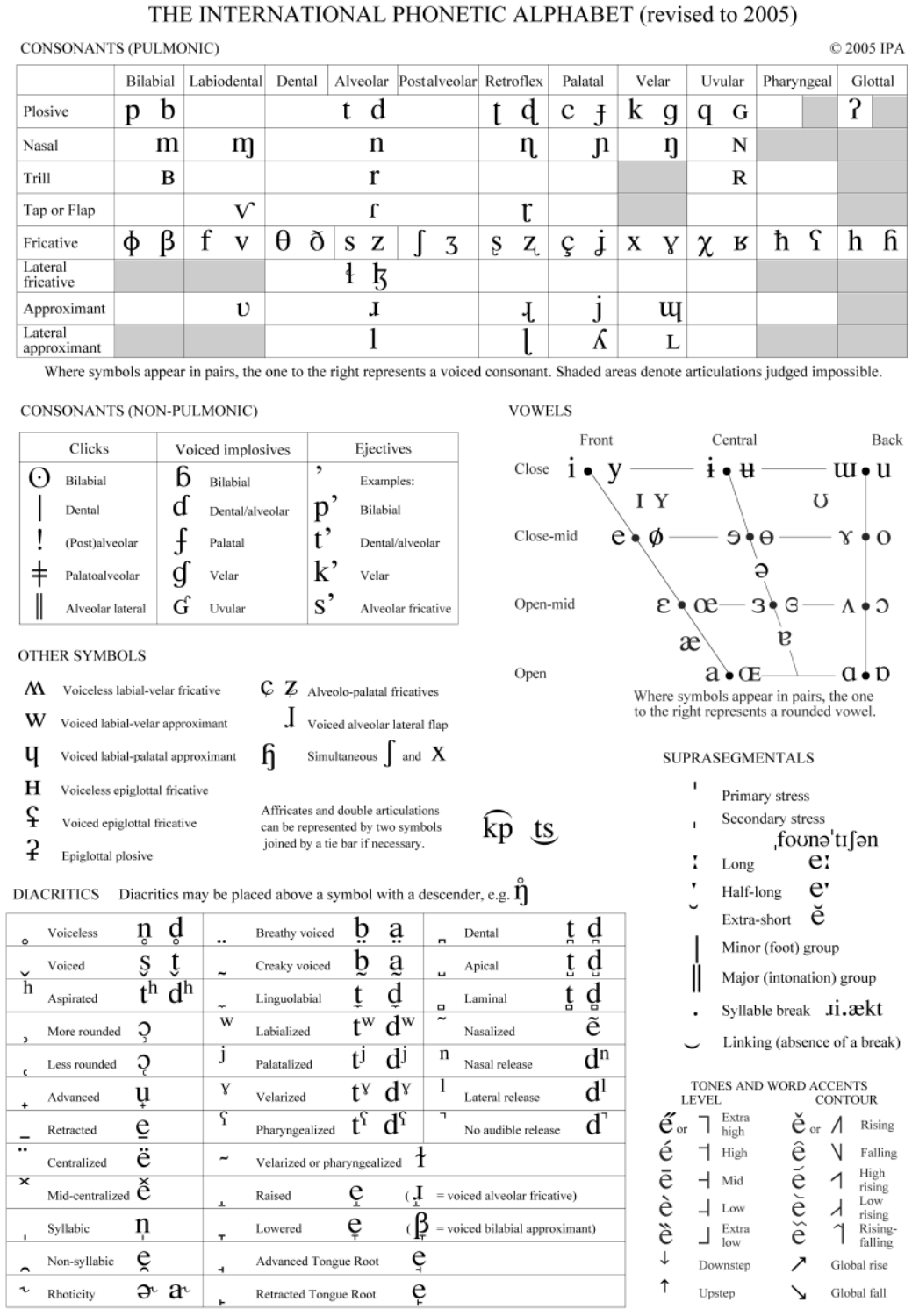


Figure IV.4: The International Phonetic Alphabet (2005) [43]

10. PRINCIPLES OF TRANSCRIPTION [22, P. 195]

Transcription is the use of the symbols in IPA to show sounds or sound sequences in a written form. A distinction is made between two types of transcription: a-phonemic transcription and b- allophonic or phonetic transcription.

10.1. Phonemic transcription

Phonemic transcription (or linguistically broad transcription) is used to show only the distinctive sounds of a language. It is based on the principle "**one symbol per phoneme**". It does not show the finer points of pronunciation. Phonemic transcription is written within two parallel slanting lines. For example, the English word foot may appear in phonemic transcription as /fu:t/. /f/, /u:/ and /t/ are phonemes of English. Phonemic transcription may be used:

a-for languages which have no writing system of their own;

b-for teaching purposes, to show differences in pronunciation;

(For the list of the phonemic symbols, please refer to tables I.1. (p.9).

10.2. Allophonic transcription

Allophonic transcription (also phonetic / linguistically narrow transcription) uses allophonic symbols for various sounds, including symbols to show in detail how a particular sound is pronounced (diacritics). An allophonic, or linguistically narrow, transcription is based on the principle "**one symbol per allophone**". It is used to show finer points of pronunciation. Phonetic transcription is written in square brackets [ ]. For example, the English word pin may appear in phonetic transcription as [p^hin] with the raised h showing the aspiration of the [p]. In phonemic transcription, *pin* would be transcribed as /pin/. Phonetic transcription may be used, for example:

a-to show the different pronunciation of closely related dialects;

b- to show the pronunciation of individual speakers or group of speakers.

Table IV.7: Diacritics [43]

		◌̤	Breathy voiced	b̤ a̤	◌̪ Dental	t̪ d̪
◌̬	Voiced	s̬ t̬	◌̰	Creaky voiced	b̰ a̰	◌̺ Apical	t̺ d̺
◌ʰ	Aspirated	tʰ dʰ	◌̼	Linguolabial	t̼ d̼	◌̻ Laminal	t̻ d̻
◌̹	More rounded	ɔ̹	◌ʷ	Labialized	tʷ dʷ	◌̃ Nasalized	ẽ
◌̜	Less rounded	ɔ̜	◌ʲ	Palatalized	tʲ dʲ	◌ⁿ Nasal release	dⁿ
◌̟	Advanced	u̟	◌ˠ	Velarized	tˠ dˠ	◌ˡ Lateral release	dˡ
◌̠	Retracted	e̠	◌ˤ	Pharyngealized	tˤ dˤ	◌̚ No audible release	d̚
◌̈	Centralized	ë	◌̴	Velarized or pharyngealized	ɬ		
◌̽	Mid-centralized	e̽	◌̝	Raised	e̝	(ɹ̝ = voiced alveolar fricative)	
◌̩	Syllabic	n̩	◌̞	Lowered	e̞	(β̞ = voiced bilabial approximant)	
◌̯	Non-syllabic	e̯	◌̘	Advanced Tongue Root	e̘		
◌˞	Rhoticity	ə˞ a˞	◌̙	Retracted Tongue Root	e̙		
◌ˈ	Primary stress		◌ˌ	Secondary stress		ˌfoʊnəˈtɪʃən	
◌ː	Long	eː	◌ˑ	Half-long	eˑ	. Syllable break	ɹi.ækt

11. RULES OF PHONOLOGY [8, pp.301-312]

The relationship between the phonemic representations / transcriptions of words and the phonetic representations / transcriptions that reflect the pronunciation of these words is rule-governed. The phonological rules relate the phonemic representations to the phonetic representations / transcriptions are part of a speaker's knowledge of the language.

Phonemic and allophonic representations / transcriptions can be related to one another by statements which are often referred to as rules. When a phoneme is used in a sequence of sounds in everyday communication, sometimes there is a change in sound property taking place in the pronunciation of the word. For example, the word *till* has the following phonemes /til/, which is the phonemic representation / transcription of the word. However, when the word is spoken, it might have the following change in its pronunciation: [t^hil]. /t/ is aspirated [t^h] because it stands at the beginning of the word and before a short stressed vowel /i/. The rule which describes such a change can be as following:

Aspirate voiceless stops at the beginning of words or syllables before stressed vowels. This kind of rule is called rule of phonology or phonological rule. The change from phonemic representation of a word (its dictionary transcription) to phonetic representation of a word (its actual pronunciation) is determined by the rules of phonology (or phonological rules). The function of the phonological rules is to provide the phonetic information necessary for the pronunciation of utterances.

Phonological rules in a grammar apply to phonemic strings and may alter them in various ways to reveal how they are pronounced. There are rules linking phonemes and allophones (e.g. / i: / → / i / (shortened) before a voiceless sound.) There are also rules handling morphophonemic alterations (e.g. {Noun Plural} → / s / after a voiceless sound).

Although the specific rules of phonology differ from language to language, the kinds of rules, what they do, and the natural classes they refer to are the same cross-linguitically.

11.1. Assimilation rule

We have seen that nasalization of vowels in English is nonphonemic because it is predictable by rule. The vowel nasalization rule is an assimilation rule, or a rule that makes neighbouring segments more similar by copying or spreading a phonetic property from one segment to the other. For the most part, assimilation rules stem from articulatory or physiological processes. There is a tendency when we speak to increase the ease of articulation, that is, to articulate efficiently. We have noted that it is easier to lower the velum while a vowel is being pronounced before a nasal stop closure than to wait for the actual moment of closure and force the velum to move suddenly.

We now wish to look more closely at the phonological rules we have been discussing. Previously, we stated the vowel nasalization rule as:

Nasalise vowels when they occur before nasal consonants (within the same syllable).

This rule specifies the class of sounds affected by the rule: Vowels.

It states what phonetic change will occur by applying the rule:

Change phonemic oral vowels to phonetic nasal vowels.

And it specifies the context or phonological environment.

Before nasal consonants within the same syllable.

All three kinds of information-class of phonemes affected, phonetic change, phonological environment- must be included in the statement of a phonological rule or it will not explicitly state the regularities that constitute speakers' unconscious phonological knowledge. We can also use such notations to state the nasalization rule as:

V → [+nasal] / _ [+nasal] (C) $

Let us look at the rule piece by piece.

V Vowels	→ become	[+nasal] nasalized	/ In the environment of	_ before	[+nasal] nasal segments	$ Within a syllable

The arrow abbreviates "becomes". The segment on the left of the arrow becomes, or takes on, any feature on the right of the arrow in the specified environment. It means that a vowel becomes nasalized or takes on the feature [+nasal]. The environment follows the 'slash' and in this case indicates that the vowel to be nasalized must be followed by a nasal consonant (the [+nasal] part); and optionally by any consonant (the (C) part), and the syllable must end, indicated by the $. The parentheses surrounding the (C) denote optionality, that is, a "don't care" condition. If the optional (C) were not there, however, the rule could not apply in words like damp or dent because the nasal consonant is not followed by $ but by another segment.

What occurs on the left side of the arrow fulfils the first requirement for a rule: It specifies the class of sounds affected by the rule. What occurs on the immediate right side of the arrow specifies the change that occurs, thus fulfilling the second requirement of a phonological rule.

To fulfil the third requirement of a rule – the phonological environment where the rules applies – we use the underscore _ to denote the position of the segment to be changed relative to the conditioning environment. Then the conditioning environment is symbolized. In this case the segment to be changed precedes a nasal consonant, and possibly another consonant, and is in the same syllable. That's what_[+nasal] (C) $ means.

In summary:

→ means "becomes" or "is changed to"

/ means "in the environment of"

_ is placed before or after the segments that condition the change.

() enclose optional segments, whose presence or absence are irrelevant to the rule.

$ (or #) indicates the syllable boundary.

The nasalization rule stated formally using symbols can be read in words:

A vowel becomes nasalized in the environment before a nasal segment, possibly followed by a consonant, in the same syllable.

Any rule written in formal notation can be stated in words. The use of the formal notation is, as stated above, a shorthand way of presenting the information. Notation also reveals the function of the rule more explicitly than words. It is easy to see in the formal statement of the rule that is an assimilation rule since the change to [+nasal] occurs before [+nasal] segments.

Assimilation rules in languages reflect coarticulation-the spreading of phonetic features either in the anticipation or in the preservation (the'hanging on') of articulatory processes. This tendency may become regularized as rules of the language.

11.2. Dissimilation rules

It is understandable that so many languages have assimilation rules; they permit greater ease of articulation. It might be strange, then, to learn that languages also have dissimilation rules, rules in which a segment becomes a less similar to another segment. Such rules also have a natural explanation, often from the hearer's, rather than the speaker's, perspective. That is, in listening to speech, if sounds are too similar, we may miss the contrast. Also, it may be easier to articulate dissimilar sounds. The difficulty of tongue twisters like "*the sixth sheik sixth sheep is sick*" is based on the repeated similarity of sounds. If one were to make some sounds less similar, as in "*the fifth sheik's fourth sheep is sick"*, it would be easier to say.

An example of easing pronunciation through dissimilation is found in some varieties of English, where there is a fricative dissimilation rule. This rule applies to sequences /fθ/ and /sθ/, changing them to [ft] and [st]. Here the fricative /θ/ becomes dissimilar to the preceding fricative by becoming a stop. For example, the words *fifth* and *sixth* come to be pronounced as if they were spelled *fift* and *sikst.*

The liquids /l/ and /r/ are sometimes interchanged to create dissimilarity. For example, English adopted the French word *marbre* meaning *marble* and in doing so dissilated the second /r/ to an /l/.

11.3. Feature-changing rules

The assimilation and dissimilation rules we have seen may all be thought of as feature-changing rules. In some cases a feature already present is changed. The /z/ plural morpheme has its voicing value changed from plus to minus when it follows a voiceless sound. Similarly, the /n/ in the phonemic negative prefix morpheme /in/ undergoes a change in its place of articulation feature when preceding bilabials or velars.

The addition of a feature is the other way in which we have seen features change. The English vowel nasalization rule is a case in point. Phonemically, vowels are not marked for nasality; however, in the environment specified by the rule, the feature [+nasal] is added.

Some feature-changing rules are neither assimilation nor dissimilation rules. The rule in English that aspirates voiceless stops at the beginning of a syllable adds a nondistinctive feature. Generally, aspiration occurs only if the following vowel is stressed. The /p/ in **pit** and **repeat** is an aspirated [p^h], but the /p/ in **inspect** or **compass** is an unaspirated [p]. We also note that with an intervening consonant, the aspiration takes place so that words such as **crib**, **clip**, and **quip** ([k^hrib], [k^hlip], and [k^hwip]) all begin with an aspirated [k^h]. And finally, the affricate /ʧ/ is subject to the rule, so **chip** is phonetically [$ʧ^h$ip]. We can now state the rule:

$$\begin{Bmatrix} \text{-continuant} \\ \text{-voiced} \end{Bmatrix} \rightarrow \text{[+aspirated]} / \$\_ \text{ (C)} \begin{Bmatrix} \text{consonantal} \\ \text{+ stressed} \end{Bmatrix}$$

This rule reads:

Voiceless stops ([-continuant, -voiced]) becomes aspirated when they occur syllable initially before stressed vowels ($_(C)V).

English vowel nasalization and devoicing rules change feature specifications. That is, in English the [-nasal] value of phonemic vowels is changed to [+nasal] phonetically through an assimilation process when the vowels occur before a nasal.

$$\begin{Bmatrix} \text{+vocalic} \\ \text{-consonantal} \end{Bmatrix} \rightarrow \text{[+nasal]} / \_ \text{ [+nasal]}$$

This rule reads:

A vowel becomes nasalized in the environment before (_) a nasal segment.

[+voice] → [-voice] / [- voice]_

This rule reads:

A voiced segment becomes voiceless when the preceding segment is voiceless.

Feature-changing rules we have discussed above have the function of changing the value of phonemic features. They are feature-changing or feature-spreading rules.

11.4. Segment-deletion and segment-insertion rules

Phonological rules may delete or add entire segments. These are different from the feature-changing and feature-adding rules we have seen so far, which affect only parts of segments. The process of inserting a consonant or vowel is called epenthesis.

The rules for forming regular plurals, possessive forms, and third-person singular verb agreement in English all require an epenthesis rule. Here is the first part of that rule that we gave earlier for plural formation:

Insert a [ə] before the plural morpheme /z/ when a regular noun ends in a sibilant, giving [əz].

Letting the symbol ∅ stand for "null" we can write this morphophonemic epenthesis rule more formally as "null becomes schwa between two sibilants," or like this:

Ø→ə / [+sibilant]_[+sibilant]

Similarly, we recall the first part of the rule for regular past-tense formation in English:

Insert a [ə] before the past-tense morpheme when a regular verb ends in a non-nasal alveolar, stop, giving [əd].

This epenthesis rule may also be expressed in our more formal notations:

Ø→ə / [-nasal,+alveolar,-continuant]_[-nasal, +alveoalar,-continuant]

Examples of deletion rules:

Delete a /g/ when it occurs word initially before a nasal consonant or before a word-final nasal.

Delete a word-final /b/ when it occurs after an /m/.

11.5. Movement (metathesis) rules

Phonological rules may also reoder sequences of phonemes, in which case they are called metathesis rules. In some dialects, of English, for example, the word *ask* is pronounced [æks], but the word *asking* is pronounced as [æskĩŋ] or [æskĩn]. In these dialects, a metathesis rule reorders the /s/ and /k/ in certain contexts. In old English the verb was *aksian*, with the /k/ preceding /s/. A historical metathesis rule switched these two consonants, producing ask in most dialects of English. Children's speech shows many cases of metathesis (which are corrected as the child approaches the adult grammar): *aminal* for *animal, pusjetti* for *spaghetti*.

We see that phonological rules have a number of functions, among which are the following:

a-Change feature values;

b-Add new feature;

c-Delete segments;

d-Add segments;

e-Reorder segments.

CHAPTER IV EXERCISES

I-Questions for Discussion

1-What are the different views of a phoneme?

2-What is a phoneme according to the functional view?

3-What is a phone? An allophone?

4-What is a distinctive feature? Does an allophone have both distinctive and non-distinctive features?

5-How do you understand the two terms: segmental and suprasegmental phoneme?

6-What are the phonological differences between RP and GA?

7-What is the phonemic transcription? the allophonic transcription? What kind of transcription should be used in the teaching of English at secondary school?

8-What are the functions of the rules of phonology? What are different rules of phonology?

II-T / F: Decide whether the following statements are true or false:

1-Phonology studies the phonemic system of a language.

2-The approaches to the phoneme have seen it as a psychological entity, as a family of sounds and as a functional unit.

3-The mentalist view regards the phoneme as an ideal sound at which the speaker aims.

4-The physical view regards the phoneme as a functional unit.

5-The functional view regards the phoneme as a family of sounds.

6-The phoneme is a minimal distinctive unit of sound in a language.

7-Phone is a term used in phonetics to refer to the smallest perceptible discrete segment of sound in a stream of speech.

8-A phonetic unit or a phonetic segment is called a phone.

9-The allophones of a phoneme are concrete realizations of that phoneme. The phoneme is an abstract unit.

10- A pheneme can have several different physical forms or allophones.

11- An allophone is a predictable phonetic variant of a phoneme.

12- All phonemes can be regarded as being made up of a number of distinctive features.

13-Allophones of a phoneme are made up of only non-distinctive features.

14-Distinctive features are particular characteristics distinguishing one distinctive sound of a language from another or one group of sounds from another group.

15-The RP is the type of pronunciation employed in America.

16- G.A. is American pronunciation standard.

17-/ɒ/ as in *hot* exists in American English.

18- Transcription is the use of symbols in IPA to show sounds or sound segment in a written form.

19-Phonemic transcription is based on the principle "**one symbol per phoneme**."

20- Phonemic transcription uses allophonic symbols for various sounds.

III- Multiple Choice: Choose the best answer:

1	Which of the following is not true? A-The phoneme is the smallest distinctive unit of sound in a language. B-The morpheme is the smallest unit of sound in a language. C-The allophones of the same phoneme must show phonetic similarity to one another. D-The allophones of the same phoneme must occur in the same phonetic context.			
2	The……view regards the phoneme as the minimal sound unit by which meanings may be differentiated.			
	A-mentalist	B-physical	C-functional	D-abstract
3	Allophones are known as……variants of a phoneme. A-the predictable syllabic B-the predictable phonetic C-the predictable morphological D-the predictable textual			
4	Which of the following is not a segmental phoneme?			
	A-the vowel	B-the stress	C-the consonant	D-the diphthong
5	Which of the following words form a minimal pair?			
	A-bat-bite	B-thin-free	C-bat-she	D-ship-three
6	Which of the following pairs of phoneme differs in two distinctive features?			
	A-/p – b/	B- /t-d/	C-/p – g/	D-/p-z/
7	How many phonemes are there in the word *teaching*?			
	A-2	B-3	C-4	D-5
8	The initial vowel of economics could be either /ɪ/ or /e/ according to the variation in the pronunciation of different speakers. These sounds are said to be……. in that particular word.			
	A-free variation	B-positional variation	C-distinctive variation	D-significant variation
9	A / An……..transcription is based on the principle "one symbol per phoneme."			
	A-allophonic	B-phonemic	C-narrow	D-non-distinctive
10	When the word *meat* is transcribed as [mĩ:t], ……transcription is used.			
	A-allophonic	B-phonemic	C-narrow	D-morphophonemic

IV- Transcribe the following phonemically and then allophonically

The North Wind and the Sun were disputing which was the stronger, when a traveller

came along wrapped in a warm cloak. They agreed that the one who first succeeded in making the traveller take his cloak off should be considered stronger than the other. Then the North Wind blew as hard as he could, but the more he blew the more closely did the traveller fold his cloak around him, and at last the North Wind gave up the attempt. Then the Sun shone out warmly, and immediately the traveller took off his cloak. And so the North Wind was obliged to confess that the Sun was the stronger of the two. [25]

V-Use notations for the following rules of phonology

1-Nasalise vowels when they occur before nasal consonants.

2-A voiced segment becomes voiceless when the preceding segment is voiceless.

3-Voiceless stops become aspirated when they occur syllable initially before stressed vowels.

VI. Practice: Watch the video the Video IV.1 The English language: An English Accent [39]

VII. Use the software praat.exe to produce your spectrographs of the English vowel phonemes [41].

CHAPTER V-THE SYLLABLE

Chapter V Contents

1. WHAT IS A SYLLABLE?

Native speakers tend to recognize a unit intermediate between the segment and the word, that is, the syllable: **the smallest possible unit of speech**. The functions of the syllable appear to be threefold: a-to carry the phonetic manifestations of the suprasegmentals, b-to be the chief domain of patterns of arrangement of phonemes, or phonotatics, and c- to act as a unit of organization in the process of speech production. Being the smallest pronounceable units, the syllables form language units of greater magnitude, that is morphemes, words and phrases. Each of these units is characterized by a certain syllabic structure.

In looking for an adequate definition of a syllable, we need to do two things. We must account for the words in which there is agreement on the number of syllables, and we must also explain why there is disagreement on some other words. It is necessary to mention that the syllable is a fairly complicated phenomenon and like the phoneme it can be studied on four levels: acoustic, articulatory, auditory and functional, which means that the syllable can be approached from different points of view. The severe complexity of the phenomenon gave rise to many theories. Let us consider some of the most current theories.

In phonetics some have attempted to identify syllables on the basis of the amount of articulatory effort needed to produce them [4, p.164]. The psychologist R.H. Stetson was one who argued that each syllable corresponds to an increase in air pressure, air from the lungs being released as a series of chest pulses – the **pulse** or **motor** theory of syllable production. This theory is based on the assumption that expiration in speech is a pulsating process and each syllable should correspond to a single expiration so that the number of the syllables in an utterance is determined by the number of expirations made in the production of the utterance.

Another theory most often referred to is the theory of syllable put forward by O. Jespersen [4, p.164]. It is generally called the **prominence theory** and is based on the concept of sonority. This defines the syllable in auditory terms, arguing that some sounds (vowels) are intrinsically more sonorous than other, and that each peak of sonority corresponds to the centre of a syllable. According to O. Jespersen each sound is characterized by a certain **degree of sonority** which is understood as acoustic property of a sound that determines its perceptibility. According to this sound property a ranking of speech sounds could be

established. This starts with the open vowels as the most sonorous, continues through the close vowels, the sonorants, the voiced fricatives, the voiced plosives, the voiceless fricatives and ends with the voiceless plosives as the least sonorous. In any sequence the most sonorous sounds tend to form the center of the syllable and the least sonorous — the marginal segments. Thus in the word **plant**, for example, the sequence passes from the minimally sonorous [p], through [l] with a greater degree of sonority to the maximum sonorous [a:]. It continues with decreasing sonority through [n] to a second minimum with [t]:

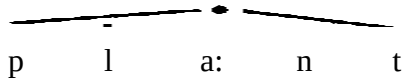


Figure V.1: Sonority diagram of the word *plant*

It is true that this principle seems to be very general but there are, on the other hand, syllables in many languages which contradict it.

