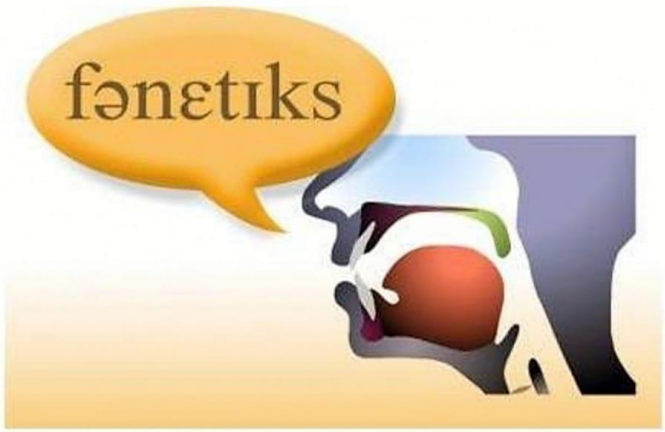

Dr. Rewaa Anwer

Linguistics: Phonetics and Phonology

THIRD YEAR

ENGLISH DEPARTMENT

Translation Program

DR. REWAA AHMED ANWER

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FOREWORD

This course is meant to help English as a Foreign Language (EFL) university students familiarise themselves with the basics of English phonetics. It covers the English phonetics syllabus, which is generally taught in the 1st semester of an English philology programme at the university level. It provides information on the sound system of English and deals specifically with some specific problems faced by Lithuanian as well as by international EFL learners. This course focuses on segmental phonetics and beyond: the structure and linguistic function of the articulatory apparatus, the characteristics and classification of vowels and consonants, the International Phonetic Alphabet and its use in phonetic transcription. It also briefly expands on the syllable and word stress. It basically serves as a background for further readings on suprasegmental phonetics and aspects of connected speech.

Because the course is organised so as to cover the workload of one semester, it does not compete with other more extensive introductory courses to phonetics. Bearing in mind that there already exist excellent introductions to phonetics, extensive theory and practice books containing pronunciation drills and exercises, phonetics seems to be a well-provided field. This course, however, attempts to present a short, synthesised, and systematic approach to English phonetics and serves as a guideline for further reading for students. The theoretical framework is principally based on the work of Clark and Yallop (1992), Roach (2009), Crystal (2004, 2008), Gimson and Cruttenden (2008), Collins and Mees (2003) and the other works mentioned in the list of references. Last, but not least, the course aims to continue the work of the Lithuanian phoneticians R. Aprijaskytė and L. Pažūsis whose invaluable contribution to the field motivates and provides us with comprehensive knowledge.

This course contains nine sections that are arranged according to the course's unit content. Section 1 opens with an explanation of the terms dialect and accent as well as a justification for the choice of received pronunciation (RP). Section 2 introduces the readers to the key sound concepts: phone, phoneme, and allophone. It also annotates the science of phonetics and phonology. In Section 3, articulatory apparatus and sound production are examined. Section 4 familiarises the students with the International Phonetic Alphabet and introduces the development of

transcription skills. Sections 5 and 6 present the characteristics and classifications of vowels, consonants, and sonorants. In Section 7, several complex phonemes and their allophones are detailed in terms of their articulation and distribution. Section 8 expands beyond the segmental level and briefly dwells on the concept and the structure of the syllable. In addition, stress placement is discussed with reference to complex stress patterns in longer words and compounds. Finally, strong versus weak forms of function words are presented under the influence of sentence stress in Section 9.

Each section also features a list of further reading options, a terminology self-assessment, and several study questions and exercises, which are predominantly focused on the formation of transcription skills. Students are also provided with a glossary that uses Lithuanian equivalents to help explain the key terms and complex anatomy concepts.

The course is not intended to overload the students with theory reading, thus allowing considerable time and opportunity for practice in a language laboratory and offering flexibility for incorporating the instructor's personal preferences for teaching the course. For the extension of this particular course, a suprasegmental study should follow to give students the full picture of English phonetics.

Orthography

For the purpose of convenience, the following orthographic notations are used: target spelling entries are written in *italics*, e.g. *team*, and target transcription entries are highlighted in navy blue and inserted either between slashes for phonemic transcription, e.g. /tiːm/ or, in rare cases, between square brackets for allophonic transcription, e.g. [tʰiːm] (for further details see Section 4). To visually distinguish the basic theory concepts and terms, they are written in **bold**.

The text also features tables, which give synthesised theory concepts and examples, as well as several figures either adapted from Roach (2009) or referenced to their original sources.