Further experimental work aimed at the description of the syllable as a phonetic phenomenon resulted in a lot of other theories, such as F. de Saussure's theory, the theory of the Rumanian linguist A. Rosetti, and the theory of the Czech linguist B. Hala [26].

Phonological views of the syllable focus on the way sounds combine in a language to produce typical sequences [4, p.164]. Two classes of sound are established: sounds that can occur on their own, or are at the centre of a sequence of sounds (vowels (V); and those that can not occur on their own, or at the edge of a sequence (consonants (C). Typical sequences include CV, CVC, CCVC…The syllable, in this view, takes its place as an important abstract unit in explaining the way vowels and consonants are organized within a sound system.

It is perfectly obvious that the syllable is by no means a simple concept. No phonetician has succeeded so far in giving an exhaustive and adequate explanation of what the syllable is. The difficulties seem to arise from the various possibilities of approach to the unit. We could say there exist two points of view:

a- Some linguists consider the syllable to be a purely articulatory unit which lacks any functional value. They define the syllable in terms of properties of sounds, such as sonority or prominence.

b- However, the majority of linguists treat the syllable as the smallest pronounceable unit which can reveal some linguistic functions. The syllable is considered as a unit of organization and planning of the sounds of an utterance.

The definition of the syllable from the functional point of view existing in modern linguistics tends to single out the following features of the syllable:

a- a syllable is a chain of phonemes of varying length;

b- a syllable is constructed on the basis of contrast of its constituents (which is usually of vowel-consonant type);

c- the nucleus of a syllable is a vowel, the presence of consonants is optional; there are no languages in which vowels are not used as syllable nuclei, however, there are languages in which this function is performed by consonants;

d- the distribution of phonemes in the syllabic structure follows the rules which are specific enough for a particular language.

Perhaps the most likely theory is that the syllable arises from the alternating opening and closing of the vocal tract during speech, resulting in an alteration of vowel-like and consonant-like articulations. The consonantal articulations, especially plosives, are often signaled phonetically as modifications to the vowel-like articulations, and this results in the typical structure of the syllable – consonants grouped around a vowel. All languages have syllables of the form V, in addition, many languages have patterns of greater complexity, with CVC being the most frequent.

The central position of the syllable, occupied by the **V**(owel) element, is normally referred to as the "**peak**" (sometimes the "**nucleus**"). Most of consonants are marginal. The sound which forms the peak or the center of a syllable is called the **syllabic sound**. All vowels and some of the consonants are syllabic. Most of the consonants are non-syllabic (asylabic).

A syllable is the smallest possible unit of speech [17, p.248].

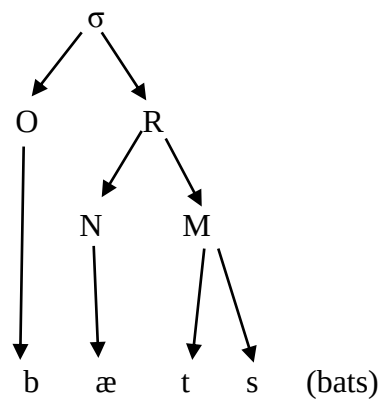
The syllable may be defined as one or more speech-sounds forming a single uninterrupted unit of utterance which may be a whole word, e.g. man /mæn/, /ai/ or part of it, e.g. **morning /mɔ:. niŋ/** [27, p.86].

2. SYLLABLE FORMATION

2.1. The representation of syllable structure [14, pp.153-157]

The syllable has received a very considerable amount of attention from phonologists, especially in recent years, and a number of alternative models of the syllable have been offered.

Many phonologists designed a branching, hierarchical syllable structure. For a traditional structuralist statement of this position see Pike (1967) and Pulgram (1970). More recently, writers like Kiparsky (1979), Halle and Vergnaud (1980), Steriade (1982) and Harris (1983) have presented an improved version of the hierarchical branching theory in the framework of a **Multi-Tiered Phonological Theory**. In this view, syllable structure can be represented as follows:



(Note: σ= syllable, O = onset, R= rhyme, N=nucleus and M=margin)

Figure V.2: Multi-Tiered Syllable Structure [14, p.154]

Another model – that of Hyman (1985) has a different way of thinking. Hyman suggests that the core of phonological representations consists of rhythmic **WEIGHT UNITS** rather than onsets and rhymes or C and V slots proposed by other writers. Segments have weight units associated with them underlying. But only associations between weight units and vowels tend to survive to the surface. Normally consonants lose their weight units and re-associated with the weight unit of an adjacent vowel by the syllabification rules. Only those segments whose association with a weight unit is preserved to the end of a derivation are syllabic.

Most current work in theoretical phonology assumes a model that incorporates a **CV-tier** (Consonant – Vowel tier) in terms of which the canonical forms of morphemes are stated. Precursors of this approach are Hockett (1947) and Abercrombie (1967).

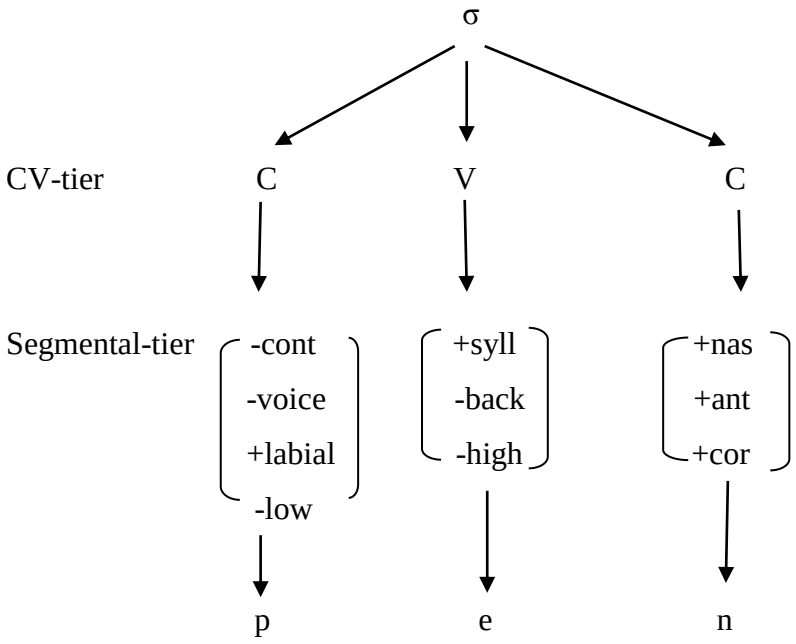


Figure V.3: CV-tier Syllable Structure [14, p.157]

A V element of the CV-tier represents a syllable NUCLEUS, i.e. peak of sonority while a C element represents a syllable ONSET or MARGIN, i.e. an element which is not the peak.

One of the functions of the syllable in all languages is defining syllabicity for segments. Any segment dominated by a C-element of the CV-tier is nonsyllabic while any segment dominated by a V-element is syllabic. An interesting consequence of this model is that it obviates the need for the feature [syllabic]: the V element of the CV-tier is the constituent of the syllable that contains the SONORITY PEAK.

According to Peter Ladefoged [17, p.248], a syllable can be divided into its **onset** and **rhyme**. The rhyming part of a syllable consists of the vowel and any consonants that come after it. Any consonants before the rhyme form the onset of the syllable. The rhyme of a syllable can be further divided into the nucleus, which is the vocalic part, and the **coda**, which consists of any consonants.

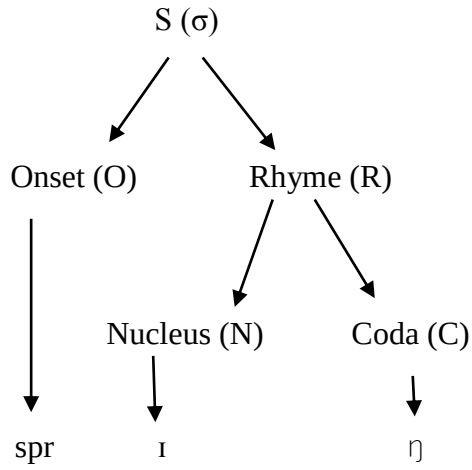


Figure V.4: Syllable Structure

A complete description of a syllable requires four sub-syllabic units. The **nucleus** (N) is the syllable's only obligatory member. It is a vocalic segment that forms the core of a syllable. The **coda** consists of those segments that follow the nucleus in the same syllable. The **rhyme** (R) is made up of the nucleus and coda. The **onset** (O) is made up of those segments that precede the rhyme in the same syllable. [17, p.243]

In the English language there are minimum syllables which are formed by a single vowel sound in isolation, e.g. *are* /a:/, *or* /ɔ:/. There are syllables which have an **onset** and **nucleus**, e.g. *bar* /ba:/, *key* /ki:/. There are syllables which have no **onset** but have a **coda**, e.g. *am* /æm/, *ease* /i:z/. Other syllables have both **onset** and **coda**, e.g. *run* /r^n/, *fill* /fil/.

Consonants which can occur as the onset are: a-all single consonant phonemes except /ŋ/, b-plosive plus approximant other than /j/, c-voiceless fricative plus approximant other than /j/, d-consonant plus /j/ (before /uː/ or /ʊr/), e-/s/ plus voiceless plosive, f-/s/ plus nasal other than /ŋ/, g-/s/ plus voiceless fricative, h-/s/ plus voiceless plosive plus approximant, i-/s/ plus voiceless fricative plus approximant.

The following can occur as the nucleus : a-all vowels and b-syllabic consonants

Consonants which can occur as the coda are: a-the single consonant phonemes except /h/, /w/, /j/ and, in non-rhotic varieties, /r/, b-lateral approximant + plosive or affricate, c-in rhotic varieties, /r/ + plosive or affricate, d-lateral approximant + fricative, e-in rhotic varieties, /r/ + fricative, f-lateral approximant + nasal, g-in rhotic varieties, /r/ + nasal or lateral, h-nasal + homorganic plosive or affricate, i-nasal + fricative, j-Voiceless fricative + voiceless plosive, k-two voiceless fricatives, l-two voiceless plosives, m-plosive + voiceless fricative, n-lateral approximant + two consonants, o-in rhotic varieties, /r/ + two consonants, p-nasal + homorganic plosive + plosive or fricative, q-three obstruents [33].

2.2. Syllable formation

The sequences of sounds that can make up a syllable differ from language to language and are strictly limited within each language. In the case of the English language there is a

wide variety of syllable types, the two main types of which are **a-Co-3 + V + Co-4** and **b-C + syllabic C**. Thus, in English, the syllable can be formed by:

a-by any vowel (V),

e.g. or, are, I

b-by one vowel preceded by one consonant (CV),

e.g. core, car

c-by one vowel followed by one consonant (VC),

e.g. ought, art

d-by one vowel both preceded and followed by (one) consonant(s),

e.g. hit, man

e-by a word-final syllabic lateral /l/ or nasal /m, n/ immediately preceded by a consonant,

e.g. [pl̩] (as in *people*), [dn̩] (as in *garden*)

Not every language allows so wide a variety of syllable types as English does. In fact, the preferred syllable type among the world's languages is CV, the CVC and V. Different languages have different preferred structures of the syllable.

The rules that characterize permissible syllable structures in a language are called phonotactic constraints, and they determine what constitutes a possible syllable.

According to Peter Roach [23, p.61], the structure of the syllable is as follows:

Pre-initial Initial Post-initial Vowel Pre-final Final Post-final1 Post-final2 Post-final3

Onset Coda

e.g. spring, texts

3. CLOSED AND OPEN SYLLABLES [27, p.88]

3.1. Open syllable

A syllable which ends in a vowel is called an open syllable,

e.g. he, wri-ter

3.2. Closed syllable

A syllable which ends in a consonant is called a closed syllable,

e.g. it, man

4. SYLLABLE DIVISION

4.1. Syllabification Rules

The division of English words into syllables is governed by the following principal rules:

RULE 1: The English a-long vowels, b- diphthongs, and c- unstressed vowels always occur in a phonetically open syllable when they are separated from the following syllabic (that form a syllable) sound by only one consonant,

e.g. 1. **ˈme**.ter, **ˈar**.my

2. **ˈfa**.ces, **ˈvoi**.ces

3. **ˈGer**.ma.ny, **ˈor**.di.na.ri.ly

RULE 2: A short stressed vowel when separated from a following syllabic sound by only one consonant, always occurs in a closed syllable, although it is difficult to tell where the point of syllable division actually is: after the consonant or within it,

e.g. **ˈstud**y, **ˈbod**y.

4.2. Syllabic ambiguity

Correct syllable division at the junction of words, however, is very important in English, as wrong syllable division in this case may lead to the confusion of one word with another. Sometimes, it is difficult to say whether a consonant is the coda of one syllable or the onset of another. Thus, syllable division can lead to the case of syllabic ambiguity. One example is the sequence of sounds /ʃ i: s ɔ: ð ə m i: t/ which can be read as *She saw them eat* or *She saw the meat* depending on correct syllable division of the sound sequence /ð ə m i: t/. It is difficult for us to divide a word such as *happy* into syllables. Some people say it is [hæ.pi]; other regard it as [hæp.i]. Another solution is to consider the [p] as belonging to both syllables, and to call it **ambisyllabic**. Other examples of syllabic ambiguity can be found with syllable division in the words which contain either a diphthong or a triphthong. Another examples are the syllable division in words such as *higher* and *hire***.** *Higher* and *hire* are, in most English dialects, the same sound. But I think the tendency would be to count *higher* as two syllables and to count *hire* as one syllable, based on how they are spelled.

5. STRONG AND WEAK SYLLABLES [23, pp.75-82]

What do we mean by strong and weak syllables? In the present context, we are using these terms to refer to phonetic characteristics of the syllable. The most important thing to note at present is that any strong syllable will have as its centre one of the vowel phonemes (or possibly a trithong), but not /ə/. Weak syllables, on the other hand, as they are being defined here, can only have four types of centre:

5.1. The vowel /ə/ (“schwa”)

The sound /ə/ can be

5.1.1. Spelt with a,

e.g. *a*ttend, char*a*cter, barr*a*ck

5.1.2. Spelt with ar,

e.g. p*ar*ticul*ar*, mol*ar*, mon*ar*chy

5.1.3. Adjectival endings spelt with ate,

.e.g. intim*ate*, accur*ate*, desol*ate*

5.1.4. Spelt with o,

e.g. t*o*morrow, p*o*tato, carr*o*t

5.1.5. Spelt with or,

e.g. forget, ambassad*or*, opp*or*tunity

5.1.6. Spelt with e,

e.g. settlem*e*nt, viol*e*t, postm*e*n

5.1.7. Spelt with er,

e.g. p*er*haps, strong*er*, sup*er*man

5.1.8. Spelt with u,

e.g. Aut*u*mn, s*u*pport

5.1.9. Spelt with ough,

e.g. thor*ough*, bor*ough*

5.1.10. Spelt with ous,

e.g. graci*ous*, call*ous*

5.2. Close front vowels (in the general region of i: and ɪ): [i],

e.g. *easy* [i:zi], *busy* [bizi]

5.3. **Close back vowels (in the general region of u: and ʊ)**: [u],

e.g. *you* [ju], *to* [tu], *do* [du]

5.4. Syllabic consonants: [m̩, n̩, l̩, r̩, ŋ̩]

e.g. *bottle* [bɒtl̩], *garden* [ga: dn̩], *happen* [hæpn̩ / m̩], *history* [hisr̩i]

CHAPTER V EXERCISES

I-Questions for Discussion:

1-How is the syllable defined?

2-What is the internal structure of an English syllable?

3-What can an English syllable be formed by?

4-What syllable is called phonetically open syllable? Closed syllable?

5-What are the rules of dividing the English word into syllable?

6-What is the difference between weak and strong syllables?

II- T / F: Decide whether the following statements are true or false:

1-The syllable may be defined as one or more speech sounds, forming a word or part of a word, containing one vowel sound, with or without a consonant or consonants, and uttered at a single effort.

2-The full internal structure of a phoneme consists of onset and coda.

3-In the word *spring*, /i:/ is the nucleus.

4-*Beautiful* is a word of two syllables.

5-The syllable structure of *learn* is CVC.

6-*Voiceless* is a word with the point of syllable division right after the sound /s/.

7-A weak syllable is the one which might end in a syllabic consonant.

8-*Or* is a syllable made up of one phoneme.

9-A syllable which ends in a vowel is called a closed syllable.

10-Correct syllable division is very important in communication.

III- Multiple Choice: Choose the best answer:

1	The……may be defined as one or more speech sounds forming a word or part of a word, containing one vowel sound, with or without a consonant (or consonants), and uttered at a single effort.			
	A-syllable	B-phoneme	C-intonation	D-morpheme
2	Which syllable is formed by a vowel?			
	A-sky	B-seem	C-or	D-hit
3	Which syllable is formed by a vowel+a consonant?			
	A-she	B-eat	C-sit	d-or
4	Which syllable is formed by a consonant+a vowel?			
	A-she	B-eat	C-it	d-eye
5	Which syllable is formed by a consonant+a vowel + a consonant?			
	A-he	B-eat	C-sit	d-eye
6	Which word contains a syllabic consonant?			
	A-meat	B-seat	C-run	D-little
7	In English, a syllable is generally not formed by…….			
	A- a vowel	B-Consonant+vowel	C-Vowel+consonant	D-two stops
8	Which word contains a syllabic consonant?			
	A-meat	B-seat	C-run	D-little
9	How many syllables are there in the word *garden*?			
	A-1	B-2	C-3	D-4

10	Which of the following syllable division is correct?			
	A-Ger.ma.ny	B-Germ.any	C-German.y	D-Ger.many
11	Which of the following syllable is an open syllable?			
	A-she	B-it	C-at	D-eat
12	Which of the following syllable has the structure of Vowel?			
	A-talk	B-learn	C-or	D-at
13	Which of the following syllable has the structure of Consonant+Vowel?			
	A-learn	B-sea	C-sit	D-at
14	Which of the following rules govern the syllable division of the word *study*? A-The English long vowels always occur in a phonetically open syllable when they are separated from a following syllabic sound by only one consonant. B-The English diphthongs always occur in a phonetically open syllable when they are separated from a following syllabic sound by only one consonant. C-The English unstressed vowels always occur in a phonetically open syllable when they are separated from a following syllabic sound by only one consonant. D-A short stressed vowel when separated from a following syllabic sound by only one consonant always occurs in a closed syllable, although it is difficult to tell where the point of syllable division is.			
15	Which of the following syllable has the full structure of onset-nucleus-coda?			
	A-sit	B-are	C-or	D-I
16	Which consonant cluster is the coda in the word *streets*?			
	A-sr	B-tr	C-str	D-ts
17	How many syllables are there in the word *ordinarily*?			
	A-2	B-3	C-4	D-5
18	Which of the following words contains a syllable of the type C+syllabic C?			
	A-little	B-read	C-can	D-eye
19	Which of the following syllables is an open syllable?			
	A-meat	B-reach	C-do	D-sit
20	Which of the following syllables is a closed syllable?			
	A-me	B-heart	C-oh	D-sit

IV- How many syllables are there in these words:

Wonderful, beautiful, English, infertile, season

CHAPTER VI - THE ENGLISH WORD-STRESS

Chapter VI Contents

1. WHAT IS WORD-STRESS? [23, pp.85-100]

In linguistics, **stress** is the relative emphasis that may be given to certain syllables in a word, or to certain words in a phrase or sentence. The word **accent** is also used with this sense. According to Jones, **stress** is the force of breath with which a sound or a syllable is pronounced [13, p.110]. **Stress** is considered to be the pronunciation of a syllable or a word with more force than the surrounding syllables or words [22, p.275]. From the perceptual point of view, all stressed syllables have one characteristic in common. That is **prominence**. Stressed syllables are recognized as more prominent than unstressed syllables [23, p. 85]. The stress placed on syllables within words is called **word-stress** or **lexical stress**. The stress placed on words within sentences is called **sentence stress** or **prosodic stress**.

Word-stress is the prominence given to certain syllable(s) in a word by the use of greater breath force.

The prominence can be produced by one or all of the following four factors: a-**loudness**, b-**length**, c-**pitch** and d-**quality**. Generally, these four factors work together in combination, though syllables may sometimes be made prominent by means of only one or two of them.

e.g. **con**duct (N) /ˈkɒndʌkt /; con**duct** (V) /kənˈdʌkt /

record (N) /ˈrekɔ:d/; re**cord** (V) /riˈkɔ:d /

2. LEVELS OF STRESS

Three levels of stress may be identified: a-tonic strong (or primary) indicated by the sign (ˈ) put before the stressed syllable, b-non-tonic strong (or secondary) indicated by (ˌ), and c-unstressed. One example is *represen**ta**tion* /ˌreprizenˈteiʃn/.

3. PLACEMENT OF STRESS WITHIN SIMPLE WORDS

Word-stress is the stress placed on a given syllable in a word. The position of word stress in a word may depend on certain rules applicable in the language or dialect in question.

English is not one of those languages where word-stress can be decided simply in relation to the syllables of the words, as can be done in French (where the last syllable is usually stressed), Polish (where the syllable before the last – the penultimate syllable – is stressed) or Czech (where the first syllable is stressed). Many writers have said that stress is difficult to predict and the best approach is to stress placement as a property of the individual word.

Languages in which the position of the stress can usually be predicted by a simple rule are said to have fixed stress. Examples are French, Polish or Czech. Languages in which the position of stress in a word is less predictable are said to have variable stress. This applied to English and Russian. Stress in these languages is truly lexical: it must be memorized as part of the pronunciation of an individual word.

According to Peter Roach [23, p.88], in order to decide on stress placement, it is necessary to make use of some or all of the following information:

a-Whether the word is morphological simple, or whether it is complex as a result of containing one or more affixes or of being compound words;

b-The grammatical category to which the word belongs;

c-The number of syllables in the word;

d-The phonological structure of those syllables.

We will now look at stress patterns in different types of words in the following parts.

3.1. Placement of Stress within Two-syllable words

3.1.1. Verbs

The basic rule is that if the second syllable of the verb contains a long vowel or a diphthong, or if it ends with more than one consonant, that second syllable is stressed.

e.g. aˈ**pply**, aˈr**rive**, aˈt**tract**, aˈs**sist**

If the final syllable contains a short vowel and one (or no) final consonant, the first syllable is stressed.

e.g. ˈ**en**ter, ˈ**en**vy, ˈ**op**en, ˈ**eq**ual

A final syllable is also unstressed if it contains /oʊ/ (e.g.ˈ***fol**low*, ˈ***bor**row*). Most two-syllable verbs that seem to be exceptions to the above might be interpreted as being morphologically complex (e.g. *perˈ**mit***), or we could simply list all such verbs as exceptions.

3.1.2. Adjectives

Two-syllable simple adjectives are stressed according to the same rule.

e.g. ˈ**lov**ely di**ˈvine**

ˈ**ev**en co**ˈrrect**

ˈ**holl**ow a**ˈlive**

As with most stress rule, there are exceptions, for example, ***ˈhon****est,* ***ˈper****fect,* both of which end with two consonants but are stressed on the first syllable.

3.1.3. Nouns

Nouns require a different rule: if the second syllable contains a short vowel the stress will usually come on the first syllable. Otherwise, it will be on the second syllable.

e.g. ˈ**mon**ey e**ˈstate**

ˈ**prod**uct ba**ˈlloon**

ˈ**lar**ynx de**ˈsign**

Other two-syllable words such as adverbs and prepositions seem to behave like verbs and adjectives.

3.2. Placement of stress within three-syllable words

In verbs, if the last syllable contains a short vowel and ends with not more than one consonant, that syllable will be unstressed, and stress will be placed on the preceding (penultimate) syllable.

e.g. en**ˈcoun**ter, de**ˈter**mine

If the final syllable contains a long vowel or diphthong, or ends with more than one consonant, that final syllable will be stressed.

e.g. enter**ˈtain**, resur**ˈrect**

Nouns require a different rule. Here, if the final syllable contains a short vowel or ʊ, it is unstressed; if the syllable preceding this final syllable contains a long vowel or diphthong, or if it ends with more than one consonant, that middle syllable will be stressed.

e.g. mi**ˈmos**a, dis**ˈas**ter, po**ˈta**to, sy**ˈnop**sis

If the final syllable contains a short vowel and the middle syllable contains a short vowel and ends with not more than one consonant, both final and middle syllables are unstressed and the first syllable is stressed, e.g. ***ˈquan****tity,* ***ˈcin****ema,* ***ˈem****peror,* ***ˈcus****tody.*

Most of the above rules show stress tending to go on syllables containing a long vowel or diphthong and / or ending with more than one consonant. However, three-syllable simple nouns are different. If the final syllable is of this type, the stress will usually be placed on the first syllable. The last syllable is usually quite prominent so that in some cases it could be said to have secondary stress.

e.g. ˈ**in**tellect

Adjectives seem to need the same rule, to produce stress patterns such as: ***ˈop****portune,* ***ˈde****relict,* ***ˈin****solent,* ***ˈan****thropoid.*

The above rules do not cover all English words.

4. PLACEMENT OF STRESS WITHIN COMPLEX WORDS

Complex words are words made from a basic stem word with the addition of an affix, e.g. teacher, irregular, goodness.

Affixes will have one of three possible effects on word stress:

a-The affix itself receives the primary stress:

e.g. semi- + **ˈcircle** → ˈ**sem**icircle; -ality + ˈ**per**son → perso**nˈa**lity.

b-The word is stressed just as if the affix was not there:

e.g. un- +ˈ**plea**sant → unˈ**plea**sant; ˈ**mar**ket + -ing → ˈ**mar**keting

c-The stress remains on the stem, not the affix, but is shifted to a different syllable e.g. ˈ**mag**net + -ic → magˈ**ne**tic

4.1. Suffixes

4.1.1. Suffixes carrying primary stress themselves

Table VI.1: Suffixes carrying primary stress [23, p.97]

Suffixes	Examples
-ain	enterˈ**tain**, ascerˈt**ain**
-ee	refugˈ**ee**, evacuˈ**ee**
-eer,	mountainˈ**eer**, volunˈt**eer**
-ese, -ette	Portuguˈ**ese**, journaˈl**ese**, cigaˈ**rette**, launde'**rette**
-esque,-ique	pictuˈ**resque**, uˈ**nique**

4.1.2. Suffixes that do not affect stress placement

TableVI.2: Suffixes that do not affect stress placement [23, p.97]

Suffixes	Examples
-able	ˈ**com**fort – ˈ**com**fortable, reˈ**co**ver – reˈ**co**verable
-age	ˈ**an**chor – ˈ**an**chorage
-al	reˈ**fuse** – reˈ**fus**al
-en	**wide** –ˈ**wid**en
-ful	ˈ**won**der – ˈ**won**derful
-ing	aˈ**maz**e – aˈ**maz**ing
-ish	ˈ**dev**il – ˈ**dev**ilish
-like	bird – ˈ**bird**like
-less	ˈ**pow**er – ˈ**pow**erless
-ly	ˈ**hur**ried – ˈ**hu**rriedly
-ment	ˈ**pun**ish – ˈ**pun**ishment

-ness	ˈ**yell**ow – ˈ**yell**owness
-ous	ˈ**poi**son – ˈ**poi**sonous
-fy	ˈ**glo**ry – ˈ**glo**rify
-wise	ˈ**oth**er – ˈ**oth**erwise
-y	fun – ˈ**fun**ny

4.1.3. Suffixes that influence stress in the stem

Table VI.3: Suffixes that influence stress in the stem [23, pp.97-98]

Suffixes	Examples
-eous	adˈ**van**tage –advanˈ**tag**eous
-graphy	ˈ**pho**to –phoˈ**tog**raphy
-ial	ˈ**pro**verb-proˈ**ver**bial
-ic	ˈ**clim**ate – cliˈ**ma**tic
-ious	ˈ**in**jure – inˈ**jur**ious
-ty	ˈ**trans**quial – transˈ**quial**ity
-ive	ˈ**re**flex – reˈ**flex**ive

5. DANIEL JONES' RULES OF STRESS PLACEMENT WITHIN SIMPLE AND COMPLEX WORDS [13, pp.111-120]

Rule 1: Two syllable words of which the first syllable is a prefix not having a distinct meaning of its own are generally stressed on the second syllable.

e.g. aˈ**way**, abˈ**surd**, adˈ**dress**, aˈˈ**low**, aˈp**peal**, aˈr**rive**, aˈscent, beˈ**come**, coˈˈ**llapse**, comˈ**pose**, coˈr**rect**, deˈ**fence**….

There are a great many exceptions such as ***ab****scess, **ab****sence, **ac****cent*…

Rule 2: Most two-syllable words without prefixes are stressed on the first syllable, and in particular those with the following ending: -ace, -ad,-age, -ain, -al, -am, -an, -ance, -and, -ant, -ar, -ard, -ast, -ate, -ed, -edge,-ege, -el, -en, -ence, -ent, -er, -et, -ey, -ice, -id, -idge, -il, -ile, -in, -ine, -ing, -ip, -ise, -ish, -ist, -it, -ite, -ix, -le, -ode, -ol, -on, -or, -ot,-our, -ous, -ow, -re preceded by a consonant.

e.g. ˈ**fur**nace, ˈ**bal**lad, ˈ**lug**gage, ˈ**moun**tain, ˈ**met**al

Rule 3: Three syllable words beginning with a monosyllabic prefix are generally stressed on the second syllable.

e.g. aˈc**com**plish, aˈd**jac**ent, aˈp**par**el, aˈp**pend**age, aˈp**pren**tice, aˈs**sem**ble, conˈ**sid**er, diˈ**min**ish, disˈ**fig**ure, disˈ**hear**ten, disˈ**tur**bance.

Rule 4: In three syllable words not beginning with a prefix the stress generally is on the first syllable, and in particular when the word has one of the following endings: -ace, -age, -ain, -al, -an, -ance, -ant, -ar, -ege, -el, -en, -ence, -ent, -er, -et, -ice, -id, -il, -ish, it, -le.

e.g. ˈ**pop**ulace, ˈ**av**erage, ˈ**cham**berlain, ˈ**can**nibal, ˈ**pel**ican, ˈ**vig**ilance, ˈ**dom**inant, ˈ**vin**egar, ˈ**priv**ilege, ˈ**sen**tinel

Rule 5: Three syllable words ending in –able, -acle, ible, -icle, -ile, -ine, -ise, -ite, -uble, -ule, -ute, -ycle, -yte are stressed on the first syllable whether they begin with a prefix or not.

e.g. ˈ**pa**rable, ˈ**ob**stacle, ˈ**pos**sible, ˈ**art**icle, ˈ**mer**cantile, ˈ**pro**jectile, ˈ**dis**cipline, ˈ**col**umbine, ˈ**sub**marine…

Rule 6: Words of three or more syllables ending in –cy, -gy, -my, -ny (excluding words of four or more syllables ending in –mony) –phy, -py, -try, -sy, -ty, and –ous are stressed on the last syllable but two.

e.g. arisˈ**toc**racy, ˈ**let**hargy, geneˈ**ol**ogy, asˈ**tro**nomy, ˈ**cal**umny, maˈ**hog**any, ˈ**at**rophy, phoˈ**to**graphy

Rule 7: Words of three or more syllables ending in –ate, -form, -rr, ize (-ise), -ogue, -ude are stressed on the last syllable but two.

e.g. ˈ**dev**astate, cerˈ**tif**icate, ˈ**un**iform, perˈ**son**ify, physiˈ**ol**ogist, moˈ**nop**olise, ˈ**cat**alogue, soˈ**lic**itude

Rule 8: Words of four or more syllables ending in –ance, -ant, -ence, -ent are stressed on the last syllable but one when the termination is preceded by two or more consecutive consonant letters, but on the last syllable but two in other cases.

e.g. exˈ**tra**vagance, equiˈ**dis**tant, iˈ**tin**erant, convaˈ**les**cence, cirˈ**cum**ference, corresˈ**pon**dent.

Rule 9: Words of four or more syllables ending in –sm (the m counting as a syllable) are generally stressed on the last syllable but three.

e.g. enˈ**thu**siasm, Caˈ**tho**licism.

Rule 10: Words of four or more syllables ending in-able, but which are not formed from other words, are stressed on the last syllables but three.

e.g. indeˈ**fat**igable, aˈ**bom**inable, ˈ**am**icable

Rule 11: Words of four or more syllables ending in –ible are stressed (i) on the last syllable but two or more consecutive consonant letters, but (ii) on the last syllable but three in other cases.

e.g. perˈ**cep**tible, resˈ**pon**sible, ˈ**el**igible, ˈ**cor**rigible

Rule 12: Words of four or more syllables ending in –ry are generally stressed on the last syllable but three.

e.g. ˈ**cer**emony, ˈ**tes**timony

Rule 13: Words of four or more syllables ending in –ry are generally stressed on the last syllable but three

e.g. ˈ**ad**versary, ˈ**prom**ontory, deˈ**rog**atory

Rule 14: **Words ending in –able which are formed from other words, take the stress of the words from which they are formed.**

e.g. con'**sid**erable, '**mea**surable, a'**ttain**able

Rule 15: Most words ending in ade, -ee, -eme,-ene, -esce, -esque, -ette, -ier (not including substantives formed from verbs in –y, e.g. copier from copy), -oo, -oon, and two syllable words ending in –use, -ute are stressed on the last syllable.

e.g. cas'**cade**, prome'**nade**, les'**see**, refe'**ree**

Rule 16: Words formed by the addition of –dom, -er, -ess, -ful, -hood, -ish, -less, -ly, -ment, -monger, -most, -ness, -or, -ship, -some, -ture, -ward(s), -ways,-what,-wise, to other words take the stress of the words from which they are formed. So also with the verbal terminations –ed, -es, -ing and the plural termination –es.

e.g. '**Chris**tendom, '**for**eigner, manu'**fac**turer, fre'**quen**ter, '**shep**herdess, '**won**derful, '**brot**herhood, '**yell**owish, re'**morse**less

Rule 17: Words ending in –iac, -ial, ian, -iance, -iant, -iary, -ic, -ical, -ience, -iency, -ient, -ion, -ior, -ior, -ious, -um, -acal, -eous, -ocal, -ual are stressed on the syllable immediately preceding the termination.

e.g. am'**mon**iac, ju'**dic**ial, me'**mor**ial, li'b**ra**rian, mathema'**ti**cian, a'l**leg**iance, lu'**xur**iant, sub'**sid**iary, ter'**rif**ic, eco'**no**mic.

6. PLACEMENT OF STRESS WITHIN COMPOUND WORDS

6.1. N+N Compounds

Noun+Noun compounds normally have the stress on the first element,

e.g. '**type**writer, '**car**-ferry, '**sun**rise, '**suit**case, '**tea**-cup

6.2. Adj.+ -ed morpheme compounds

Compounds with an adjectival first element and the -ed morpheme at the end receive stress on the second element

e.g. bad-'**tempered**, half-'**timbered**, heavy-'**handed**

6.3. Number+Noun compounds

Compounds in which the first element is a number also tend to have final stress, e.g.three-'**wheeler**, second-'**class**, five-'**finger**

6.4. Compounds functioning as adverbs

Compounds functioning as adverbs are usually final-stressed,

e.g. head-'**first**, North-'**East**, down'**stream**

6.5. Compounds functioning as verbs

Compounds functioning as verbs and have an adverbial first element take final stress, e.g. down-ˈ**grade**, back-ˈ**pedal**, ill-ˈ**treat**.

7. VARIABLE STRESS

e.g. 1. ˈ**Con**troversy - conˈ**tro**versy

2. ˈ**Ice**-scream - iceˈ-**cream**

3. ˈ**Kil**ometer - kiˈ**lom**eter

8. WORD-CLASS PAIRS

There are several dozen pairs of two-syllable words with identical spelling which differ from each other in stress placement, apparently according to word class. All appear to consist of prefix + stem. The stress will be placed on the first syllable of the word if it is a noun or an adjective and on the second syllable if it is a verb.

Table VI.4: Stress patterns of two-syllable words [23, p.101]

Stress on the first syllable	Stress on the second syllable
ˈ**ab**stract (Adj)	abˈ**stract** (N)
ˈ**con**duct (N)	conˈ**duct** (V)
ˈ**con**tract (N)	conˈ**tract** (V)
ˈ**con**trast (N)	conˈ**trast** (V)
ˈ**des**ert (N)	deˈ**sert** (V)
ˈ**es**cort (N)	esˈ**cort** (V)
ˈ**ex**port (N)	exˈ**port** (V)
ˈ**im**port (N)	imˈ**port** (V)
ˈ**in**sult (N)	inˈ**sult** (V)
ˈ**ob**ject (N)	obˈ**ject** (V)
ˈ**per**fect (A)	perˈ**fect** (V)
ˈ**per**mit (N)	perˈ**mit** (V)
ˈ**pre**sent (N, Adj.)	preˈ**sent** (V)

9. DIFFERENCES BETWEEN BRITISH ENGLISH AND AMERICAN ENGLISH IN WORD-STRESS LOCATION [30]

9.1. French stress

For many loanwords from French where **AmE** has final-syllable stress, **BrE** stresses an earlier syllable. Such words include:

BrE first-syllable stress:

e.g. adultˌ, ballet, baton, beret, bidet, blasé, brevet, brochure, buffet, café, canard, chagrin, chalet, chauffeurˌ, chiffon, cliché, coupé, croissant, debris, debut, décor, detail, détente, flambé, frappé, garage, gateau, gourmet, lamé, montage, parquet, pastel, pastille, pâté, précis, sachet, salon, soupçon, vaccine; matinée, négligée, nonchalant, nondescript; also some French names, including Bernard, Calais, Degas, Dijon, Dumas, Francoise, Manet, Maurice, Monet, Pauline, Renault, René, Renoir, Rimbaud, Delacroix.

BrE second-syllable stress:

e.g. attaché, consommé, décolleté, déclassé, De Beauvoir, Debussy, démodé, denouement, distingué, Dubonnet, escargot, exposé, fiancé(e), retroussé

A few French words have other stress differences:

AmE first-syllable, **BrE** last-syllable:

e.g. address (postal), moustache; cigarette, limousine, magazine,

AmE first-syllable, **BrE** second-syllable:

e.g. liaison, macramé, Renaissance (AmE also final-syllable stress)

AmE second-syllable, **BrE** last-syllable:

e.g. *New Orleans*

9.2. -ate and -atory

Most 2-syllable verbs ending *-ate* have first-syllable stress in **AmE** and second-syllable stress in BrE. This includes *castrate, dictate, donate, locate, mandate, migrate, placate, prostrate, pulsate, rotate, serrate*ˌ*, spectate, striated, translate, vacate, vibrate*; in the case of *cremate, narrate, placate*, the first vowel is in addition reduced to /ə/ in **BrE**. Examples where **AmE** and **BrE** match include *create, debate, equate, elate, negate, orate*, relate with second-syllable stress (though in American usage, orate occasionally attracts first-syllable stress); and mandate and probate with first-syllable stress. Derived nouns in -ator may retain the distinction, but those in -ation do not. Also, *migratory* and *vibratory* retain the distinction.

Most longer *-ate* verbs are pronounced the same in **AmE** and **BrE**, but a few have first-syllable stress in **BrE** and second-syllable stress in **AmE**: *elongate*, *infiltrate*, *remonstrate*, *tergiversate*. However, some derived adjectives ending *-atory* have a difference, as stress shifting to *-at-* can occur in **BrE** with the final vowel sound being omitted, in this case, the "o". Among these cases are *regulatory* /ˌrɛg.jʊˈleɪ.tər.i/, *celebratory* /ˌsɛl.ɨ ˈbreɪ.tər.i/, *participatory* /pɑːˌtɪ.sɨˈpeɪ.tər.i/, where **AmE** stresses the same syllable as the corresponding *-ate* verb; and *compensatory* /kəmˈ pɛnsətɔːri/, where **AmE** stresses the second syllable.

A further *-atory* difference is *laboratory*: **AmE** /ˈlæb.rə.tɔːr.i/ and **BrE** /lə ˈbɒr.ə.tri/.

9.3. Miscellaneous stress

There are a number of cases where same-spelled noun, verb and/or adjective have uniform stress in one dialect but distinct stress in the other (e.g. *alternate*, *prospect*):

The following table lists words where the only difference between **AmE** and **BrE** is in stress (possibly with a consequent reduction of the unstressed vowel). Words with other points of difference are listed in another table.

Table VI.5: Words with relevant syllable stressed in each dialect

BrE	AmE	words with relevant syllable stressed in each dialect
1st	2nd	caffeine, cannot, casein, Kathleen, Suez, communal, escalope', harass, omega, paprika', patina, subaltern, stalactite, stalagmite, Thanksgiving', transference, aristocrat', kilometer / kilometer
2nd	1st	defense (sport), guffaw, ice cream', guru, mama, papa, pretense, princess', weekend, Canton, angina, Augustine, Bushido, Ghanaian, Lofoten, marshmallow, patronal, spread-eagle, controversy, formidable, hospitable', miscellany, predicative, saxophonist, submariner, ancillary, capillary, catenary, corollary, fritillary, medullary, advertisement
1st	3rd	premature, opportune
3rd	1st	margarine, Pyrenees, cockatoo
3rd	2nd	arytenoid, oregano, obscurantist

9.4. Affixes

9.4.1. -ary -ery -ory -bury, -berry, -mony

Where the syllable preceding *-ary*,*-ery* or *-ory* is stressed, AmE pronounce all these endings /əriː/, while BrE pronounce these endings without the vowel sound, similar to that of atory, where the "o" isn't pronounced. Where the preceding syllable is unstressed, however, **AmE** has a full vowel rather than schwa: /ɛri/ for *-ary* and *-ery* and /ɔri/ for *-ory*. **BrE** retains the reduced vowel /əriː/, or even elides it completely to /riː/. (The elision is avoided in carefully enunciated speech, especially with endings *-rary*,*-rery*,*-rory*.) So *military* is **AmE** /ˈmɪlɪtɛriː/ and **BrE** /ˈmɪlɪtəriː/ or /ˈmɪlɪtriː/. Likewise, *inventory* is **AmE** /ˈɪnvəntɔriː/ and **BrE** /ˈɪnvəntəriː/ or /ˈɪnvəntriː/.

Note that stress differences occur with ending *-atory* (explained above) and a few others like *capillary* (included above). A few words have the full vowel in **AmE** in the ending even though the preceding syllable is stressed: *library*, *primary*, *rosemary*. Pronouncing *library* as /ˈlaɪbɛriː/ rather than /ˈlaɪbrɛriː/ is highly stigmatized in **AmE**, whereas in **BrE**, /ˈlaɪbriː/ is common in rapid or casual speech.

Formerly the **BrE**-**AmE** distinction for adjectives carried over to corresponding adverbs ending *-arily*, *-erily* or *-orily*. However, nowadays most **BrE** speakers adopt the **AmE** practice of shifting the stress to the antepenultimate syllable: *militarily* is thus /ˌmɪlɪˈtɛrɪliː/ rather than /ˈmɪlɪtrɪliː/.

The place name component *-bury* (e.g. *Canterbury*) has a similar difference after a stressed syllable: **AmE** /bɛri/ and BrE /brɪː/ or /bərɪː/. The ending *-mony* after a stressed syllable is **AmE** /moʊni/ but **BrE** /mənɪː/. The word *-berry* in compounds has a slightly different distinction: in **BrE**, it is reduced (/bəriː/ or /briː/) after a stressed syllable, and may be full /bɛriː/ after an unstressed syllable; in AmE it is usually full in all cases. Thus, *strawberry* is BrE /ˈstrɔːbəriː/ but **AmE** /ˈstrɔbɛriː/, while *whortleberry* is **BrE** /ˈwɔːtlbɛriː/ and similarly **AmE** /ˈwɔrtlbɛriː/.

9.4.2. -ile

Words ending in unstressed *-ile* derived from Latin adjectives ending *-ilis* are mostly pronounced with a full vowel (/aɪl/) in **BrE** but a reduced vowel /ɪl/ or syllabic [l] in **AmE** (e.g. *fertile* rhymes with *fur tile* in BrE but with *furtle* in **AmE**). This difference applies:

a-generally to *agile, docile, facile, fertile, fissile, fragile, futile, infertile, missile, nubile, octile, puerile, rutile, servile, stabile, sterile, tactile, tensile, virile, volatile*;

b-usually to *ductile, hostile, (im)mobile* (adjective), *projectile, textile, utile, versatile*;

c-not usually to *decile, domicile, infantile, juvenile, labile, mercantile, pensile, reptile, senile*;

d-not to *crocodile, exile, gentile, percentile, reconcile*; nor to compounds of monosyllables (e.g. *turnstile* from *stile*).

Related endings -ility, -ilize, -iliary are pronounced the same in **AmE** as **BrE**. The name *Savile* is pronounced with (/ɪl/) in both BrE and AmE. *Mobile* (sculpture), *camomile* and febrile are sometimes pronounced with /il/ in AmE and /aɪl/ in BrE. *Imbecile* has /aɪl/ or /iːl/ in **BrE** and often /ɪl/ in **AmE**.

9.4.3. -ine

The suffix *-ine*, when unstressed, is pronounced sometimes /aɪn/ (e.g. *feline*), sometimes /iːn/ (e.g. *morphine*) and sometimes /ɪn/ (e.g. *medicine*). Some words have variable pronunciation within **BrE**, or within **AmE**, or between **BrE** and **AmE**. Generally, **AmE** is more likely to favour /iːn/ or /ɪn/, and **BrE** to favour /aɪn/ (e.g. *adamantine, carbine, crystalline, labyrinthine, philistine, serpentine, turbine).* However, sometimes **AmE** has /aɪn/ where **BrE** has /iːn/ (e.g. *iodine, strychnine*).

CHAPTER VI EXERCISES

I-Questions for discussion:

1-How is **word-stress** defined?

2-Why is it difficult to trace any strict system of stress in English?

3-What is the trong tendency in the English language concerning word-stress?

4-What effects do affixes have on the placement of stress in a word?

5-On what element does the stress fall on the compound noun?

6- On what syllable do the two-syllable words have the main stress when a-a noun, b-a verb?

II-T / F: Decide whether the following statements are true or false:

1-Word-stress can be defined as the tendency to pronounce the stressed syllables at more or less regular intervals of time.

2-The prominence in the word stress can be produced by the following factors: a-loudness, b-length, c-pitch and d-quality.

3-There is a strong tendency in the English language to stress the initial syllable in a word.

4-English is a language which has fixed stress in the sense that the stress always falls on the last syllable in a word.

5-If the second syllable of a two-syllable verb contains a long vowel or diphthong, or if it ends in more than one consonant, that second syllable is stressed.

6-Three-syllable simple nouns usually have the stress placed on the first syllable.

7-In three-syllable verbs, if the last syllable contains a short vowel and ends in not more than one consonant, stress will be placed on the preceding syllable.

8-Suffixes such as *–able,-age, -al, -erg*……..change the place of stress in a word.

9-The difference between a compound and a phrase is that a compound usually has the single -stress pattern.

10-The stress falls on the initial syllable in the word *family*.

III-Multiple-Choice: Choose the best answer:

1	……..is defined as the prominence given to certain syllables in a word by the use of greater breath force.			
	A-Rhythm	B-Word-stress	C-Timbre	D-Assimilation
2	Which of the following factors can not be used to produce word-stress?			
	A-Loudness	B-Length	C-Pitch	D-Meaning
3	Which of the following is not true? A-In English, the stress always falls on the last syllable of any word. B-French is the language where the last syllable usually stressed.			

	C-Polish is the language where the penultimate syllable is usually stressed. D-Czech is the language where the first syllable is stressed.			
4	On which syllable does the stress fall on the words **family**, **cinema**			
	A-first syllable	B-second syllable	C-third syllable	D-last but one
5	Which of the following words has the stress not falling on the first syllable from the beginning?			
	A-family	B-cinema	C-intellect	D-advantage
6	Which of the following words has the stress falling on the suffix added to the word?			
	A-readable	B-photography	C-mountaineer	D-speaking
7	Which of the following words has the place of stress unchanged when a suffix is added to the word?			
	A-entertainment	B-evacuee	C-proverbial	D-expensive
8	Which of the following words has the shifted stress when the suffice is added?			
	A-advantage-advantageous	B-read-readable	C-govern-government	D-Wide-widen
9	Which of the following words has the stress falling on the last syllable?			
	A-mountaineer	B-teaching	C-photography	D-perfection
10	Which of the following words has the case of varied stress?			
	A-widely	B-looking	C-ice-cream	D-climate

IV-Pratice: Listen to the pronunciation of the following words, paying attention to the word-stress patterns (Audio VI.1 and Audio VI.2) [23, pp.211-215].

1.

Excerse 1: Stress marking

When you hear the word, repeat it, then place a stress mark ˈ before the stressed syllable

Enemy substract

Collect elephant

Capital observer

Carnation profit

Paradise entertain

Exercise 2 Pronouncing from transcription

The following are British place-names. When you hear the number, pronounce them with the stress as marked. You will then hear the correct pronunciation, which you should repeat:

1. Shrewsbury **6**. Birmingham

2. Polperro **7**. Northampton

3. Aberdeen **8**. Dundee

4. Wolverhampton **9**. Canterbury

5. Aberystwyth **10**. Basingstoke

Exercise 3 placing stress on verbs, adjectives and nouns

When you hear the number, pronounce the word with the appropriate stress. You will hear the correct pronunciation, which you should repeat.

Two-syllable words:

Verbs

1. deceive **6**. object

2. sharpen **7**. conquer

3. collect **8**. record

4. pronounce **9**. Polish

5. copy **10**. depend

Adjectives

1. easy **6**. yellow

2. complete **7**. early

3. major **8**. sublime

4. alone **9**. heavy

5. below **10**. alive

Nouns

1. bishop **6**. office

2. aspect **7**. array

3. affair **8**. patrol

4. carpet **9**. dentist

5. defeat **10**. Autumn

Three-syllable words:

Verbs

1. entertain **6**. elicit

2. resurrect **7**. commandeer

3. abandon **8**. imagine

4. deliver **9**. determine

5. interrupt **10**. separate

Adjectives

1. important **6**. insolent

2. enormous **7.** fantastic

3. derelict **8.** negative

4. decimal **9**. accurate

5. abnormal **10**. unlikely

Nouns

1. furniture **6**. cathedral

2. disaster **7**. holocaust

3. disciple **8**. transistor

4. ambulance **9**. accident

5. quantity **10**. tomato

2.

Exercise 1 Stress-carrying suffix

When you hear the number, pronounce the word with stress on the suffix. You will the hear the correct pronunciation which you should repeat:

1. –ain: entertain **4**. –ese: Portuguese

2. –ee: refugee **5**. –ette: cigarette

3. –eer: mountaineer **6**. –esque: pictureasque

When you hear the stem word, say the word with the given suffixe, putting the stress on that suffix. In these examples, a secondary stress comes on the penultimate syllable of the stem:

Employ +-ee absent + -ee

Engine +-eer profit + -eer

Sudan +-ese Pekin + -ese

Usher +-ette statue +-ette

Exercise 2 Neutral suffixes

When you hear the stem word, add the suffix without changing the stress

Comfort +-able power +-less

Anchor +-age hurried +-ly

Refuse +-al punish +-ment

Wide +-en yellow +-ness

Wonder +-ful poison +-ous

Amze +-ing glory +-fy

Devil +-ish other +-wise

Bird +-like fun +-y

Exercise 3 Stress-moving suffixes

When you hear the stem word, say it with the suffix added and put 1 stress on the last syllable of the stem

Advantage + -eous injure + -ious

Advantage	+ -eous	tranquil	+ -ity
Photo	+ -graphy		
Proverb	+ -ial	reflex	+ -ive
Climate	+ -ic	embryo	+ –logy

Exercise 4: Compound words

When you hear the number, say the item

a) First element adjectival, stress on the second element

1. loudspeaker **4**. second-class

2. bad-tempered **5**. three-wheeler

3. headquarters

b) First element nominal, stress on first element

1. typewriter **4**. suitcase

2. carferry **5**. tea-cup

3. sunrise

c) mixture of type (a) and (b)

1. long-suffering **4**. red-blooded

2. gunman **5**. gear-box

3. shoelace **6**. overweight

Exercise 5: Word-class pairs

You will hear the number of the item and its word-class. Stress the second syllable if it is a verb; stress the first syllable if it is a noun or adjective:

1. abstract (adjective) **10**. object (noun)

2. conduct (verb) **11**. perfect (adjective)

3. contract (noun) **12**. permit (verb)

4. contrast (verb) **13**. present (adjective)

5. desert (noun) **14**. produce (verb)

6. escort (Noun) **15**. protest (Noun)

7. export (verb) **16**. rebel (verb)

8. import (noun) **17**. record (noun)

9. insult (verb) **18**. Subject (noun)

CHAPTER VII – ASPECTS OF CONNECTED SPEECH

Chapter VII Contents

1. ASSIMILATION AND ACCOMMODATION [27, pp.70-75]

1.1. What is assimilation

Two adjacent consonants within a word or at word boundaries often influence each other in such a way that the articulation of one sound becomes similar to or even identical with the articulation of the other one. This phenomenon is called assimilation.

The consonant whose articulation is modified under the influence of a neighbouring consonant is called the **assimilated sound**. The consonant which influences the articulation of a neighbouring consonant is called the **assimilating sound.**

While by assimilation we mean a modification in the articulation of a consonant under the influence of a neighbouring consonant, **the modification in the articulation of a vowel under the influence of an adjacent consonant, or, vice versa, the modification in the articulation of a consonant under the influence of an adjacent vowel is called adaptation, or accommodation.**

1.2. Types of assimilation

1.2.1. Historical Assimilation

If the present-day pronunciation of a word is the result of an assimilation which took place at an earlier stage in the history of the language we have the so-called **historical assimilation**.

Thus, a regular series of assimilations took place in the English language in words where the consonants /s/, /z/, and /t/ were followed by /j/ provided these consonant combinations occurred in unstressed syllables. Reciprocal assimilation which took place in the combinations of /sj/, / zj / and /tj/ changed them into /ʃ/, /dʒ/ and /ʧ/ respectively:

e.g. 1. Occasion /okazjõn/ → / əˈkeiʒən/

2. Session /sesjõn/ → /ˈseʃən/

3. Question /kwestjõn/ → /ˈkweʧən/

4. Nature /natiur/ → /ˈneiʧə/

The existence of two pronunciations of the word *issue* /isju:/, /iʃju:/, and /iʃu:/ shows that assimilations of this type are still going on in the English language.

1.2.2. Contextual Assimilation

When putting words together to form a compound word, a phrase or a sentence, a different type of assimilation takes place. It is called **contextual assimilation**. In contextual assimilation a word comes to have a pronunciation different from that which it has when said by itself,

e.g. 1. horse shoe /hɔːs ʃuː/ → [hɔːʃʃuː]

2. does she /d^z ʃiː/ → [d^ʃʃiː]

3. used to /juːzd tu/ → [juːsttə]

1.2.3. Degrees of Assimilation

Assimilation can be of three degrees: **complete, partial** and **intermediate**:

Assimilation can be said to be complete when the articulation of the assimilated consonant coincides with that of the assimilating one,

e.g. horse shoe /hɔːs ʃuː/ → [hɔːʃʃuː].

Assimilation is said to be partial when the assimilated consonant retains its main phonetic features and becomes only partly similar in some feature of articulation to the assimilating one. For example, when the consonants /t/, /d/, /n/, /l/, /s/ or /z/ are followed by the dental consonant /θ/ or /ð/, the main features of the alveolar consonants are retained, but the point of articulation is changed, and they are replaced by the dentalised variants of the alveolar phonemes under the influenced of the dental consonants /θ/ or /ð/. Thus, we have dentalised alveolar consonants: [t̪], [d̪], [n̪], [l̪], [s̪] or [z̪].

In *twice* [twais], *please* [pliːz], *try* [trai], the principal (fully voiced) variants of the phonemes [w], [l], [r] are replaced by their devoiced variants [w̥], [l̥], [r̥], while their main phonemic features are retained

The degree of assimilation is said to be intermediate between complete and partial when the assimilated consonant changes into a different sound, but does not coincide with the assimilating consonant. Examples of intermediate assimilation are *gooseberry* /ˈgʊzbəri /, where /s/ in *goose* is replaced by /z/ under the influence of /b/ in *berry*; *congress* /kɔŋres/ where /n/ is replaced by /ŋ/ under the influence of /g/. In *That's all right* [ðæts ɔːl rait], [s] has replaced [z] under the influence of [j].

1.2.4. The Direction of Assimilation

Assimilation is of three types as far as the direction is concerned: **progressive, regressive** and **double** (or **reciprocal**).

Assimilation is called progressive when the sound that comes first affects the sound that comes after it. Examples are the noun plural forms /s/, /z/ and /iz/.

Assimilation is regressive when the sound that comes first is affected by the sound that comes after it, examples of which are the different forms Il-, Im-, Il- of the same morpheme meaning not. Other examples are when the consonants /t/, /d/, /n/, /l/, /s/ or /z/ are followed by [ð] or [θ] and replaced by dentalised alveolar consonants: [t̪], [d̪], [n̪], [l̪], [s̪] or [z̪].

In reciprocal, or double, assimilation two adjacent consonants influence each other. For example, when [t] as in *don't* is immediately followed by [j] as in *you*, the consonant [t] devoces [j] and under the influence of this the devoiced [j] acquires tongue-front coarticulation and thus changes into [ʧ]. Examples are *don't you* → [doʊnʧʊ], *can't you* → [ka:nʧʊ]. When [j] is preceded by [d] the former disappears giving [d] tongue-front coarticulation. As a result, [dj] is replaced by [ʤ]. Examples are *Did you* → [diʤʊ], *Could you* → [kʊʤʊ]

1.2.5. Assimilation of place, of manner, and of voicing

We can identify assimilation of place, of manner and of voicing in consonants. Assimilation of place is most clearly observable in some cases where a final consonant with alveolar place of articulation is followed by an initial consonant with a place of articulation that is not alveolar. For example, the final consonant in *that* is alveolar [t]. In rapid, casual speech the [t] will become [p] before a bilabial consonant, as in *that person* [ðæp pɜ:sn̩]; *light blue* [laip blu:]; *meat pie* [mi:p pai]. Before a dental consonant, [t] will change to a dental plosive, for which the symbol is [t̪], as in *that thing* [t̪ θiŋ]; *get those* [ge t̪ ðəʊz].

Assimilation of manner is much less noticeable, and is only found in the most rapid and casual speech; generally speaking, the tendency is again for regressive assimilation and the change in manner is most likely to be towards an easier consonant – one which makes less obstruction to the airflow. It is possible to find cases where a final plosive becomes a fricative or nasal,

e.g. *that side* [ðæs said]; *good night* [gʊn nait].

Assimilation of voice is also found, but again only in a limited way. An example is *I like that black dog* [I laik ðæt blæk dɒg]. It is typical of many foreign learners of English to allow regressive assimilation of voicing to change the final k of *like* to [g], the final t of *that* to [d] and the final k of *black* to [g].

1.3. Accommodation

In accommodation the accommodated sound does not change its main phonemic features and is pronounced as a variant of the same phoneme slightly modified under the influence of a neighbouring sound. In modern English there are three main types of accommodation.

1.3.1. An unrounded variant of a consonant phoneme is replaced by its rounded variant under the influence of a following rounded vowel phoneme, as at the beginning of the following words:

Unrounded variants of consonant phonemes	**Rounded variants of consonant phonemes**
[ti:] tea	[tu:] too
[les] less	[lu:s] loose
[nʌn] none	[nu:n] noon

1.3.2. A fully back variant of a back vowel phoneme is replaced by its slightly advanced (fronted) variant under the influence of the preceding mediolingual phoneme [j], Cf.

Fully back variant of [u:]	**Fronted variant of [u:]**
[ˈbu:ti] booty	[ˈbju:ti] beauty
[mu:n] moon	[ˈmju:zik] music

1.3.3. A vowel phoneme is represented by its slightly more open variant before the dark [ɬ] under the influence of the latter's back secondary focus. Thus, the vowel sound in *bell*, *tell* is slightly more open than the vowel in *bed*, *ten*.

2. ELISION [23, P.127]

2.1. What is elision?

The nature of elision may be stated quite simply: **under certain circumstances sounds disappear**; one might express this in more technical language by saying that **in certain circumstances a phoneme may be realized as zero, or have zero realization or be deleted**. As with assimilation, elision is typical of rapid, casual speech; the process of change in phoneme realizations produced by changing the speed and casualness of speech is sometimes called gradation. Producing elisions is something which foreign learners do not need to learn to do, but it is important for them to be aware that when native speakers of English talk to each other, quite a number of phonemes that the foreigner might expect to hear are not actually pronounced. We will look at some examples, though only a small number of the many possibilities can be given here.

2.2. Types of elision

2.2.1. Loss of weak vowel after p, t, k

In words like *potato*, *tomato*, *canary*, *perhaps*, *today*, the vowel in the first syllable may disappear; the aspiration of the initial plosive takes up the whole of the middle portion of the syllable, resulting in these pronunciations (where ^{h} indicates aspirations):

e.g. [p^{h} teitəʊ], [t^{h}ma:təʊ], [k^{h}næri], [p^{h}hæps], [t^{h}dei]

2.2.2. Weak vowel +n, l or r becomes syllabic consonant

e.g. tonight →[tn̩ait]; police →[pl̩i:s]; correct →[kr̩ekt]

2.2.3. Avoidance of complex consonant clusters

e.g. looks backs →[lʊk bæk]; acts →[æks]

2.2.4. Loss of final v in "of" before consonants

e.g. lots of them →[lɒts ə ðəm]; waist of money:[weist ə mʌni]

2.2.5. Contractions

e.g. I would → I'd; He is →He's

3. LINKING – INTRUSION [15, pp.111-112]

3.1. Linking /r/

3.1.1 Linking /r/

Some accents of English are described as **rhotic**, which means that when the leter *r* appears in the written word after a vowel (as in *car* or *carve*), the /r/ phoneme is used in the pronunciation of the word (as in [ka:r] and [ka:rv]. Examples are most of dialects of American English, Irish English and certain British regional accents.

Other accents are non-rhotic, and do not pronounce the /r/, so we get [ka:] and [ka:]. RP (Received Pronunciation) is non-rhotic. When, however, there is a written r at the end of a word and it occurs between two vowel sounds, speakers with non-rhotic accents often use the phoneme /r/ to link the preceding vowel to a following one.

e.g. 1. Her English is excellent. (/r/ is pronounced).

2. Her German is absolutely awful, though! (/r/ is not pronounced).

3. My brother lives in London (/r/ is not pronounced).

4. My brother always phones at the wrong time (/r/ is pronounced)

3.1.2. Intrusive /r/

Where two vowel sounds meet and there is no written letter /r/, speakers with non-rhotic accent still often introduce the /r/ phoneme in order to ease the transition. This happens when the first word ends in /ə/, /a:/ or /ɔ:/. Speakers with rhotic accents tend not to do this.

e.g. 1. Princess Diana was a victim of media exploitation. ([əre])

2. The media are to blame. ([əra:])

3. It's a question of law and order. ([ɔ:rən]).

4. I saw it happen. ([ɔ:ri])

Some speakers also let an /r/ intrude within words like *drawing* (pronouncing it as /drɔ:riŋ/)

3.2. Linking /j/

When a word ends in /i:/, or a diphthong which finishes with /i/, speakers often introduce a /j/ to ease the transition to a following vowel sound:

e.g. 1. I agree, wholeheartedly. ([aijə])

2. I think; therefore, I am (Descartes) [aijæm]

This happens because in order to form /i:/ and /ɪ/, the mouth is in more or less the same position as it is for the start of the semi-vowel /j/.

3.3. Linking /w/

When a word ends in /u:/, or a diphthong which finishes with /ʊ/, speakers often introduce a / w / to ease the transition to a following vowel sound:

e.g. 1. Go on! Go in! ([gəʊwɔn], [gəʊwin])

2. Are you inside, or are you outside? ([ju:win], [ju: waʊt])

This happens because in order to form /u:/ and /ʊ/, the mouth is in more or less the same position as it is for a start of the semi-vowel /w/.

4. WEAK FORMS [23, PP.102-109]

4.1. Weak forms

In English speech, there are certain words which have two forms of pronunciation: a-strong (or full form) and b-weak (or reduced form).

e.g. can [kæn] (strong form)

[kən] [kn] (weak form)

Almost all the words which have both a strong and weak form belong to a category that may be called function words – words that do not have a dictionary meaning in the way that we normally expect nouns, verbs, adjectives and adverbs to have. These function words are words such as auxiliary verbs, prepositions, conjunctions, etc., all of which are in certain circumstances pronounced in their strong forms but which are more frequently pronounced in their weak forms. It is important to remember that there are certain contexts where only the strong form is acceptable, and others where the weak form is the normal pronunciation. There are some fairly simple rules; we can say that the strong form is used in the following cases:

a-For many weak-form words, when they occur at the end of a sentence. For example, the word “of” has the weak form əv in the following sentence:

e.g. I'm fond of ([əv]) chips

But when it comes at the end of the sentence, as in the following example, it has the strong form ɒv:

e.g. Chips are what I'm fond of [ɒv]

b-When a weak-form word is being contrasted with another word:

e.g.The letter's from [frɒm] him, not to [tu:] him.

c-When a weak-form word is given stress for the purpose of emphasis:

e.g.You must [mʌst] give me more money.

d-When a weak-form word is being “cited” or “quoted”:

e.g.You should put “and” [ænd] at the end of a sentence.

4.2. Common weak form words

In the following part, the most common weak-form words will be introduced:

4.2.1. THE

Weak form: [ðə] (before consonants)

e.g. Shut the [ðə] door.

[ði] (before vowels)

e.g.Wait for the [ði] end.

4.2.2. A, AN

Weak forms: [ə] (before consonant)

e.g. Read a [ə]book.

[ən] (before vowels)

e.g. Eat an [ən] apple.

4.2.3. AND

Weak form: [ən] (sometimes ṇ after t, d, s,z,ʃ)

e.g. 1. Come and [ən] see.

2. Fish and [ṇ] chips

4.2.4. BUT

Weak form [bət]

e.g. It's good but [bət] expesive.

4.2.5. THAT (This word only has a weak form when used in a relative clause; when used with a demonstrative sense it is always pronounced in its strong form.).

Weak form [ðət]

e.g. The price is the thing that [ðət] annoys me.

4.2.6. THAN

Weak form [ðən]

e.g. Better than [ðən] ever.

4.2.7. HIS (When it occurs before a noun)

Weak form: [iz] ([hiz] at the beginning of a sentence)

e.g.Take his [iz] name.

4.2.8. HER_[ə] (When used with possessive sense, preceding a noun; as an object pronoun, this can also occur at the end of a sentence.)

Weak forms :[ə] (before consonants)

e.g. Take her [ə] home.

[ər] (before vowels)

e.g. Take her [ər] out.

4.2.9. YOUR

Weak forms: [jə] (before consonants)

e.g. Take your [jə]time.

[jər] (before vowels)

e.g. On your [jər] own.

4.2.10. SHE, HE, WE, YOU

This group of pronouns has weak forms pronounced with weaker vowels than the i: and u: of their strong forms. The symbols i and u will be used to represent them.

Weak forms:

SHE [ʃi]

e.g. 1. Why did she [ʃi] read it?

2. Who is she [ʃi]?

HE [i] (the weak form is usually pronounced without h except at the beginning of a sentence)

e.g. 1. Which did he [i]choose?

2. He was late, wasn't he [i]

4.2.11. HIM

Weak form:[im]

e.g. 1. Leave him [im] alone.

2. I've seen him [im]

4.2.12. HER

Weak form: [ə] (hə when sentence-initial)

e.g. 1. Ask her [ə] to come.

2. I've met her [ə]

4.2.13. THEM

Weak form: [ðəm]

e.g. 1. Leave them [ðəm] here.

2. Eat them [ðəm]

4.2.14. US

Weak form: [əs]

e.g. 1. Write us [əs] a letter.

2. They invited all of us [əs].

4.2.15. AT

Weak form:[ət]

e.g. I'll see you at [ət] lunch.

In final position: [æt]

e.g. What's he shooting at [æt]?

4.2.16. FOR

Weak form:

[fə] (before consonants)

e.g. Tea for [fə] two.

[fər] (before vowels)

e.g. Thanks for [fər] asking.

4.2.17. FROM

Weak form: [frəm]

e.g. 'm home from [frəm] work.

In final position: [frɒm]

e.g. Here 's where it came [frɒm]

7.4.218. OF

Weak form: [əv]

e.g. Most of all

In final position [ɒv]

e.g. Someone I've heard of [ɒv]

4.2.19. TO

Weak form:

[tə] (before consonants)

e.g. Try to [tə] stop.

[tu] (before vowels)

e.g. Time to [tu] eat.

In final position:[tu] (it is not usual to use the strong form [tu:], and the pre-consonantal weak form [tə] is never used)

e.g. I want to [tu]

4.2.20. AS

Weak form [əz]

e.g. As much as possible [əz]

In final position [æz]

e.g. That's what it was sold as [æz]

4.2.21. SO

This word is used in two different ways. In one sense (typically, when it occurs before a countable noun, meaning "an unknown individual") it has strong form

I think some [sʌm] animal broke it.

It is also used before uncountable noun, (meaning "an unspecified amount amount of") and before other nouns in the plural (meaning "an unspecified number of"), in such uses it has the weak form [səm],

e.g. Have some [səm] more tea.

In final position: [sʌm]

e.g. I've got some [sʌm]

4.2.22. THERE

When this word has a demonstrative function, it always occurs in its strong form [ðeə] ([ðeər] before vowels)

e.g. 1. There [ðeər] it is.

2. Put it there [ðeə].

Weak form [ðə] (before consonants)

e.g. There [ðə] should be a rule.

[ðər] (before vowels)

e.g. There [ðər] is.

In final position the pronunciation may be [ðə] or [ðeə].

4.2.23. CAN, COULD

Weak forms: [kən], [kəd]

e.g. 1. They can [kən] wait.

2. He could [kəd] do it.

In final position [kæn], [kʊd]

4.2.24. HAVE, HAS, HAD

Weak forms: [əv], [əz], [əd] (with initial h in initial position)

e.g. 1. Which have [əv] you seen?

2. Which has [əz] been best?

3. Most had [əd] gone home.

In final position: [hæv], [hæz], [hæd]

e.g. 1. Yes, I have [hæv]

2. I think she has [hæz]

3. I thought we had [hæd]

4.2.25. SHALL, SHOULD

Weak forms: [ʃəl] or [ʃl̩]; [ʃəd]

e.g. 1. We shall [ʃl̩] need to hurry

2. I should [ʃəd] forget it.

In final position: [ʃæl], [ʃʊd]

e.g. 1. I think we shall [ʃæl].

2. So you should [ʃʊd]

4.2.26. MUST

This word is sometimes used with the sense of forming a conclusion or deduction. Weak forms: [məs] (before consonants)

e.g. You must [məs] try harder.

[məst] (before vowels)

e.g. He must [məst] eat more.

In final position: [mʌst]

e.g. She certainly must [mʌst]

4.2.27. DO, DOES

Weak forms:

DO [də] (before consonants)

e.g. Why do [də] they like it?

[du] (before vowels)

e.g. Why do [du] all the cars stop?

DOES [dəz]

e.g. When does [dəz] it arrive?

In final position: [dʌz]

e.g. I think John does [dʌz].

4.2.28. AM, ARE, WAS, WERE

Weak forms: [əm]

e.g. Why am [əm] I here?

[ə] (before consonants)

e.g. Here are [ə] the plates.

[ər] (before vowels)

e.g. The coats are [ər] in there.

[wəz]

e.g. He was [wəz] here a minute ago.

[wə] (before consonants)

e.g. The papers were [wə] late.

[wər] (before vowels)

e.g. The questions were [wər] easy.

In final position: [æm], [a:], [wɒz], [wɜ:]

e.g. 1. She's not as old as I am [æm]

2. I know the Smiths are [a:]

3. The last record was [wɒz]

4. They weren't as cold as we were [wɜ:]

CHAPTER VII EXERCISES

I-Questions for discussion:

1-What is assimilation? What are the types of assimilation? Give two examples of each type of assimilation.

2-What is accommodation? Give examples of different types of accommodation.

3-What is elision? Give examples of different types of elision.

4-What are the types of words which have both strong forms and weak forms? Give examples to illustrate

5-What is the differences between linking **r** and intrusive **r**. Give examples of different types of sound linking and intrusion.

6-What are other types of linking? Give one example of each type of linking.

II-T / F: Decide whether the following are true or false:

1-When two adjacent consonants within a word or at word boundaries influence each other in such a way that the articulation of one sound becomes similar to or even identical with the articulation of the other sound, this phenomenon is called **assimilation**.

2- When the word *horseshoe* is pronounced as [hɔ:ʃʃu:], contextual assimilation takes place.

3-Assimilation is said to be **partial** when the articulation of the assimilated consonant fully coincides with that of the assimilating sound.

4-Assimilation is called **progressive** when the sound that comes first affects the sound that comes after it.

5-When the sound /t/ is pronounced as a rounded variants in the word *too*, **accommodation** takes place.

6-**Elision** takes place when a sound is pronounced in its weak form.

7-When a sound has zero realization, elision takes place.

8-Elision is typical of rapid, casual speech.

9-The words which can be pronounced both in their strong forms and their weak forms are grammatical words.

10-When the phrase *for egg* is pronounced as [fɔ:regz], intrusive r takes place.

III- Matching: match the words in Column A with the definitions in Column B:

A	B
1-Assimilation….	**a**-is the result of an assimilation which took place at an earlier stage in the history of the language.
2-Historical assimilation…..	**b**- takes place when used to is pronounced as / ju:stə/.
3-Contextual assimilation…..	**c**-takes place when the articulation of the assimilated consonant fully coincides with that of the assimilating one.
4-Complete assimilation…….	**d**-have their strong forms when they are in final positions in the sentences.
5-Progressive assimilation……	**e**-takes place when the sound that comes first affects the sound that comes after it.
6-In double assimilation	**f**-can be pronounced in their strong forms and their weak forms.
7-In accommodation….	**g**-pronounced as /fɔ:mjələrei/ is a case of instrusive r.
8-Grammatical words….	**h**-is the modification in the articulation of a consonant under the influence of a neighbouring consonant.
9- Formula A……	**i**- a consonant influences a vowel or a vowel influences a consonant.
10-Prepositions…….	**j**- two adjacent consonants influence each other.

CHAPTER VIII – INTONATION

Chapter VIII Contents

1. SENTENCE-STRESS

1.1. What is sentence-stress?

Sentence-stress is the greater prominence with which one or more words in a sentence are pronounced as compared with the other words of the same sentence [27, p. 118].

In English this greater prominence is achieved by uttering the stressed words with greater force of exhalation and muscular tension than the unstressed words, as well as by a change in the pitch and by an increase in the length of stressed syllables of words in the sentence.

The greater prominence can be produced by one or all of the following four factors: a-**loudness**, b-**length**, c-**pitch** and d-**quality**.

1.2. Levels of sentence-stress

In connected speech, words are not treated as separate units. When a word becomes a member of an intonation unit, the word-stress may be either preserved or lost, weakened or strengthened, but it does not remain unchanged as compared with the stress the word has when used in isolation. The degree of prominence that a word has in a sentence is different. We can assume that there are three distinct levels of stress in the sentence: a- **primary** (**main**) stress, b- **secondary** stress, and c-**non-stress** (or unstressed).

E.g. He will ˈcome in a ↘day.

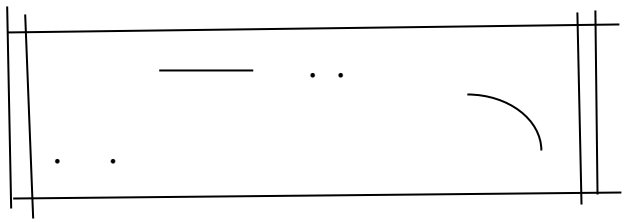


Figure VIII.1: Stress Pattern of He will come in a day

He, will, in, a : unstressed

Come : secondary stress

Day : primary / main stress

Actually, any word in the sentence can receive the primary or secondary stress. However, as a rule, words with a certain lexical meaning have an important semantic function in the sentence and are, therefore, usually stressed. These words are called **lexical words** or **notional words**. To such words belong nouns, adjectives, numerals, notional verbs, adverbs, demonstratives, interrogatives, emphasizing pronouns and the absolute form of the possessive pronouns.

Words which serve to express certain grammatical relations or categories in the sentence are either stressed or unstressed. These are called grammatical words or function words. They include auxiliaries, modals, prepositions, conjunctions, articles, particles, pronouns. Personal, possessive, reflexive and relative pronouns are usually not stressed.

The normal tendency in the English speech is for the primary stress to occur on the last stressed syllable of the intonation unit, which corresponds to the principle of **end-focus** in communication. The primary stress is called the **tonic stress** or the **nucleus**. The syllable which receives the tonic stress is called the **tonic syllable**. The main stress in the intonation unit is accompanied not only by an increase in the force of utterance, by lengthening the sounds, but also by such a change in the pitch of the voice as a **Fall**, a **Rise**, or a **Fall-Rise**.

1.3. Types of main sentence-stress [40]

Four major types of main sentence-stress are identified:

- unmarked tonic stress
- emphatic stress
- contrastive stress
- new information stress

1.3.1. Unmarked tonic stress

An intonation unit almost always has one peak of stress, which is called **"tonic stress**", or "**nucleus**". Because stress applies to syllables, the syllable that receives the tonic stress is called **"tonic syllable**". Tonic stress is almost always found in a content word in utterance final position. Consider the following, in which the tonic syllable is pronounced with a **Fall**:

e.g. 1. I'm ↘**goi**ng.

2. I'm going to ↘**Lon**don.

3. I'm going to London for a ↘**ho**liday.

Audio VIII.1: Listen. Pay attention to stressed syllables in the sentence [45, p.8].

1-I'll **'type** the **'let**ters and **'send** them to him.

2- **'Jane** will call you **'lat**ter.

3-If I'd **'known** she was a vege **'tar**ian, I'd have **'cooked** something **'spec**ial for her.

4-The **'par**cel should ar **'rive** by **'Fri**day.

5-I en **'joyed** the **'meal** but it was a bit ex **'pen**sive.

6-You'd **'bet**ter **'take** an umbrella. It **'looks** like it's going to **'rain**.

Audio VIII.2: Listen to the main sentence-stress [28, p.20]

We 've just got en↘**gaged**.	How ↘**mar**velous.
She's had a baby ↘**boy.**	But that's ↘**wond**erful.
Now they want us to re↘**reg**ister	What a pa↘**lev**er.
The sausages got ↘**burnt**.	What a ↘**pit**y.

1.3.2. Emphatic stress

One reason to move the tonic stress from its utterance final position is to assign an emphasis to a content word, which is usually a modal auxiliary, an intensifier, an adverb, etc. Compare the following examples. The first two examples are adapted from Roach [23, p.144).

e.g. 1a. It was ˈvery ↘**bo**ring. (unmarked)

1b. It was ↘very boring. (emphatic)

2a. You ˈmustn't ˈtalk so ↘**loud**ly. (unmarked)

2b. You ↘**mustn**'t talk so loudly. (emphatic)

Some intensifying adverbs and modifiers (or their derivatives) that are emphatic by nature are :

indeed, utterly, absolute, terrific, tremendous, awfully, terribly, great, grand, really, definitely, truly, literally, extremely, surely, completely, barely, entirely, very (adverb), very (adjective), quite, too, enough, pretty, far, especially, alone, only, own, -self.

1.3.3. Contrastive stress

In contrastive contexts, the stress pattern is quite different from the emphatic and non-emphatic stresses in that any lexical item in an utterance can receive the tonic stress provided that the contrastively stressed item can be contrastable in that universe of speech. No distinction exists between content and function words regarding this. The contrasted item receives the tonic stress provided that it is contrastive with some lexical element in the stimulus utterance. Syllables that are normally stressed in the utterance almost always get the same treatment they do in non-emphatic contexts. Consider the following examples:

e.g. A: Do you ˈlike ˈthis one or ↘**that** one?

B: I ˈlike ↘**this** one.

Many other larger contrastive contexts (dialogues) can be found or worked out, or even selected from literary works for a study of contrastive stress. Consider the following:

e.g. 1. **(She** played the piano yesterday. (It was her who...)

2. She ↘**played** the piano yesterday. (She only played (not harmed).

3. She played the↘**pia**no yestesday. (It was the piano that...)

4. She played the piano ↘**yes**terday. (It was yesterday...)

Thus, we can interfere with normal accentuation to highlight any word we please by means of contrastive stress. We can place the main sentence stress on any word which is of importance in communication: the communicative center of the sense group. Consider the sentence *He reads the newspaper every evening*. The main sentence stress can be on *read* if we answer the question *What does he do every evening?* (*He* ˈ***reads*** *the newspaper every evening*). The main sentence stress can be on *newspaper* if it answers the question *What does he read every evening*? (*He reads the* ˈ***newspaper*** *every evening.*)

Audio VIII.3: Listen and pay attention to contrastive stresses [23, p.222]

1-Don't do ↘**that**.
2-Don't ↘**do** that.
3-↘**Don't** do that.
4-Write your ↘**name**.
5-Write ↘**your** name.
6-↘**Write** your name.
7-Here's my ↘**pen**.
8-Here's ↘**my** pen.
9-↘**Here**'s my pen.
10-Why don't you ↘**try**.
11-Why don't ↘**you** try.
12- Why ↘**don't** you try.
13- ↘**Why** don't you try.

1.3.4. New information stress

In a response given to a wh-question, the information supplied, naturally enough, is stressed. That is, it is pronounced with more breath force, since it is more prominent against a background given information in the question. The concept of new information is much clearer to students of English in responses to wh-questions than in declarative statements. Therefore, it is best to start with teaching the stressing of the new information supplied to questions with a question word:

e.g. A: 'What's your ↘**name**?
B: My name's ↘**George**.

1.4. Grammatical words (Function words):

Grammatical words or function words do not normally receive the sentence stress. However, they are stressed in certain cases [27, pp. 124-126]:

a- auxiliary and modal verbs, as well as the link-verb *to be* are stressed in the following positions:

i-At the beginning of a sentence, that is to say, in general and alternative questions,

e.g. 1. '**Have** you seen him?
2. '**Do** you like strong or weak tea?

ii- When they stand for a notional verb, as, for instance, in short answers to general questions,

e. g. A: Have you seen him?
B: '**Yes**, I '**have**.

iii- In contracted negative forms,

e.g. I '**shan't** be in time.

iv-The auxiliary verb *to be* is stressed when final and preceded by the subject which is unstressed,

e.g. I don't know where he was. Here we '**are**.

v-The auxiliary verb *to do* is stressed in emphatic sentences of the following type:

e.g. 1. '**Do** come
2. I '**do** like her.

b- Prepositions are usually stressed if they consist of two or more syllables and are followed by an unstressed personal pronoun at the end of a sense-group,

e.g. The dog ran ˈ**after** him.

c- Conjunctions are usually stressed if they stand at the beginning of a sentence and are followed by an unstressed word.

e.g. When he had gone some distance she turned and went back to the house. ˈ**If** he drives, he may be here at any moment.

d- When a personal pronoun is connected by the conjunction **and** with a noun they are both stressed,

e.g. Your ˈ**mother** and ˈ**I** will be busy this morning.

Some words belonging to notional parts of speech are not stressed in certain cases. The most important of them are as follows:

a- When a word is repeated in a sense-group immediately following, the repetition is generally unstressed, because it conveys no new information,

e.g. A: How many books have you got?

B: Two books.

b- Word-substitutes like *one,* in *good one**,** black one,* and others are usually unstressed,

e.g. I don'ˈt like this green fountain-pen. Show me a black one.

c- When the word *most* does not express comparison, but a high degree of a quality and is equivalent to *very, extremely,* it is not stressed,

e.g. He listened with the most profound attention. This is a most beautiful picture.

d-The pronoun *each* in *each other* is always unstressed, while the word other may be stressed or unstressed,

e.g. They like each other.

e- The adverb *so* in *do so**,** think so*, etc. is not stressed,

e.g. I think so.

f-The adverbs *on* and *forth* in the expressions and *so on*, and *so forth* are usually not stressed.

e.g. There are some branches of summer sports: swimming, fishing, hunting and so on.

g-The conjunction as in the constructions of the type *as well as, as bad as, as much as* is not stressed,

e.g. I was to blame there, Chris, as much as Ivory.

h- The word *street* in the names of streets is never stressed,

e.g. Oxford Street, Regent Street.

2. RHYTHM [23, pp.120-123]

The notion of rhythm involves **some noticeable event happening at regular intervals of time**; one can detect the rhythm of a heart-beat, of a flashing light or of a piece of music. It has often been claimed that English speech is rhythmical, and that the rhythm is detectable in the regular occurrence of stressed syllables; of course, it is not suggested that the timing is as regular as a clock. The regularity of occurrence is only relative. The theory that English has stress-timed rhythm implies that **stressed syllables will tend to occur at relatively regular intervals whether they are separated by unstressed syllables or not**; this would not be the case in "mechanical speech". An example is given below. In this sentence, the stressed syllables are given numbers: syllables 1 and 2 are not separated by any unstressed syllables, 2 and 3 are separated by one unstressed syllable, 3 and 4 by two and 4 and 5 by three.

1 2 3 4 5

e.g. **'Walk 'down** the **'path** to the **'end** of the ca **'nal**.

The tendency to pronounce stressed syllables in a sentence at more or less equal intervals of time is called rhythm.

The stress-timed rhythm theory states that the times from each stressed syllable to the next will tend to be the same, irrespective of the number of intervening unstressed syllables. The theory also claims that while some languages (e.g. Russian and Arabic) have stressed-timed rhythm similar to that of English, others (such as French, Telugu…) have a different rhythmical structure called syllable-timed rhythm. In these languages, all syllables, whether stressed or unstressed, tend to occur at regular time-intervals and the time between stressed syllables will be shorter or longer in proportion to the number of unstressed syllables. Some writers have developed theories of English rhythm in which a unit of rhythm, the **foot**, is used; **the foot begins with a stressed syllable and includes all following unstressed syllables up to the following stressed syllable**.

The example sentence given above would be divided into feet as follows:

1 2 3 4 5

e.g. | **'Walk** | **'down** the | **'path** to the | **'end** of the ca | **'nal**. |

Video VIII.1. Listen to the rhythm [48]

'Twinkle, **'twink**le **'lit**tle **'star**

'How I **'won**der **'what** you **'are**

'Up a**'bove** the **'world** so **'high**

'Like a **'dia**mond **'in** the **'sky**.

An additional factor is that in speaking English we vary in how rhythmically we speak: sometimes we speak very rhythmically (this is typical of some style of public speaking) while at other times we speak arythymically (that is, without rhythm)-for example, when we are hesitant or nervous. Stress-timed rhythm is thus perhaps characteristic of one style of speaking, not of English speech as a whole; one always speaks with some degree of

rhythmicality, but the degree will vary between a minimum value (arhythmical) and a maximum (completely stress-timed rhythm).

3. INTONATION

3.1. What is intonation?

There is confusion about the term intonation caused by the fact that the word is used with two different meanings. In its more restricted sense, intonation refers to the variations in the pitch of a speaker's voice used to convey or alter meaning [13, p.135], but in its broader and more popular sense it is used to cover much the same field as "prosody", where variations in such things as sentence stress, rhythm, tempo, loudness, voice quality are taken into consideration.

Wells [28, p.1] states that **intonation is the melody of speech**. In studying intonation we study how the pitch of the voice rises and falls, and how speakers use this pitch variation to convey linguistic and pragmatic meaning. It also involves the study of the rhythm of speech, and the study of how the interplay of accented, stressed and unstressed syllables functions as framework onto which the information patterns are attached.

In another textbook, **intonation is defined as the unity of speech melody, sentence stress, speech tempo and voice quality (tambre) which enables the speaker to adequately communicate in speech his thoughts, will, emotions and attitudes towards reality and the contents of the utterance** [27, p.100].

Speech melody, or the pitch component of intonation, is the **variations in the pitch of the voice** which take place when voiced sounds, especially vowels and sonorants, are pronounced in connected speech. **The relative height of speech sounds as perceived by a listener is called pitch**. The pitch of speech sounds is produced by the vibrations of the vocal cords. Pitch produced depends on how fast the vocal cords vibrate; the faster they vibrate, the higher the pitch.

The variation in the pitch of the voice will produce tone. **Pitch variation or pitch movement is called tone**. A high pitch results from the relatively rapid vibration of the vocal cords. A low pitch from a relatively slow vibration. An acceleration in the rate of vibration is heard as a rising pitch, a slowing down as a falling pitch. In a level pitch the vocal cords vibrates a constant rate. Thus, variation in the pitch of the voice will produce different intonation patterns: **Rising**, **Falling**….

Variations in pitch range occur within the normal range of the human voice, i.e. within its upper and lower limits. For pedagogical expediency three pitch ranges are generally distinguished: normal, wide, narrow [26, pp.142-143]:

Normal Wide Narrow (of low, medium and high levels)

Figure VIII.2: Three human pitch ranges

The pitch range of a whole intonation unit is in fact the interval between the highest-pitched and the lowest-pitched syllables. Pitch levels may be high, medium and low.

High_____

Medium_____

Low_____

Figure VIII.3: Three-pitch levels

The way pitch is used linguistically differs from language to language. Pitch variation or pitch movement is called tone. Although this word has a very wide range of meanings and uses in ordinary language, its meaning in phonetics and phonology is quite restricted: it refers to an identifiable movement or level of pitch that is used in a linguistically contrastive way. In some languages (known as tone languages) the linguistic function of tone is to change the meaning of a word. In Vietnamese, for example, **gà** means **chicken** while **ga** means **railway station**. In other languages (intonation language) tone forms the central part of intonation, and the difference between, for example, a rising and a falling tone on a particular word may cause a different interpretation of the sentence in which it occurs. In the case of tone languages it is usual to identify tones as being a property of individual syllables, whereas an intonational tone may be spread over many syllables.

Stress in speech is the greater prominence which is given to one or more words in a sentence as compared with other words of the same sentence

The voice quality (tambre) is a special colouring of the voice in pronouncing sentences which is superimposed on speech melody and shows the speakers's emotions, such as joy, sadness, irony, anger, indignation, etc.

The tempo of speech is the speed with which sentences or their parts are pronounced. It is determined by the rate at which speech-sounds are uttered and by the number and length of pauses. Closely connected with the tempo of speech is its rhythm: the recurrence of stressed syllables at more or less equal intervals of time. Therefore, the tempo and rhythm of speech may be said to constitute the temporal component of intonation.

The components of intonation are said to form a unity, because they always function all together, and none of them can be separated from any of the others in actual speech; it is only possible to single out each component for the purposes of intonational analysis.

Especially close is the connection between speech melody and sentence stress which are the most important and the most thoroughly investigated components of English intonation. As to the other components they play only a subordinate and auxiliary part in performing this or that particular function of intonation.

3.2. Tone language and intonation language

Tone can be considered to be the height of the pitch and change of the pitch which is associated with the pronunciation of syllables of words and which affects the meaning of the word. For example, in Vietnamese when you say **ga**, it means railways station; when

you say **gà,** it means **chicken**. Language that use the pitch of individual syllables to contrast meanings are called tone language.

Tone (pitch movement) can also be understood as a change in pitch which affects the meaning and function of utterances in discourse. Languages that use pitch syntactically (for example, to change a sentence from a statement to a question) or in which the changing pitch of a whole sentence is other wise important to the meaning are called intonation languages. Intonation does not happen at random but has definite system patterns.

3.3. The 3 T's: a quick overview of English intonation

According to Wells [28, p.6], as concerns intonation, speakers of English repeatedly face three types of decision as they speak. They are: a-how to break the speech into intonation units, b- what is to be accented and c- what intonation pattern to be used with the intonation unit. These linguistic intonation systems are known as **tonality**, **tonicity** and **tone**.

3.3.1. Tonality

Tonality is the division of speech into intonation units. The first thing an English speaker has to decide is the division of speech into units of speech. There will be an intonation pattern associated with the unit of speech. This unit of speech is known as **tone unit** or **intonation unit**. This intonation unit has been referred to as **tone group** (Palmer 1922; Schubiser 1958; Halliday 1967 a, 1970; Gussen Hoven 1984), **the tune** (Armstrong and Ward 1926; Schubiger 1935; Jassen 1952; Kingdon 1958), **the tune unit** (Crystal 1969; Couper-Kuhlen 1986), **the intonation group** (Guttenden 1986), **intonation unit** (Hirst and Di Cristo 1984; Thirst 1987) and **intonation phrase** (IP) (Wells, 2006) [12].

An **intonation unit** may be a part of a sentence or the whole sentence. It may be a word or a group of words. An intonation unit has the following features:

a-It has one tonic syllable which carries a nuclear tone. The tonic syllable is the syllable on which the main sentence stress falls. The tonic syllable is a word or part of a word which is the most important in terms of the information focus. It may be the last stressed syllable in the unit (end-focus) or any syllable (contrastive stress). The tonic syllable is the syllable which carries the nuclear tone (**Fall**, **Rise**…). It is where a marked change in pitch begins.

b-It is pronounced at a certain rate and without any pauses in it;

c-It has some kind of voice quality.

An intonation unit corresponds to a sense-group. **A sense group is a word or a group of words forming the shortest possible unit in a sentence from the point of view of meaning, grammatical structure and the style of speech**. A sense group can be a word, a phrase, a clause or a whole sentence.

e.g. 1. ↗You?

2. Is that ↗you?

3. When you ↗came, she was away.

4. I speak Vietna↘mese.

3.3.2. Tonicity

Tonicity is the placement of the tonic syllable or nucleus in the intonation unit. Speakers use intonation to highlight some word(s) as important for the meaning they wish to convey. These are the words on which the speaker focuses the hearer's attention: the most important words in terms of communication. They form the nucleus of intonation. In terms of pitch, the nucleus is marked out by being the place where the pitch change or pitch movement for the nuclear tone begins. The nucleus contains the **tonic syllable**: the syllable which receives the main stress and carries the nuclear tone. It is usually at the end of an intonation unit corresponding to given-new information pattern.

3.3.3. Tone (Intonation pattern)

Having decided the tonicity - that is, having selected a suitable location for the nucleus- the speakers have to decide what tone (**intonation pattern**) (**Fall, Rise**…) is used with the nucleus depending on the purpose of communication. He has to make choice of nuclear tone.

3.4. Methods of intonation notation

Contemporary transcription of intonation varies greatly, as they reflect different theoretical views of the nature of the subject. Some approaches attempt to provide a faithful phonetic record of melodic movement; other are more phonological in character, including only those aspects of melody which seem to be crucial for expressing contrasts in meaning. Some phonetic studies rely on auditory judgements alone; others use a combination of auditory and acoustic analysis.

3.4.1. Phonetic method [27]

The **Phonetic Approach** in intonation transcription employed the methods used in musical notation. Nowadays, this method of intonation notation is referred to as system of **tonograms** or **dot-dash** system. In this system, two parallel lines (staves in music) represent the approximate upper and lower limits of the pitch range of the human voice in speech. Speech melody together with sentence-stress is indicated on the staves with the help of dashes, curve lines and dots placed on different levels. Stressed syllables are marked by dashes (-); Unstressed syllables by dots (.). A **Fall tone** is represented by a downward curve, **Rise tone** by upward curve, **Fall-Rise** tone by downward-upward curve, **Rise-Fall** tone by upward-downward curve. A single vertical bar denotes a short pause in the middle of a sentence at the end of a non-final sense group. Two vertical bars denote a long pause.

e.g. He will ˈcome in a ↘day.

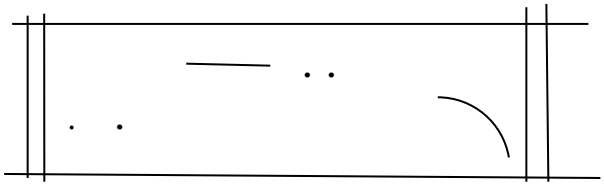


Figure VIII.4: An example of the phonetic method

3.4.2. Phonological method [26, pp.144-146]

Within the **phonological studies**, there is a difference of opinion over the extent to which contrasts are capable of being analysed using the procedures of phonemic analysis, and over the extent to which grammatical and semantic considerations should be allowed to influence the nature of a transcription. As a consequence, several competing descriptive frameworks are in present-day use. This method of intonation notation has been referred to as tonetic system of transcription.

3.4.2.1. The method introduced by Ch. Fries involves drawing a line around the sentence to show relative pitch heights:

e.g. He|s gone to the ⌈o͞f⌉fice.

3.4.1.2. According to the another method the syllables are written at different heights across the page. The method is particularly favoured by D.Bolinger, for example:

e.g. I ^{ab}soluteIy de^{ny} it.

Bolinger's book of reading has the cover title:

a
ton t
i
e.g. In o
n

This method is quite inconvenient as its application wants a special model of print.

3.4.1.3. According to the third, "levels" method, a number of discrete levels of pitch are recognized, and the utterance is marked accordingly. This method was favoured by some American linguists such as K. Pike and others who recognized four levels of pitch, low, normal, high and extra-high, numbering them from 1—4. Since most linguists who have adopted this method have favoured low-to-high numbering, we shall use this in our example:

2
e.g. He|s gone to the ^{3}o^{1}ffice.

This notation corresponds to the pattern of the example illustrating the first method.

3.4.1.4. The fourth method is favoured by most of the British phoneticians such as D.Jones, R.Kingdon, J.D.O'Connor and G.F.Amold, M.Halliday, D.Crystal and others. This method has a number of advantages. Firstly, not only variations of pitch but also stressed syllables are marked. Secondly, distinct modifications of pitch in the nuclear syllable are indicated by special symbols, i.e. by a downward and an upward arrow or a slantwise stress mark. More than that. Pitch movements in the pre-nuclear part can be indicated, too. Thirdly, it is very convenient for marking intonation in texts.

e.g. 1. That |isn|t as |simple as it `sounds
2. That →isn|t as |simple as it `sounds
3. That ↘isn|t as |simple as it `sounds.
4. That ↗isn|t as |simple as it `sounds.

3.4.1.5. Symbols used in this course are

Table VIII.1: Diacritics used in Intonation

Intonation Diacritics			
↘	**(Fall**	↗	**↗Rise**
˩↘	**˩High Fall**	˧↗	**˧↗ High Rise**
↘	**(Low Fall**	↗	**↗Low Rise**
↓	**↓ Wide Fall**	↑	**↑Wide Rise**
ᵛ	**ᵛFall-Rise**	˄	**˄Rise-Fall**
–	– Level		
‖	**Long pause**	|	**Short pause**
ˌ	**Secondary Stress**	ˈ	**Main (tonic) stress**

3.5. The structure of the intonation unit

The intonation unit is the basic unit of intonation in a language. An intonation unit is usually divided into several parts. The most important part contains the syllable on which a change of pitch begins: the **tonic syllable**. A tonic syllable is a syllable which carries a tone (an intonation pattern). A tone unit may be a word (e.g. *you*), a phrase (e.g. *By this time*), a clause (e.g. *Will you be silent* in If I do, will you be silent?), or simple sentence (e.g. *Is it you*?).

In communication, the speaker has to make choice of the place in an utterance where the movement in pitch begins (choice of tonic syllable). The choice depends on what the speaker wishes to emphasize.

The ways in which linguists have divided the tone unit into different parts and the terms they have used for these parts are not always the same. Table VIII.2 below shows the main parts of a tone unit together with different divisions and terms which have been used.

Table VIII.2: The Structure of English Intonation Unit [22, pp.294-295]

	Unstressed syllables	**Onset First stressed syllables**	**Tonic syllable where major pitch movement begins**	**Continuation and completion of pitch movement**
Crystal (1969)	prehead	head	nucleus	tail
Halliday 1967, 1970	pretonic		tonic	
Brazil et al, 1980	Proclitic segment	Tonic segment		Enclitic segment
Roach 1983	prehead	head	tonic syllable	tail
e.g.	It'ˈs a	Very Interesting	**STO**	ry

Pre-head	Head	Tonic Syllable	Tail
It's a	**ver**y **in**teresting	**STO**	ry
. .	— . —— ...		.

Figure VIII.5: The intonation structure of the sentence *It's a very interesting story*

It is convenient for intonation analysis and teaching purposes to distinguish certain elements in the pitch-and-stress pattern of an intonation unit as above. Thus, the structure of the intonation unit includes:

(Pre-head) (Head) Tonic Syllable / Nucleus (Tail)

The most important of these elements is the tonic syllable which carries the nuclear tone, i.e. a marked change of pitch which occurs on the final stressed syllable (the accentual nucleus).

a-The Pre-head

The pre-head is composed of all the unstressed syllables preceding the first stressed syllable in the intonation unit. In British English, it is said on a very low note. There might be no pre-head in the intonation unit.

b-The Head

A head is all that part of an intonation unit that extends from the first stressed syllable up to (but not including) the tonic syllable. In the example above, *very interesting* forms the head of the intonation unit.

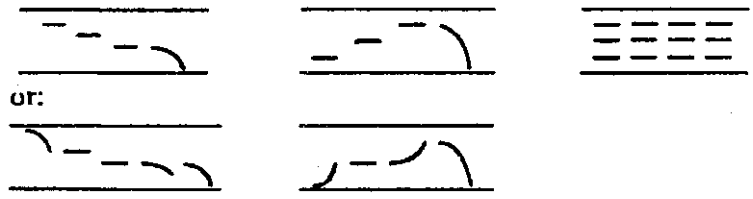
The head consists of a series of stressed and unstressed syllables that may be pitched variously starting with the first stressed syllables (the head of the scale). The head can take a variety of pitch patterns. Variation within the head does not usually affect the grammatical meaning of the utterance, though it often conveys meanings associated with attitude or phonetic styles. There are three common types of head:

i-a **descending** type in which the pitch gradually descends (often in "steps") to the nucleus. The stressed syllables in the head form a descending scale. They go down in steps (steps down). Armstrong and Ward state that unstressed syllables may either descend gradually to the next stress, remain level, be on a slightly higher or a slightly lower level. From their experience they find that it is more usual for the pitch of these unstressed syllables to descend gradually to the next stress (Palmer (1922) notes that unstressed syllables may tend to remain on the same level as the syllable immediately preceding),

ii-an **ascending type** in which the syllables form an ascending sequence, and

iii-a **level type** when all the syllables stay more or less on the same level:

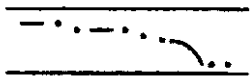
Descending type *Ascending type* *Level type*



or:

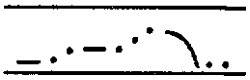
Decending Type

e.g. ↘Why are you ˈmaking such a ˌmess of it?



Ascending Type

. e.g.Why are you ˈmaking such a `mess of it?



Level type

e.g.→Why are you ˈmaking such a ˌmess of it?

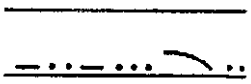


Figure VIII.6: Three Common Types of Head [26, p.141]

c-The tonic syllable / the nucleus

The syllable which carries a nuclear tone is called the tonic syllable. The tonic syllable is the syllable where the major pitch movement begins (Fall, Rise….). The tonic syllable form the nucleus of an intonation pattern. It not only carries a nuclear tone but also a type of stress that will be called tonic stress (some writers use the terms **nucleus** and **nuclear stress** for **tonic syllable** and **tonic stress**). In the example above *STOR* is the tonic syllable.

d-The tail

The tonic syllable may be followed by one or more unstressed syllables called the tail. **Any syllables between the tonic syllable and the end of the intonation unit is called the tail**. We can speak of two variants of the terminal tone: the nuclear (with no tail) and the nuclear- postnuclear variant (with a tail).

The tone of a nucleus determines the pitch of the rest of the intonation pattern following it which is called the tail. Thus after a falling tone, the rest of the intonation pattern is at a low

pitch. After a rising tone the rest of the intonation pattern moves in an upward pitch direction. The nucleus and the tail form what is called terminal / ending tone.

3.6. Basic intonation patterns: [28, pp.15-68]

3.6.1. ↘Fall

3.6.1.1. Form

The Fall consists of a fall of the pitch of the voice from a fairly high note to a very low note on the last important stressed word of the sentence.

Audio VIII.4: Fall [28, pp.19-20]

1-Listen

↘Wow! ↘Gosh! ↘Geat! ↘Cheers! ↘Boo!

↘Super! ↘Crazy! ↘Never! ↘Spledid! ↘Heavens!

↘Rubbish! ↘Nonsense! ↘Awesome! ↘Marvellous! ↘Wonderful!

2-Listen

I'll be there by ↘five ↘Great.

It's nearly ↘eight. ↘Goodness! I'm going to be ↘late.

3-Listen

Ri↘diculous.

How ri↘diculous.

But that's ri↘diculous

How absolutely ri↘diculous.

I think that's really quite ri↘diculous.

In↘credible

How in↘credible.

That's in↘credible.

How utterly in↘credible

They are going to find it utterly in↘credible.

You're ↘right.

You 're ↘right, you know.

You 're absolutely ↘right.

I think you're absolutely ↘right.

You 're going to be proved quite ↘right.

4-Listen

We've just got en↘gaged. How ↘marvelous.

She's had a baby ↘boy But that's ↘wonderful.

Now they want us to re↘register What a pa↘laver.

The sausages got ↘burnt. What a ↘pity.

3.6.1.2. Meanings

The **Fall** can be said to give an impression of **finality** and **definiteness**. It is regarded as more or less "neutral". If someone is asked a question and replies **↘Yes** or **↘No**, it will be understood that the question is now answered and that there is nothing more to be said. This tone is **categoric** (**definite**) in character.

According to Wells [28, p.91] the **Fall** is used with the following meanings:

Table VIII.3: Fall meanings [28, p.91]

Intonation	**Meaning**	**Sentence Types**
Fall	a-Definitive	Statement Exclamation W/H question Answer Command Interjection
	b-Insistent	Yes-No question (includes tag question and elliptical question)
	c-Reinforcing	Adverbial

a*-The Definitive Fall*

In general, we can say that by using a Fall we indicate that what we say is potentially complete and that we express it with confidence, definitely and unreservedly. The Fall thus also tend to signal **finality**. We call this tone meaning the **Definive Fall.**

The **Definitive Fall** is used in **statements, exclamations, W / H questions, answers, commands** and **interjections**.

i-Categoric or simple statements of fact.

e.g. My name is↘John.

ii-Exclamation

Exclamations (=expressions of surprise, anger or excitement) virtually always have a fall. We call this tone meaning the **exclamatory fall**. It can be seen as a sub-type of the **definive fall**.

e.g. 1. How **(**late you are!

2. What a good i↘dea!

iii-Special questions (W / H questions)

e.g. Who is ↘absent today?

iv-Yes-No and Elliptical Answers

The answer to a yes-no question is usually not a complete statement. Rather, it is just *yes* or *no* (or an equivalent). Quite often, we support the *yes* or *no* by an elliptical verb phrase. Or we may just use the elliptical verb phrase on its own:

e.g. 1. A: Do you know Peter?

B: ↘Yes / ↘Sure / Of ↘course / ↘Yes, I ↘do. / I ↘do / Of ↘course I do / Of ↘course I know Peter.

2. A: Have you ever been to Minsk?

B:↘No / ↘Never / Of ↘course not / ↘No, I ↘haven't / I ↘haven't, actually / I don't think I ↘have / Of ↘course I haven't / No I ↘haven't been to Mink..

v-Commands

The default tone for commands is the **Definitive Fall**

e.g. 1. Sit ↘down!

2. Stop that ↘noise!

vi-Offers to do something or suggestions that something should be done.

e.g. Let's go**(**home.

b-*Insistent Fall*

i-Yes-No question

It is possible for a **yes – no question** to be said with a **Fall.** This makes the question more insistent. It is more businesslike and more serious. We call this tone meaning **Insistent Fall.**

e.g. A: I'll ask you once ↘more: Did you take the ↘money?

B: ↘No, I ↘didn't.

A: Can you ↘prove that?

The **Insistent yes-no Fall** is often used in guessing games:

e.g. A: Guess where I ↘come from.

B: From France?

A: No

B: From ↘Italy, then?

A: ↘No

B: D 'you come from ↘Spain

The **Insistent Yes-No Fall** is also regularly used when a speaker repeats a question because the other person didn't hear it properly

e.g. A: Have you come far?

B: Sorry?

A: I said, have you come ↘far?

ii-Tag question

Tag questions (question tags) are short yes-no question tagged onto the end of a statement or command. Most tag questions can be said either with a **Fall** or with a **Rise.** If a tag question is genuinely asking for information, the tone will be a **yes-no Rise**. This allows the speaker to check whether the other person agrees with what he or she has just said. It is open to the other person to agree or disagree.

The other possibility is an **Insistent Fall.** With a falling tag the speaker insists, assumes or expects that the other person will agree. Rather than genuinely asking for information, the speaker appeals for agreement:

e.g. 1. The view is magnificient, ↘isn't it? (=I'm sure you agree.)

2. We 've been here before, ↘haven't we? (= We both know we have.)

3. Seven fives are thirty five, ↘aren't they? (=You know they are.)

4. Well it's not very good, ↘is it? (=You'll agree it's not very good.)

In some cases the falling tone tag has the force of an exclamation. Exclamations always have a **Fall.**

Notice the difference of tone meaning in the following examples:

e.g. 1. It's ↘snowing, ↘isn't it? (=You can see it is)

2. It's ↘snowing, ↗isn't it? (=I can't see, I 'm not sure.)

The effect of a tag with an **Insistent Fall** can even be to force the other person to agree.

When attached to a command, a tag virtually always has an **Insistent Fall**:

e.g. What a surprise, ↘wasn't it?

After a command, a tag with a fall sounds very insistent.

e.g. Answer the ↘phone, ↘will you? (=Will you answer the ↘phone. Obey me immediately)

iii- Independent elliptical questions

Independent elliptical questions can also be said with an **Insistent Fall**. The tone meaning is one of slight surprise or scepticm, but accepting that the other has expressed an opinion. This tone can sound hostile:

e.g. A: I really like it here.

B:↘Do you? (I was afraid you wouldn't)

A: Well, it's over now.

B: But ↘is it? (Perhaps it isn't over, after all.)

A: There's nothing wrong with greed.

B: ↘Isn't there? (I don't agree with you.)

Much less common is a reverse-polarity negative elliptical yes-no question as a reaction to a positive statement by other speaker. This is a kind of **Exclamatory Fall.**

e.g. A: Her daughter's awfully clever.

B:↘Yes, isn't ↘she.

c- *Reinforcing Fall*

Some adverbials are said with a Falling tone. Their meaning is not to limit the sense of the main clause, but rather to reinforce it. We call this tone meaning **Reinforcing Fall**,

e.g. A: Do you think I ought to say something?

B: Of ↘course, you must protest.

Thus, the **Fall** can be used as the **Definive Fall**, the **Insistent Fall** and the **Reinforcing Fall**.

3.6.1.3. High Fall and Low Fall [28, pp.216 -219]

Fall can be **High Fall** or **Low Fall.**

a-The Low Fall

The Low Fall involves the falling pitch movement from a mid pitch to a low pitch.

e.g.↘Wonderful.

A **Low Fall** is categoric in character and expresses finality. It indicates a number of attitudes ranging from neutral to grim, cool, detached, phlegmatic attitudes.

b-The High Fall

A High Fall involves a falling pitch movement from a relatively high pitch to a low pitch.

e.g.↘**Wonderful.**

If there is a tail after a simple fall nuclear tone, the pitch of the tail is all low and level. The falling movement takes place at the nuclear syllable, so that the entire tail is low-pitched. All falling nuclear tones finish low; the final tendency is the tail after a falling nuclear tone is always low level.

The difference of tone meaning between **High Fall** and **Low Fall** is the degree of emotional involvement. The **High Fall** implies greater interest on the part of speaker, greater excitement, greater passion, more involvement. The **Low Fall** implies relative lack of interest, less excitement, a dispassionate attitude, less involvement. The higher the starting point of a simple fall, the greater the degree of emotional involvement.

e.g. 1. Come and have ↘dinner with us. (warm, an invitation, not an order)

2. Come and have ↘dinner with us (serious, expects to be obeyed)

3. I'll be staying for a ↘month. (excited, enthusiastic)

4. I'll be staying for a ↘month (factual, objective)

3.6.2. ↗The Rise

3.6.2.1. Form

In a Rising nuclear tone the pitch of the voice starts relatively low and moves upwards. The starting point may be anywhere from low to mid, and the endpoint anywhere from mid to high.

Audio VIII.5: Rise [28, pp.22-23]

1-**Listen**:

↗What? ↗Who? ↗Where? ↗When? ↗Eh?

↗Jim? ↗Madge? ↗Bill? ↗Bob? ↗Sue?

↗Never? ↗Always? ↗Thousand? ↗This one? ↗Carrots?

2-**Listen**

You have to take the tube.	↗What?
	↗Sorry
	↗What did you say?
I'll ask James to help.	↗James?
She was reading the time	↗The Times?
We'll need an assistant.	↗Linda?

3-**Listen**

A: Who's that over there?

B: It's Jim I ↗think

A: What's he like?

B: Oh he's one of our best students.

A: What's he studying?

B: Modern language.

A: Which language?

B: ↗English, ↗French and ↘Spanish**.**

A: That sounds ↗interesting.

If the nucleus is on the last or only syllable in the intonation unit, then the rise takes place on that syllable,

e.g. ↗Who?

Again, in identifying the nuclear tone we must disregard any prenuclear pitch pattern,

e.g.You want to talk to ↗who?

There is often a stepdown in pitch as we reach the beginning of the nuclear rise.

If there is a tail (= syllable after the nucleus), the rising pitch movement does not happen wholly on the nuclear syllable and all the following syllables – over the whole of the nucleus plus tail,

e.g. 1. ↗Chicken?

2. ↗ All of us?

3. ↗What did you say her name was?

This means that the last syllable is actually the highest pitch, even though it is unaccented.

3.6.2.2. Meanings

This tone is non-categoric and conveys the impression that **something more is to follow.**

e.g. A: Do you know what the longest balloon flight was?

B: ↗No.

When B replies ↗No with the **Rise,** he is inviting A to tell B what the longest balloon flight is whereas the response with ↘No could be taken to mean that he does not know and is not expecting to be told.

According to Wells [28, p.91], the Rise is used with three main tone meanings:

a-**Yes-No**, b-**Encouraging** and c-**Non-supportive**

We can add the fourth tone meaning to **Rise**: **d-More to follow**

Table VIII.4: Rise meanings [28, p.91]

Intonation	**Meaning**	**Sentence type**
Rise	a-Yes-No (Polarity)	Yes-No question Tag question Independent Elliptical Question Declarative Question Statement Pardon Question Interjection
	b-Encouraging	Statement W-H Question Command
	c-Non-supportive	Contradicting statement
	d-More to Follow	Series of W / H questions In complete sentence Listing Opening Lists

a-Yes-No Rise

i-Yes-No question

Yes-No questions (=general questions, polar questions) ask whether something is the case or not. Such questions are capable of meaningfully being answered **Yes** or **No**. The default tone for a **Yes** or **No** question is a **Rise**. We call it the **Yes-No Rise.**

e.g. 1. Are you ↗ready?

2. Is that the↗ time?

3. Will you be at the ↗meeting?

4. Have you been here ↗long?

5. Has he a↗greed to it?

Some utterances with the grammatical forms of Yes - No interrogatives are not questions so much as requests. They, too, usually have a **Yes – No Rise**.

e.g. Would you pass me the ↗water?

ii- Tag question

Tag-questions (Question tags) are short Yes-No questions tagged on to the end of a statement or command. If a tag question is genuinely asking for information, the tone will be a Yes-No Rise. This allows the speaker to check whether the other to agree or disagree.

e.g. 1. The answer is twenty, ↗isn't it? (Am I right?)

2. We could start with the kitchen, ↗could we? (=that's just my suggestion)

3. They haven't forgotten, ↗have they? (=Can that be the reason they 're not here?)

4. A:What does chaise mean?

B: Chair, ↗doesn't it?

5. A: Where are they going tomorrow?

B: Leicester, ↗aren't they?

iii-Independent elliptical questions

One way of reacting to statement made by another speaker is to use a short Yes-No question, consisting of an elliptical (=shortened) verb phrase. This resembles a tag question: but unlike a tag question it involves a change of speaker. The default tone for an independent elliptical question is a Yes-No Rise.

Independent Elliptical Questions can be used

- as Really? Questions:

e.g. A: I'm thinking of taking a break?

B: ↗Are you?

This is a kind of minimal response to keep the conversation going. It may indicate anything from boredom to surprise, depending on the pitch range used. It means much the same as:

e.g. A: He's just seen Peter.

B: ↗Really?

Independent elliptical questions of this type have the same polarity (positive or negative) as the clause just uttered by the other speaker.

e.g. 1. A: It wasn't very good.

B: ↗Wasn't it?

2. A: They didn't have any bread.

B: ↗Didn't they?

3. A: She won't be at all pleased.

B: ↗Won't she.

A: No, she won't.

- for checking

If while you are speaking you want to check whether you have said the right thing, or whether your hearer has understood what you said, you can use an interjection such as ↗OK? Or ↗Right?. These interjections are a kind of Yes-No question, and are accordingly usually said with a Yes- No Rise.

e.g. 1. I'll get in touch with Martin, ↗right?

2. You can hear it tomorrow, all ↗right?

3. I'll pay you back, O↗K?

4. I'll do it tomorrow, ↗yeah?

5. You think you're clever, ↗huh?

6. Why did you do it, ↗eh?

- as pardon questions

To ask another to repeat something because you did not hear it properly, you can say ↗**What**? or ↗**Sorry**? or ↗**Pardon**? with a **Rise**. We call this tone meaning a **pardon-question rise.**

e.g. 1. A: Could you turn the music down?

B: ↗What?

2. A:Would you pass the salt?

B: ↗Pardon

3. A: I want to tell you something.

B: You ↗what? (I can't hear you.)

4. A:We could ask Millington.

B: ↗Eh? ↗What did you say?

With a pardon question you can querry previous utterance, as in the examples just given, or just one element in it. In either case, the tone is **pardon-question Rise**.

e.g. 1. A: I choose Thora.

B: ↗Who

2. A:This is Mel.

B:↗Nell.

3. A: Are you going to ↗win?

B: Are we going to ↗win? Of course we are.

A typical conversational interchange might go as follows. Speaker A makes a statement, perhaps with an implicational Fall-Rise. Speaker B didn't quite catch it, and utters an interjection with a pardon-question rise. Speaker A repeats what he said, this time with a **Definitive Fall**:

e.g. A: The cruise document has come.

B: ↗Huh?

A: (I said) the ↘cruise documents have come.

The following conversational exchange is similar. But here speaker A asks a yes-no question. B asks a pardon question. When A repeats his yes-no question, again he switches to an insistent falling tone:

e.g. A: Has Mrs. ↗Parington been in?

B: ↗Sorry?

A: Has Mrs. ↘Partington been in?

- as a suggestion

To check whether you have understood the other speaker correctly, you can suggest an interpretation, to see if it is correct. This too requires a RISE: it is a kind of Yes-No question, and takes a Yes-No rise.

e.g. 1. A: We'll need some vegetables.

B: ↗Carrots? (=D 'you mean carrots?)

2. A : It'll cost quite a lot.

B : A ↗thousand.

3. A: I was talking to my friend the other day

B: ↗Mary? (by friend, do you mean Mary?)

- as echo questions

An echo question uses some or all of the same words as used by the previous speaker, but with a pardon-question rise. This may be a simple request for repetition or clarification, or it may also express **surprise** and **amazement** at what the other speaker has said.

e.g. 1. A: You'll have to do it again.

B: I'll have to do it a↗gain? / Do it a↗gain?

2. A: They've finished the job.

B: Finished the ↗job?

3. A: Have you got my pen?

B: My ↗pen?

4. A: Where's the bathroom?

B: The ↗bathroom?

There may be broad focus, querying the whole of the previous speaker's utterance, or narrow down focus on some particular element. In the later case the nucleus may be placed on a different item than the one on which the previous speaker placed it, often with ellipsis of some of the words:

e.g. 1. A: You'll have to do it again.

B: ↗ I'll have to?

2. A: They've finished the job.

B: ↗Finished it?

3. A: She's seeing him tomorrow.

B: ↗Seeing him?

It is also possible to query two or more words individually, placing a pardon-question rise nucleus on each.

e.g. 1. A: I was talking to James Smith.

B: ↗James ↗Smith

2. A: You'll need a digital camera.

B: A ↗digital ↗camera?

A special type of echo question is a second-order question, which echoes the other speaker's question to query it, perhaps with a narrowed focus:

e.g. 1. A: Have you got your ↗pen?

B: Have ↗I got my pen?

2. A: Wherer did it happen?

B: ↗Where? or ↘When?

- as please-repeat question

A different kind of pardon question is a **please-repeat WH question**, which involves changing the focused element into a question word. The tone is always a rise. In the simplest form of please-repeat question there is no fronting of the question word:

e.g. A: She took a tonga.

B: She took a ↗what? / She did ↗what? She ↗What?

Alternatively, the WH word may be fronted. If so, it still bears the nucleus and has a rising tone

e.g. A: She took a tonga.

B: ↗What did she take?/ ↗What did you say she took?

Any element of the first speaker's utterance may be queried in this way. The nucleus always goes on the question word.

e.g. A: Martin 's lost his cat.

B: ↗Who lost his cat?/ Martin's done ↗what? / Martin's done ↗what to his car? Martin's lost ↗what?

Broad-focus pardon questions request a repetition of everything the other speaker has just said. Like repetition wh-questions, they have a pardon-question rise on the question word.

e.g. A: She took a tonga.

B: ↗What was that again? / ↗What did you say? / ↗What? / ↗Sorry?

On the other hand, if the speaker asks not for a repetition but for a clarification, we have an ordinary **wh**-question, which will most likely be said with a definite Fall.

e.g. A: She took a tonga.

B: What's a ↘tonga?

iv-Declarative questions

Declarative questions are grammatically like statements. They can only be identified as questions only by their intonation, or by the pragmatics of the situation when they are used. They are usually said with a **Rise**: a Yes-No Rise.

e.g. 1. You'll be coming to ↗dinner? (=Are you coming to dinner?)

2. He took his ↗passport? (Did he take his passport?)

3.You think I'm ↗crazy? (=Do you think I'm carzy?)

4. A: I had an amazing experience.

B: You ↗did? (I hear what you say.)

b-Encouraging meaning

i-Statement: **Independent Rise**

As well as for declarative questions and in uptake, rises are used for short responses encouraging further conversation. They signal no more than that social interaction is running smoothly.

e.g. A: Have a cup of tea.

B: That's very ↗kind of you.

ii-W / H question

A W / H question can also be said with a **Rise**. It has the effect of making it more gentle, sympathetic or deferential, as opposed to the business like fall. We call this tone meaning the encouraging rise.

e.g. 1. When did you ar↗rive?

2. What's the ↗time?

3. How long will you be staying in ↗London, sir?

Contrast the two tone meanings: **Definitive Fall** and **Encouraging Rise**:

e.g. 1. What's your name? (unmarked, business-like)

2. What's your ↗name (encouraging, kindly)

A short W/H question that the speaker immediately answers himself usually has an interested Rise:

e.g. 1. I'm coming back. ↗Why? Because I love you.

2. We can conquer poverty. ↗How? By educating the workforce.

3. A: You can't go. Why↗ not?

B: Because I say so.

iii-Command

The default tone for commands is the **Definitive Fall**. However, in short commands (as with statements) a **Rise** is often used to encourage the other speaker to continue.

e.g. A: I've got something to tell you.

B: Go ↗on.

Commands said with the interested Rise (sound soothing and kindly). We use this tone when speaking to children. To adults, it can sound patronizing.

e.g. 1. Come to ↗Daddy.

2. Don't ↗worry.

3. Now take your ↗time.

The differences in these meanings can be seen when we compare them on the same sentence:

e.g. 1. Now, move a↘long, please. (firm, authoritative)

2. Now move a^{v}long, please. (urgent, warning)

3. Now move a↗long, please (routine, friendly)

iv- Greetings

For most greetings, both falls and rises are perfectly possible and acceptable. A **Definitive Fall** is more formal, an **Encouraging Rise** is more personal.

e.g. 1. Hel↘lo!

2. Hel ↗lo!

3. Good ↘morning!

4. Good ↗ morning!

Variant 1(e.g.1 and e.g.3), with a **Fall**, means just "**I am greeting you"**, whereas variant 2 (e.g.2 and e.g.4), with a **Rise**, expresses an added interest in the person addressed, "**as I greet you, I am acknowledging you"**.

A vocative after **hello** or **hi** usually has its own rising tone. In this case **hello** may be stress-shifted so that the accent falls on the first syllable:

e.g. 1. ↘Hi, ↗Kevin

2. Hel↘lo, ↗Margaret or ↘Hello, ↗Margaret.

3. Hel↘lo, ↗Tim or ↘Hello, ↗Tim

Said with a **Fall**, **thank you** has the straightforward meaning "**I am thanking you"**, with a Rise, it suggests "**as I thank you, I am acknowledging you"**. This is, however, a

routine kind of acknowledgement. To express genuine gratitude, it is necessary to use a fall, variant 1:

e.g. 1. ↘Thank you (straightforward)

2. ↗Thank you (routine acknowledgement)

For saying **farewell**, **goodbye** and its equivalents often have a **Rise**. Since **goodbye** signals the completion of a conversational exchange, you might expect it normally to be said with a definitive fall; but in practice a rise is much more frequent. Why? Because it is an encouraging rise, expressing goodwill and an acknowledgement of the other person. The same applies when a television presenter signs off.

e.g. 1. I'm off ↗now. Good↗bye.

2. Good↗night. See you tomor↗row.

3. So ↗long then.

4. That's it from ↗ me.

But to get rid of an unwelcome guest you would say: *Good* ↘*bye*.

Strangely, the informal *see you* tends to have a **Fall-Rise** rather than a **Rise**:ᵛ*See you*.

c-Unsupportive

To contradict what other person says, it is possible to use a **Definitive Fall**, a tentative **Fall-Rise**; but a more usual tone is a **Rise**:

e.g. 1. A : You haven't brought the milk.

B : Oh, yes, I ↗have

2. A : It was brialliant.

B : It ↗wasn't.

Contradictions can be said with a definitive fall: the difference is that a (high) fall implies warmth and solidarity with other person-i.e. supportive-while the rise implies defensiveness and unfriendliness - that is unsupportive.

d- More- to -follow meaning

This use can be seen in the following cases:

i- Special questions forming a series, as if in a questionnaire

e.g. 1.What's your ↗ name?

2.Where do you ↗live?

ii- In incomplete part of the sentence (when the speaker is going to say something else…)

e.g.When I ↗came,……

iii- In listing the items

e.g. I'd like a ↗ book, a ↗ pen and a**(**pencil.

iv- Open Lists

In listing items, we can use either **Rise** or **Fall** when we come to the last item. Look at the following examples:

e.g. 1.You can have ↗coffee or ↘tea.

2.You can have ↗coffee or ↗tea.

The **Fall** on **tea** in (e.g.1) signals that there are no more options: you must choose either coffee or tea. The **Rise** on **tea** in (e.g.2) signals that there may be other possibilities, too, as yet unmentioned, e.g. or you could have an orange juice.

Other examples:

e.g. 1. ↗Chicken or ↘beef?

2. ↗Chicken or ↗beef?

In e.g.1. the addressee (the passenger on an airline, perhaps) is being invited to choose between the two possibilities, chicken and beef. In e.g.2. she is being invited to choose one of those two, or if she prefers – some other option.

3.6.2.3. High Rise, Low rise and Wide Rise [28, pp.222-224]

a-The High Rise

The High Rise involves a rising pitch movement from a mid pitch to a high pitch. The movement seems to point independently upwards a high level point.

e.g. ˊWonderful?

b-Low Rise

The Low Rise involves a rising pitch movement from a low pitch to a mid pitch.

e.g. ↗Wonderful?

c- Wide Rise

The Wide Rise combine the special characteristics of the Low Rise and the High Rise since it has a rising pitch movement that starts from a low pitch and moves to a high pitch.

e.g. ↑Wonderful?

The **High Rise** is the tone associated with checking, pardon questions and echo questions. It is also the tone of uptake statements.

e.g. A : Martin's lost his cat.

B : ˊWho's lost his cat? / Martin's lost his ˊwhat? /

Martin's done ˊwhat to his cat.

The **Wide Rise** is associated with the non-solidarity of indignant or truculent disagreement.

e.g. 1. A: It was an utter disaster.

B: It ↑wasn't.

2. A: she's not going to finish it.

B: She ↑is.

3. A: He's a buffoon.

B: No, he's ↑not.

In Yes-No questions and greetings it signals surprise:

e.g. 1. Is ↑that what you think? (You must be crazy)

2. Hel↑lo! (I didn't expect to see you here).

The **Low Rise** is associated with the remaining independent uses of the rise nuclear tone, in particular the supportive rise showing interest or routinely encouraging further conversation.

e.g. 1. A: I've got something to tell you.

B: Go ↗on

2. A: Have you heard about Jell?

B: ↗No?

Compare the **High Rise** with query, the **Wide Rise** of indignant disagreement, and the **Low Rise** of interest or routine.

e.g. 1. A: You've forgotten your gloves.

B: I ↗have.(query)

2. A:You haven't paid for the coffee.

B: I ↑have (disagreement)

3. A: Have you got the details?

B: ↗I have (Interest)

The **Low Rise** is found particularly with responses consisting of a limiting adverb or adverbial.

e.g. 1. A: Could I borrow your pen?

B: If you ↗must.

2. A: Do you ever eat in the canteen?

B: ↗Sometimes.

In greeting, compare the **Low Rise** of routine, the **High Rise** of query, and the **Wide Rise** of surprise (imagine that it is just before midnight).

e.g. 1. Good ↗morning.

2. Good ↗Morning (But it's nighttime)

3. Good ↑Morning? (What a pleasant surprise to see you)

In the case of Yes / No questions the differences between these possibilities are more subtle. A **High Rise** signals informality, a **Low Rise** signals polite interest (at least in British English); a **Wide Rise** asks a note of surprise.

e.g. 1. Would you like some ↗tea? (casual, airy)

2. Would you like some ↗tea? (polite)

3. Would you like some ↑tea? (surprise)

Both the **Low Rise** and **High Rise** can be used as leading dependent tones. This is also the main use of the mid level.

3.6.3. Fall-Rise

3.6.3.1. Form

In a Fall-Rise nuclear tone, the pitch of the voice starts relatively high and then moves first downwards and then upwards again. The starting point may be anywhere from mid to high, the mid point is low, and the endpoint is usually mid.

Audio VIII.6. Fall-Rise [28, pp.24-25]

1-Listen

ᵛNearly ᵛPartly I ᵛthink so He ᵛsays so I ᵛhope so

ᵛTrue ᵛSoon ᵛNo Toᵛday Aᵛgain

ᵛVirtually ᵛHappily Reᵛgrettably Reᵛportedly Alᵛlegedly

2-Listen

Are you sure then? I ᵛthink so

Have they finished the housework ᵛMost of it

You promised it for Thursday. ᵛFriday

You said it was black. ᵛWhite

He sings tenor. ᵛBass

3-Listen

ᵛFortunately I was wrong.

ᵛThen I saw a dog.

Toᵛday We re going to do grammar.

Mrs. ᵛAshton will be taking the children.

As for ᵛyou, I'll deal with you later.

4-Listen

A: I'm not really ᵛsure, but I think I may have to cancel our meeting.

B: Oh, I'm sorry about ᵛthat. What's the trouble? Has something come up?

A: Well, ᵛactually it's my mother. She needs to go into hospital and she wants ᵛme to take her there.

If the nucleus is on the last or only syllable in the intonation unit, then the entire Fall-Rise movement takes place on that syllable.

e.g. ᵛMine.

As usual, in identifying the nuclear tone we must disregard any prenuclear pitch pattern.

e.g. I think it's ᵛmine.

If there is a tail (=syllables after the nucleus), the **Fall-Rise** pitch movement is spread out over the nucleus and tail. The falling part takes place on the nuclear syllable, or between that syllable and the next. The rising part takes place towards the end of the tail and extends up to the last syllable of the intonation unit.

e.g. 1. A: Are you ready yet?

B: ᵛAlmost.

2. A: This one is mine.

B: ᵛMine, you mean.

3. A: Was she hurt?

B: ᵛFortunately(she wasn't)

4. ᵛAlmost

5. ᵛMine, you mean?

6. ᵛFortunately

3.6.3.2. Meanings

The **Fall-Rise** is used a lot in English and has some rather special functions. It can be used for "**limited agreement"** and "**response with reservations".**

e.g. A: I've heard that it 's a good school.

B: ᵛYes

B's reply would be taken to mean that he would not completely agree with what A said, and A would probably expect B to go on to explain why he was reluctant to agree.

The most typical meaning of Fall-Rise tone is that the speaker implies something without necessarily putting it into words. We call this tone meaning the **implicational Fall-Rise.**

By making a statement with the Fall-Rise, the speaker typically states one thing but implies something further. Something is left unsaid-perhaps some kind of **reservation** or **implication**:

e.g. A: Who's that?

B: Well I know her ᵛface.

The **Fall-Rise** implies something further: a contrast between what is expressed and what has not, or not yet, been expressed. In this case it might be:

e.g. Well I know her ᵛface, but I can't remember her name.

The speaker has the choice of making the contrast explicit, as in the second version, or leaving it implicit, as in the first. Whether explicit or implicit, the implication is still hinted at by the Fall-Rise intonation.

The **Fall-Rise** is used in the following cases:

a-to be tentative

The Fall-Rise can be used to signal that the speaker is **tentative** about what he or she says. This is a special case of the implicational Fall-Rise: the speaker makes a statement but at the same time implies something like but I'm not sure or but I don't want to commit myself to this.

e.g. 1. A: Is this way to Hotborn?

B: I ᵛthink so (but I'm not sure)

2. A:What shall we have to drink?

B: We could try a ᵛRiesling.

b-to correct wrong statements politely

If we think someone has made a mistake, and we want to correct them, it is polite to do so in a tentative way. This explains the use of the Fall-Rise for **polite corrections.**

e.g. 1. A: She's coming on Wednesday.

B: on ᵛThursday

2. A:How many students? Twenty?

B: ᵛThirty

3. A: I'll come with you.

B: No, you ᵛwon't

In contrast, to use a **Fall** for a correction would be abrupt and perhaps rude:

e.g. A: She's coming on Wednesday.

B: No, on ↘Thursday

c-to make a partial statement

The **Fall-Rise** is often used when we make a partial statement; that is, to say that something applies partly, to some extent, but not completely:

e.g. 1. A: So you both live in London?

B: ᵛI do (but Mary lives in York)

2. A: What was the food like?

B: Well the ᵛfish was good.

Manny corrections are like this; partly we agree with the other speaker, partly we disagree. Partial corrections, too, take a **Fall-Rise**:

e.g. 1. A: I hear you passed all your exams.

B: ᵛMost of them. / Well not ᵛall of them

2. A: Green and blue are primary colours.

B: Well ᵛblue is (but ᵛgreen isn't)

Partial statements can involve subtle implications.

e.g. 1. A: What a lovely voice!

B: Yes, she has a lovely ᵛvoice (but she can't act)

2. A: I don't think much of her acting ability

B: Well, she has a lovely ᵛvoice(even if she can't act)

In e.g.1, the second speaker concedes that the performer in question sings well, but implies by the use of the Fall-Rise that he has reservations about other aspects of her abilities. So she agrees by the words he uses, but disagrees by his choice of tone. In e.g.2, on the other hand, he asks the first speaker to concede that the performer in question does at least have vocal ability. In each case we have a kind of partial correction: in e.g.1: a partial agreement, in e.g.2: a partial disagreement.

d-To be used in negative statement

The Fall-Rise is often used in negative statement:

e.g. 1. She wasn't very ᵛpleased.

2. I'm not suggesting these changes will be ᵛeasy.

3. I don't want to sound ᵛrude (but is that your dog?)

4. A:She refused to pay.

B: Oh I don't think that's ᵛtrue.

5. A: Why are you complaning?

B: It's not ᵛme (others are, too)

6. A: Are you free over the weekend?

B: Not on ᵛSaturday (though I am on Sunday)

The implication is that the corresponding positive statement is not true. There is a contrast, implicit or explicit, between a negative (something that we present as not true) and a positive (something we present as true). The negative part is said with a **Fall-Rise** tone. The positive part may either be left implicit (unexpressed), or alse be made explicit by being put into words. If it is made explicit, it may come either before or after the negative part, and may have either a definitive fall or an implicational (polite correction) **Fall-Rise**

e.g. A: He says they're moving to London.

B: Not ᵛLondon / He didn't say ᵛLondon / He didn't say ᵛLondon, he said Manchester / He said Manchester, not ᵛLondon./ She didn't say she ᵛwould do it (she said she wouldn't) / She said that she wouldn't do it, not that she ᵛwould.

Let us return to one of our earlier examples of the implicational Fall-Rise. There are two ways in which the implication might be made explicit.

e.g. A: Can we fix an appointment?

B: (1)Well I could see you on ᵛWednesday but on Thursay I'm ↘busy./ (2)Well I could see you on ᵛWednesday but not on ᵛThursday.

In (1) the implication is spelt our positively, with a definitive fall on **busy**, but in (2) it is expressed negatively, with a negative Fall-Rise on Thursday. Consider the likely tone choices in the following answers. The positive answer would probably have a fall, the negative one a **Fall-Rise**.

e.g. 1. A: How did it go?

B: (positive) Oh it was very suc↘cessful.

(negative) Well I wouldn't say it was sucᵛcessful.

2. A: Have you been to the Gigolo Club?

B: (positive) yes I've had some ↘great times there.

(negative) Not since it reᵛopened.

e-to indicate the scope of negation

The **Fall-Rise** tone has a special function in a negative sentence. Namely, it indicates that the scope of negation includes the word bearing the nucleus, but not the main verb (unless the main verb itself bears the nucleus). A falling tone, on the other hand, does not restrict the scope of the negation in this way. In the following examples: in e.g.1. the **Fall** means the scope is not limited; in e.g.2, the **Fall-Rise** means it is limited. The one labeled e.g.3, which has a **Rise**, is ambiguous.

e.g. 1. I won't eat ↘anything. (=I'll eat nothing)

2. I won't eat ᵛanything (=I'll eat only certain things)

3. Will he eat ↗anything?

The Fall-Rise expresses **politeness, apology, concern, uncertainty**, and **disagreement**.

3.6.4. Rise-Fall

3.6.4.1. Form

This tone consists of a rise from very low note to a fairly high note and then a fall from the high note to a very low one.

Audio VIII.7. Rise-Fall [23, p.220]

^Yes ^No ^Well ^Four

3.6.4.2. Meanings

The Rise-Fall might be used to express attitudes both pleasant and unpleasant, ranging from irony to sarcasm, from being pleasantly impressed to admiration. It is used to convey rather strong feelings of approval, disapproval or surprise.

e.g. A: You wouldn't do an awful thing like that, would you?

B: ^No

3.6.5. –The Level

3.6.5.1. Form

In this tone, the voice remains a level pitch, neither falling or rising. It can be high, mid or low.

Audio VIII.8. Level [23, p.220]

-Yes - No - Well - Four

3.6.5.2. Meanings

This tone is used in a rather restricted context in English: it almost always conveys (on a single-syllable utterances) a feeling of saying something routine or boring. A teacher calling the names of pupils from a register will often do so using a level tone on each name, and the pupils would be likely to respond with a level **yes** when their names are called.

The level is non-final and non-categoric in character. It may also be used to express hesitation and uncertainty and are often used in reciting poems.

AudioVIII.9: Four basic tones with tails [23]

↘**Bill** bought it	↘**Four** of them came	↘**Why** do you do it?
↗**Bill** bought it	↗**Four** of them came	↗**Why** do you do it?
ᵛ**Bill** bought it	ᵛ**Four** of them came	ᵛ**Why** do you do it?
^**Bill** bought it	^**Four** of them came	^**Why** do you do it?

3.7. Intonation Functions: Peter Roach (1998)'s Intonation Functions [23, pp.163-181]

3.7.1. Emotional and attitudinal function

Intonation enables us to express emotions and attitudes as we speak, and this adds a special kind of "meaning" to spoken language. This is often called the attitudinal functions of intonation.

Many writers have expressed the view that intonation is used to convey our feelings and attitudes; for example, the same sentence can be said in different ways, which might be labeled "angry", "happy", "grateful", "bored", and so on. To express emotions and attitudes, we will have to use variations in the width of pitch range, key, loudness, speed and especially our voice quality in speaking. These factors are all of great importance in conveying attitudes and emotions.

3.7.2. The accentual function of intonation

The term **accentual** is derived from "**accent**", a word used by some writers to refer to what in this course is called "stress". When writers say that intonation has accentual function they imply that the placement of stress is something that is determined by intonation. One particular aspect of stress could be regarded as part of intonation: this is the placement of the tonic stress within the tone-unit. It would be reasonable to suggest that while word stress was

independent of intonation, the placement of tonic stress was a function (the accentual function) of intonation. Some older pronunciation handbooks refer to this area as **sentence stress**, which is not an appropriate name: the sentence is a unit of grammar, while the location of tonic stress is a matter which concerns the tone-unit, a unit of phonology.

The location of the tonic syllable is of considerable linguistic importance. The most common position for this is on the last lexical word (e.g. noun, adjective, verb, adverb) of the tonic unit. For contrastive purposes, however, any word may become the tonic syllable. In the following pairs of examples, (a) represent normal placement and b-contrastive:

e.g. 1. a-It was very **(**boring.

1. b-It was ↘very boring.

2. a-You musn't talk so ↘loudly.

2. b-You ↘musn't talk so loudly.

However, it would be wrong to say that the only cases of departure from putting tonic stress on the last lexical word were cases of contrast or emphasis. There are quite a few situations where it is normal for the tonic syllable to come earlier in the tone-unit. A well-known example is the sentence *I have plans to leave*; this is ambiguous:

e.g. 1. I have plans to ↘leave (I am planning to leave.)

2. I have ↘plans to leave (i.e. I have some plans / diagrams / drawings that I have to leave.).

The best rule to give is that the tonic syllable will tend to occur on the last lexical word in the tone – unit, but it may be placed earlier in the tone – unit if there is a word there with greater importance to what is being said.

Placement of tonic stress is, therefore, important and is closely linked to intonation. A question that remains, however, is whether one can and should treat this matter as separate from the other functions described below.

3.7.3. The grammatical function of intonation

3.7.3.1. Intonation can be used to show the communicative types of sentences in communication.

The communicative types of sentences are differentiated in speech according to the aim of the utterance from the point of view of communication.

There are four communicative types of sentences:

a-Statements,

e.g. I like ↘music.

b-Questions,

e.g. 1. Do you like ↗music?

2. What ↘kind of music do you like?

c-Imperative sentences or commands,

e.g. Try it a↘gain.

Imperative sentences comprise the following main subtypes: **commands, requests** and **warnings**.

i- Commands

Serious, weighty commands take the Low Fall, preceded by the Descending Stepping Scale, e.g.

e.g. Open your books at page ↘five.

ii- Requests

To sooth or reassure the person to whom a request is addressed it is pronounced with the **Low Rise**, preceded by the Descending Stepping Scale or the High pre-head,

e.g. A: We had a lovely trip.

B: Do tell me about it, ↗please.

When pronounced with the **Fall-Rise**, requests sound urgent, concerned,

e.g. A: Can I give you a ᵛhand?

B: Please.

iii- Warnings

Structurally, warnings are usually imperatives, but they may also be declarative or exclamatory sentences. In both cases, they take the Sliding or the Descending Scale with the Fall-Rise,

e.g. 1. A: May I hold the baby for a minute?

B: Well, be ᵛcarefull with it.

2. A: I shan't bother to take jacket.

B: You'll catch ᵛcold.

d-Exclamation,

e.g. How ↘beautiful she is!.

Exclamations are often said with the Low Fall preceded by the Descending stepping Scale or the High Pre-head,

e.g. 1. How ↘late he is!

2. What a ↘pity!

Thus, statements are normally said with **Falling** Intonation; Yes / No questions with **Rising** Intonation; W / H questions with **Falling** Intonation; Imperatives with **Falling** Intonation; and Exclamations with **Falling** Intonation.

3.7.3.2. Intonation is used to determine the grammatical structures of the utterances:

Consider the following:

e.g. 1. Those who sold ᵛquickly made a ↘profit.

2. Those who ᵛsold quickly made a ↘profit.

The difference caused by the placement of the tone-unit boundary is seen to be equivalent to giving two different paraphrases of the sentences, as in:

e.g. 1. A profit was made by those who sold quickly.

2. A profit was quickly made by those who sold.

Tone-unit boundary placement can, then, indicate grammatical structure to the listener. Consider another set of examples:

e.g. 1. The Conservatives who ˅like the proposal are ↘pleased.

2. The Con˅servatives who like the proposal are ↘pleased.

The intonation makes clear the difference between (e.g.1) "restrictive" and (e.g.2) "non-restrictive" relative clauses; (e.g.1) implies that only some Conservatives like the proposal, while (e.g.2) implies that all the Conservatives like it.

Intonation is used to break sentences into sense groups. **A sense group is a word or a group of words forming the shortest possible unit in a sentence from the point of view of meaning, grammatical structure and the style of speech.**

A sense group may be a sentence, a part of a simple sentence, a part of a complex sentence, a main clause, a subordinate clause, a part of a clause.

e.g. 1. **He burst into ↘tear**.

2. **By this ↗time**, Andrew's temper was rising rapidly.

3. **If I ↗do**, will you be silent.

4. **In ↗June, ↗July and ↗August**, our children don't go to school.

3.7.4. The discourse function of intonation

If we consider how intonation may be studied in relation to discourse, we can identify two main areas:

a- Attention focusing

b-Conversational behaviour regulating

Let us consider these two main areas:

3.7.4.1. Attention focussing

a. Sentence-Stress Placing

Intonation is often used to focus the listener's attention on aspects of the message that are most important. This is the placing of the tonic stress (main sentence stress) on the appropriate syllable of one particular word in a tone-unit. The main sentence stress is placed on the word that is the most important. There are two main tendencies of main sentence stress placement: a-end-focus and b-contrastive stress

The main sentence stress is placed on the last stressed syllable in an intonation unit. The word which contains the main sentence stress contains the most important information in terms of information content: the new information,

e.g. *I've got to take the dog to the vet.*

In contrastive stress tendency, the main sentence stress can be placed on any word that is the most important in communication,

e.g. A: What is he doing?

B: He is ↘reading a newspaper.

b. Information presenting

The tone chosen can indicate whether the tone unit in which it occurs is being used to present new information or to refer to information which is felt to be already possessed by speaker and hearer.

e.g. Since the ᵛlast time we met when we had that huge ᵛdinner I've been on ↘diet.

The first two tone-units present information which is relevant to what the speaker is saying, but which is not something new and unknown to the listener. The final tone-unit, however, does present new information. Writers on discourse intonation have proposed that the falling tone indicates new information while the rising tone indicate "**shared**" or "**given**" information.

c. Intonation subordination

Another use of intonation concerned with the focusing of attention is intonational subordination; we can signal that a particular tone-unit is of comparatively low importance and as a result give correspondingly greater importance to adjacent tone-units. For example:

e.g. 1. As I expect you 've ↘heard they 're only admiring e↘mergency cases;

2. The Japanᵛese for some reasons or ↗other drive on the ↘left like ↘us.

In a typical conversational pronunciation of these sentences, the first tone unit of a) and the second and fourth tone-units of b) might be treated as intonationally subordinate; the prosodic characteristics marking this are usually (i) a drop to a lower part of the pitch range ("low key"), (ii) increased speed, (iii) narrower range of pitch and (iv) lower loudness, relative to non-subordinate tone-unit. The use of these components has the result that the subordinate tone-units are less easy to hear. Native speakers can usually still understand of what is said, if necessary by guessing at inaudible or unrecognizable words on the basis of their knowledge of what the speaker is talking about; foreign learners of English, on the other hand, having in general less "common ground" or shared knowledge with the speaker, often find that these subordinate tone-units cause serious difficulties in understanding.

3.7.4.2. Conversational behaviour regulating

Intonation is also important in the conversational interaction of two or more speakers. Most of the research on this has been on conversational interaction of a rather restricted kind such as between doctor and patient, teacher and pupil or between various speakers in court cases. In such material it is comparatively easy to identify what each speaker is actually doing

in speaking – for example, questioning, challenging, advising, encouraging, disapproving, etc. In a more general way, it can be seen that speakers use various prosodic components to indicate to other that they have finished speaking, that another is expected to speak, that a particular type of response is required, and so on. A familiar example is where the difference between falling and rising intonation on question-tag is supposed to indicate to the listener what sort of response is expected. It seemed that the key (the part of the pitch range used) is important is signalling information about conversational interaction. We can observe many examples in non-linguistic behaviour of the use of signals to regulate turn-taking. Intonation is used for similar purposes in speech, as well as for establishing or confirming the status of the participants in a conversation.

Brown and associates are concerned with how speakers manage large stretches of intonation, in terms of turn-taking and topic-signalling and how speakers use pitch level to interact. For instance, there seems to be a direct correlation in English between the beginning of a new topic and a shift to a higher pitch. Correspondingly, there is a tendency for the speaker to drop low in his or her pitch range at the end of a topic or sub-topic. Turn-taking is another important aspect of pitch level in this view of intonation. The speaker can signal a desire to continue a speaking turn by using non-low pitch, even at a point where there is pause, or at the end of a syntactic unit, such as a clause. Equally, a down-step in pitch is often a good turn-yielding cue. The intonational cues interact with other factors such as syntax, lexis, non-verbal communication and the content itself, and are typical of how the different levels of encoding have to be seen as operating in harmony in a discourse-oriented view of language.

3.8. Intonation differences between British English and American English

3.8.1. British analyses of English intonation *[36]*

British descriptions of English intonation can be traced back to the 16th century. Early in the 20th century the dominant approach in the description of English and French intonation was based on a small number of basic "tunes" associated with intonation units: in a typical description, **Tune 1** is Falling, with final **Fall**, while **Tune 2** has a final **Rise**. Phoneticians such as H.E. Palmer broke up the intonation of such units into smaller components, the most important of which was the *nucleus*, which corresponds to the main accented syllable of the intonation unit, usually in the last lexical word of the intonation unit. Each nucleus carries one of a small number of nuclear tones, usually including fall, rise, fall-rise, rise-fall, and possibly others. The nucleus may be preceded by a *head* containing stressed syllables preceding the nucleus, and a *tail* consisting of syllables following the nucleus within the tone unit. Unstressed syllables preceding the head (if present) or nucleus (if there is no head) constitute a *pre-head*. This approach was further developed by Halliday and by O'Connor and Arnold, though with considerable variation in terminology. This "**Standard British**" treatment of intonation in its present-day form is explained in detail by Wells and in a simplified version by Roach. Halliday saw the functions of intonation as depending on choices in three main variables: **Tonality** (division of speech into intonation units), **Tonicity** (the placement of the

tonic syllable or nucleus) and **Tone** (choice of nuclear tone); these terms (sometimes referred to as "the three T's") have been used more recently.

Research by Crystal emphasized the importance of making generalizations about intonation based on authentic, unscripted speech, and the roles played by prosodic features such as tempo, pitch range, loudness and rhythmicality in communicative functions usually attributed to intonation.

The transcription of intonation in such approaches is normally incorporated into the line of text. A typical example would be:

We ˌlooked at the ↗sky | and ˈsaw the ↘clouds

An influential development in British studies of intonation has been Discourse Intonation, an offshoot of Discourse Analysis first put forward by David Brazil. This approach lays great emphasis on the communicative and informational use of intonation, pointing out its use for distinguishing between presenting new information and referring to old, shared information, as well as signalling the relative status of participants in a conversation (e.g teacher-pupil, or doctor-patient) and helping to regulate conversational turn-taking. The description of intonation in this approach owes much to Halliday. Intonation is analysed purely in terms of pitch movements and "key" and makes little reference to the other prosodic features usually thought to play a part in conversational interaction.

3.8.2. American approaches to English intonation [36]

The dominant framework used for American English from the 1940s to the 1990s was based on the idea of pitch phonemes, or tonemes. In the work of Trager and Smith there are four contrastive levels of pitch: low (1), middle (2), high (3), and very high (4). (Unfortunately, the important work of Kenneth Pike on the same subject had the four pitch levels labelled in the opposite way, with (1) being high and (4) being low). In its final form, the Trager and Smith system was highly complex, each pitch phoneme having four pitch allophones (or allotones); there was also a Terminal Contour to end an intonation clause, as well as four stress phonemes. Some generalizations using this formalism are given below. It should be noted that the American linguist Dwight Bolinger carried on a long campaign to argue that pitch *contours* were more important in the study of intonation than individual pitch levels.

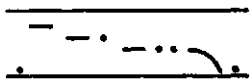
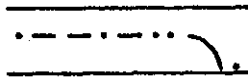
Normal conversation is usually at middle or high pitch; low pitch occurs at the end of utterances other than yes–no questions, while high pitch occurs at the end of yes–no questions. Very high pitch is for strong emotion or emphasis. Pitch can indicate attitude: for example, *Great* uttered in isolation can indicate weak emotion (with pitch starting medium and dropping to low), enthusiasm (with pitch starting very high and ending low), or sarcasm (with pitch starting and remaining low).

3.8.3. Intonation differences between British English and American English [26, pp.280-282]

GA intonation on the whole is similar to that of RP. But there are, of course, some differences that should be mentioned here.

a-In sentences where the most common pre-nuclear contour in RP is a gradually descending sequence, the counterpart GA contour is a medium Level Head:

e.g. 1. I don't want to go to the theatre.

RP  GA 

2. Its emphatic variant in Mid-wavy-level Head:

GA 

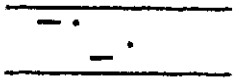
b-The usual Medium or Low Fall in RP has its rising-falling counterpart in GA:

e.g. Come and see me tomorrow.

RP  GA 

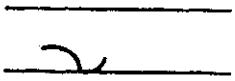
c-The rising terminal tone in RP in GA has a mid-rising contour:

e.g. Do you like it?

RP  GA 

d-The Fall-Rise nuclear tone is different in RP and GA:

e.g. Really?

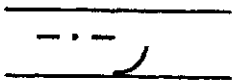
RP  GA 

These comparisons show that the main differences in intonation concern the direction of the voice pitch and the realization of the terminal tones. In GA the voice doesn't fall to the bottom mostly. This explains the fact that the English speech for Americans sounds "affected" and "pretentious" or "sophisticated". And for the English, Americans sound "dull", "monotonous", "indifferent".

It should also be mentioned that the distribution of terminal tones in sentence types is also different in both variants of English.

a-GA "Yes, No" questions commonly have a falling terminal tone; the counterpart RP tone would be a rising on

e.g. Shall we stay here?

RP  GA 

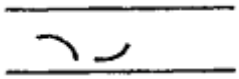
b-Requests in RP are usually pronounced with a Rise, whereas in GA they may take a Fall-Rise:

e.g. Open the door.

RP  GA 

c-Leave-takings are often pronounced with a high-pitched Fall-Rise in GA:

e.g. Good night.



In conclusion, we would like to say that American phoneticians use a pitch contour system to mark intonation in the text:

e.g. 1. It's a ↘very 'cold ˌday. It's a very cold|day.

2..→Will you ˌcome? Will you |come?

It is certain that we have not covered here all the cases of different intonation structures used in RP and GA.

CHAPTER VIII EXERCISES

I-Questions for Discussion

1-What is sentence stress? What kinds of words are normally stressed in communication? What kinds of words are not normally stressed in communication?

2-What is rhythm? What are the differences between syllable-timed rhythm and stress-timed rhythm?

3-How do you understand the term **intonation**? What is a tone language? An intonation language?

4-What are the forms and meanings of the five basic tones (**Fall, Rise, Fall-Rise, Rise-Fall**, and **Level**) in English?

5-What are the functions of the English intonation?

II- T / F: Decide whether the following are true or false

1-Sentence-stress is a prominence with which one or more words in a sentence are pronounced.

2-Lexical words are normally stressed in communication.

3-Words which serve to express certain grammatical relations or categories in the sentence are either stressed or unstressed.

4-The normal tendency in English speech is for the primary stress to occur on the last syllable of the tone group.

5-English speech has the tendency of syllable-timed rhythm.

6-When speaking, people generally raise or lower the pitch of the voice, forming pitch patterns. This phenomenon is called **intonation**.

7-Intonation is a combination of a-speech melody, b-sentence stress, c-tempo, and d-timbre.

8-The sentence *It is a very interesting book* has the structure of **Prehead-Head-Tonic Syllable-Tail.**

9-Speech melody is the loudness of the voice.

10-The **Fall** is usually used to denote finality. We call this tone meaning **Definitive Fall.**

11-If a yes-no question is said with a **Fall**, we call this **Insistent Fall**.

12-The **High Fall** implies greater interest, greater excitement, greater passion on the part of the speaker.

13- The **Fall** can be used to show something routine.

14-The **Rise** is used in general questions, requests, greetings, a series of special questions in an interview.

15-The **Rise** can be used with encouraging meaning.

16-The **High Rise** is the tone associated with checking, pardon questions and echo questions.

17-The **Fall-Rise** can be used for limited agreement, politeness, apology, concern, uncertainty…

18-The **Level** is used when saying something that is strong in emotion.

19-A tone unit is the basic unit of intonation in a language. It always has many tonic syllables.

20- According to Peter Roach, intonation has the following functions: a-attitudinal, b-accentual, c-grammatical, and d-discourse.

III- Multiple Choice: Choose the best answer:

1	……..is a prominence with which one or more words in a sentence are pronounced.			
	A-Assimilation	B-Sentence-stress	C-Wordgroup	D-Phoneme
2	On which types of words does the stress usually not fall on in natural speech.			
	A-Noun	B-Verb	C-Adjective	D-Auxiliaries
3	The normal tendency in the English language is for the main sentence stress to fall on			
	A-first	B-second	C-third	D-last
4	The above tendency (in 3) corresponds to the principle of…….in communication.			
	A-end-focus	B-contrastive stress	C-fronted theme	D-shifted stress
5	We can interfere with normal accentuation to highlight any word we please by means			
	A-end-focus	B-contrastive stress	C-fronted theme	D-shifted stress
6	…….is the tendency to pronounced the stressed syllables at relatively regular intervals of			
	A-Rhythm	B- Stress	C-Elision	D-Assimilation

7	When speaking, people generally raise or lower the pitch of their voices forming pitch			
	A-intonation	B-syllable	C-pitch	D-pronunciation
8	……..can be considered to be the height of the pitch and change of the pitch which is			
	A-Assimilation	B-Stress	C-Rhythm	D-Tone
9	Which of the following is not an intonation language?			
	A-German	B-Chinese	C-English	D-French
10	Which of the following is not a component of intonation in English?			
	A-Speech melody	B-Sentence stress	C-Tempo	D-Word meaning
11	Speech melody, a component of intonation, is the variation in……..			
	A-tempo of speech	B-sentence stress	C-voice pitch	D-timbre
12	……..is where major pitch movement begins.			
	A-The tonic syllable	B-The first stressed	C-The second	D-The fourth
13	……..consists of a fall of the pitch of the voice from a fairly high note to a very low note.			
	A-The Fall	B-The Rise	C-The Fall-Rise	D-The Rise-Fall
14	Yes / No questions are usually spoken with…….			
	A-The Fall	B-The Rise	C-The Fall-Rise	D-The Rise-Fall
15	……..consists of a rise from a very low note to a fairly high note.			
	A-The Fall	B-The Rise	C-The Fall-Rise	D-The Rise-Fall
16	W / H questions are usually spoken with……			
	A-The Fall	B-The Rise	C-The Fall-Rise	D-The Rise-Fall
17	…….consists of a fall from a fairly high note to a very low note and after that from the low			
	A-The Fall	B-The Rise	C-The Fall-Rise	D-The Rise-Fall
18	……can be used to express politeness, apology, concern, uncertainty, disagreement.			
	A-The Fall	B-The Rise	C-The Fall-Rise	D-The Rise-Fall
19	……consists of a rise from a very low note to a fairly high note and then a fall from the			
	A-The Fall	B-The Rise	C-The Fall-Rise	D-The Rise-Fall
20	Which of the following is not a function of intonation?			
	A-Emotional	B-Grammatical	C-Textual	D-None of the

IV-Practice

Read and practice J.C. Wells (2006): pp.45-69 [28]

COURSE REVEW

A- Review Questions

1-What is Phonetics? Phonology?

2- How can we classify the vowels? Diphthongs? Consonants?

3-How is the phoneme defined according to the functional view? What is an allophone?

4-What are the supra-segmental phonemes in the English language?

5-What is syllable? How can syllables be formed in English?

6-What factors contribute to the production of word-stress?

7-What kinds of word in the sentence are normally stressed?

8-What is assimilation? What are the types of assimilation?

9-What is elision? What are the types of elision?

10-What is rhythm? Is English a language of syllable-timed rhythm or stress-timed rhythm?

11-What is intonation? What are its functions?

12- What are the uses and meanings of basic intonation patterns in English (**Fall, Rise, Fall-Rise, Rise-Fall** and **Level**)?

ENGLISH VIETNAMESE TERMINOLOGY

1	Accommodation	Đồng hoá (Nguyên âm / phụ âm)	**72**	Open syllable	Âm tiết mở
2	Acoustic phonetics	Ngữ âm học âm học	**73**	Oral sound	Âm khoang miệng
3	Auditory phonetics	Ngữ âm học nhận biết	**74**	Palatal (sound)	Âm ngạc cứng
4	Affricative/ Affricate (sound)	Âm tắc xát	**75**	Palato-alveolar (sound)	Âm ngạc lợi
5	Allophone	Biến thể hình vị / hình vị nhánh	**76**	Partial assimilation	Đồng hóa bộ phận
6	Allophonic transcription	Phiên âm theo biến thể hình vị	**77**	Penultimate stress	Trọng âm áp chót
7	Alphabet	Bảng chữ cái	**78**	Pharynx	Họng
8	Alveolar (sound)	Âm lợi	**79**	Periodic sound	Âm tuần hoàn
9	Alveolar ridge	Lợi	**80**	Phone	Âm tố lời nói
10	Aperiodic sound	Âm không tuần hoàn	**81**	Phoneme	Âm tiết
11	Apical sound	Âm đầu lưỡi	**82**	Phonemic transcription	Phiên âm theo âm vị
12	Approximant (sound)	Âm tiệm cận	**83**	Phonemics	Âm vị học
13	Articulor	Cơ quan cấu âm	**84**	Phonetic alphabet	Bảng chữ cái ngữ âm
14	Articulatory phonetics	Ngữ âm học cấu âm	**85**	Phonetic context	Ngữ cảnh ngữ âm
15	Aspirated sound	Âm bật hơi	**86**	Phonetic / Allophonic transcription	Phiên âm ngữ âm/ Phiên âm theo biến thể âm vị
16	Assimilation	Hiện tượng đồng hoá	**87**	Phonetics	Ngữ âm học
17	Assimilation rule	Quy tắc đồng hoá	**88**	Phonology	Âm vị học
18	Bi-labial (sound)	Âm môi-môi (âm hai môi)	**89**	Physical event	Sự kiện vật lí
19	Breathing sound	Âm thở	**90**	Physiological	Thuộc sinh lí học
20	Cardinal vowel system	Hệ thống nguyên âm chính	**91**	Pitch	Cao độ (âm)

21	Closed syllable	Âm tiết đóng	**92**	Progressive Assimilation	Đồng hóa xuôi
22	Coda	Phụ âm cuối	**93**	Prominence	Sự nhấn âm
23	Complementary distribution	Thế phân bố bổ xung	**94**	Punultimate	áp chót
24	Complete assimilation	Đồng hoá hoàn toàn	**95**	Pure vowel	Nguyên âm đơn
25	Consonant	Phụ âm	**96**	Regressive assimilation	Đồng hoá ngược
26	Contextual assimilation	Đồng hoá theo ngữ cảnh	**97**	Reciprocal / Double Assimilation	Đồng hóa lẫn nhau
27	Continuant	Phụ âm xát	**98**	Reinforcing	Tăng cường, củng cố
28	Contrastive stress	Trọng âm tương phản	**99**	Retroflex consonat	Phụ âm quặt lưỡi
29	Coronal	Âm lưỡi trước	**100**	Rise	Ngữ điệu lên giọng
30	Closed syllable	Âm tiết đóng	**101**	Rise-Fall	Ngữ điệu lên giọng-Xuống giọng
31	C-V tiered syllable structure	Cấu trúc âm tiết Phụ âm-Nguyên âm	**102**	Rhyme	Phần vần
32	Dental (sound)	Âm răng	**103**	Rhythm	Nhịp
33	Diphthong	Nguyên âm đôi	**104**	Rolled sound	Âm rung
34	Disimilation	Dị hóa	**105**	Rule of phonology / phonological rule	Quy tắc âm vị học
35	Distinctive feature	Đặc trưng khu biệt / nét khu biệt	**106**	Segmental phoneme	Âm vị đoạn tính
36	Dorsal sound	Âm giữa lưỡi	**107**	Semi-vowel	Bán nguyên âm
37	Double Assimilation	Đồng hoá lẫn nhau	**108**	Sentence stress	Trọng âm câu
38	Encouraging	Khuyến khích	**109**	Sibilant	Âm gió
39	End-weight	Tầm quan trọng tập trung về cuối	**110**	Speech	Lời nói
40	End-focus	Tiêu cự/tầm quan trọng tập trung về cuối	**111**	Speech chain	Chuỗi lời nói

41	Fall	Ngữ điệu xuống giọng	**112**	Speech melody	Sự lên xuông giọng
42	Fall-Rise	Ngữ điệu xuống giọng-lên giọng	**113**	Sonorant	Âm vang
43	Fortis	Bật hơi mạnh	**114**	Sonority	Độ vang
44	Frequency	Tần số	**115**	Sonority Peak	Đỉnh độ vang
45	Fundamental Frequency	Tần số cơ bản	**116**	Stress group	Nhóm trọng âm
46	Fricative (sound)	Âm xát	**117**	Stress-timed rhythm	Nhịp thời gian theo trọng âm
47	Flapped sound	Âm rung	**118**	Supra- segmental phoneme	Âm vị siêu đoạn tính
48	Formant	Fóc măng	**119**	Stop	Âm tắc
49	Glottal (sound)	Âm thanh hầu	**120**	Syllable	Âm tiết
50	Glottis	Thanh quản	**121**	Syllabic	Âm tiết tính
51	Implicational	Hàm ý	**122**	Syllabification	Sự phân chia âm tiết
52	Indexical function	Chức năng thể hiện đặc trưng xã hội	**123**	Syllable Division	Sự phân chia âm tiết
53	Insistent	Khăng khăng, khẩn khoản	**124**	Syllable-timed rhythm	Nhịp thời gian theo âm tiết
54	(Inter)dental (sound)	Âm khe răng	**125**	Timbre / Tambre	Săc thái giọng
55	Intermediate assimilation	Đồng hoá nửa chừng	**126**	Tonality	Ngữ điệu
56	Internal structure	Cấu trúc nội tại	**127**	Tone	Thanh điệu / mô hình ngữ điệu
57	Intonation	Ngữ điệu	**128**	Tonicity	Định vị trí trọng âm chính
58	Intrusion	Sự chen âm	**129**	Tonic-strong stress	Trọng âm chính
59	Labial (sound)	Âm môi	**130**	Transcription	Phiên âm
60	Labio-dental (sound)	Âm môi răng	**131**	Transient sound	Âm không tuần hoàn ngắn
61	Larynx	Thanh quản	**132**	Trilled consonant	Phụ âm rung
62	Level	Ngữ điệu đều đều	**133**	Variant	Biến thể

63	Lenis	Bật hơi yếu	**134**	Variation	Sự biến đổi
64	Linking	Sự nối âm	**135**	Velar	Âm vòm mềm
65	Monophthong	Nguyên âm đơn	**136**	Velum	Vòm mềm
66	Multi-tiered Syllable Structure	Cấu trúc âm tiết đa tầng	**137**	View / position	Quan điểm
67	Nasal (sound)	Âm mũi	**138**	Voiced sound	Âm hữu thanh
68	Non-tonic strong stress	Trọng âm phụ	**139**	Vocal / vocalic	Thuộc về nguyên âm
60	Non-supportive	Không khuyến khích	**140**	Vowel	Nguyên âm
70	Obstruent (sound	Âm tắc xát	**141**	Word-stress	Trọng âm từ
71	Onset	Phụ âm đầu	**142**	Whisper sound	Âm thì thào

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