1. VARIETIES OF ENGLISH

1.1. Varieties of Language

Varieties of language refer to the differences in the systems of a language that emerge from social, historical, geographic, social, and other changes. In other words, a language variety is "a system of linguistic expression whose use is governed by situational variables" (Crystal 2008: 509). A **dialect** is governed by regional or social distinctiveness and is identified by particular vocabulary, pronunciation, and grammatical structures. Crystal (2008) states that languages develop dialects when they are used by a large number of speakers and if there are "geographical barriers separating groups of people from each other or […] divisions of social class" (2008: 509). All people speak a dialect. A group of people who speak a certain dialect is often referred to as a **speech community**. A language variety that is defined on social grounds is called a **sociolect**. It primarily applies to a particular social class of people or to an occupational group. A regional dialect or **regiolect**, conversely, describes the language spoken in a particular geographic area. An **idiolect** is the individual and unique use of language restricted to a single speaker. This term implies an awareness that each individual speaks in a different manner in terms of vocabulary, grammar, pronunciation, and levels or styles of language use. An **accent** refers to pronunciation only. An accent may be considered to be a spoken representation of a dialect because it reflects "those features of pronunciation which identify where a person is from, regionally or socially" (Crystal 2008: 3). As all people speak a dialect, all people have an accent. A predominating dialect may become the official or **standard** form of the language. Often it is referred to as a prestige variety or, as Crystal (2008) calls it, an "institutionalised form" (2008: 450), the term which is used in the mass media, foreign language teaching, etc. **Nonstandard** varieties, consequently, are defined as dialects which "do not conform to this norm" (Crystal 2008: 450).

1.2. Standard English

Internationally, there are many varieties of English as it is spoken worldwide as a first or a second official language. As a first language, it is spoken in the United

Kingdom, the United States of America, Canada, Ireland, Australia, New Zealand, South Africa, and some islands in Central America. Today all English-speaking nations have their own national varieties of English. A **national variety** is defined as the speech of a nation, e.g. British English, American English, Australian English, Canadian English, etc. Each national variety holds its standardised language as Standard English, General American, etc.

This course is based on **Standard English (SE),** the norm of British English. Trudgill (1999) calls SE "the most important dialect in the English-speaking world from a social, intellectual and cultural point of view" (1999: 123). SE is not regionally based, but instead, it is a purely social dialect. It is the variety of English associated with high status, promoted by educational institutions, used in government, law courts, the church, and media. It is used for printed texts and formal speeches. The linguistic features of this standard variety, however, are matters of grammar and vocabulary, but not pronunciation. As a result, SE is spoken in various accents that vary according to their regional origin, and the social group, or ethnicity of the speaker. The accent which is most often associated with SE is known as **Received Pronunciation.**

1.3. Received Pronunciation

Received Pronunciation (**RP**) is the pronunciation that is associated with the educated, typically the middle and upper classes of the community. As with the SE dialect, RP is also identified not so much with a geographical region as with a certain social group. It has connotations of prestige and authority and is an indicator of formal speech. Various terms for RP include **The Queen's English, Public School Accent, Oxford English, BBC English, the accent of the Court**, etc. All the expressions mentioned above reflect important historical and social aspects of RP.

1.3.1. History of RP

The historical origins of SE can be traced back to the 16th century (Fisher, 1993) when prestige and authority became attached to one accent, particularly the accent used by the court and the central administration in London. Being the language of the educated "upper social class" people, this pronunciation was perceived as the correct and accepted version, whereas other accents were treated as corrupted forms of the norm.

The 19th century saw a flowering of the prestige public schools and this contributed greatly to the growing importance placed on the accepted accent. During the course of the century, the royal family and the upper-class members of the society, attended boarding schools such as Eton, Winchester, Harrow, Charterhouse, Westminster, or Rugby, and they graduated from Oxford and Cambridge Universities. The prestigious accent they used gained a unique status and "became the kind of pronunciation passed down from one educated generation to the next" (Crystal 2004: 3). The term "Received Pronunciation" was proposed in 1869 by the linguist A. J. Ellis, however it was not a widely used term until the phonetician D. Jones adopted it in the second edition of the English Pronouncing Dictionary in 1924.

RP probably received its most accepted status in 1922 when it was adopted as the British Broadcasting Cooperation (BBC) broadcasting standard. The BBC only employed announcers and newsreaders who were RP speakers. To supplement its language policy, the BBC Advisory Committee on Spoken English was established in 1926. After World War II, it was renamed "the BBC Pronunciation Unit", and its authority diminished to that of providing guidelines to newsreaders on the pronunciation of geographical and personal names. The unit still functions today, although modern BBC newsreaders and announcers more often speak in mild local accents and modified RP rather than in its pure form. Moreover, the BBC Overseas Service has taken to using a number of newsreaders from regional stations whose English, by British standards, has a strong foreign accent. Nevertheless, Roach (2009) claims the BBC is still respected by many people in Britain and abroad as a model of good English and can still be classed as **BBC English**.

1.3.2. RP Today

Recent estimates suggest only 3-5% of the UK population speaks RP today. Despite its statistical insignificance, it is still the language of the educated, the most widely studied, and the most frequently described variety of spoken English in the world. Moreover, as England is a place where a person's accent still represents an important index as to the social and educational background of the speaker, RP still maintains its high status.

As well as being a prestigious accent, RP is also a concept in phonetics. Phonemic transcriptions in dictionaries are based on this particular accent, and it serves as a standard for EFL learners in Europe. Therefore, the current social and linguistic status of RP is of special relevance to EFL university students. Moreover, in the field

of accent studies, RP is widely used as a reference accent for comparison with other varieties.

1.3.3. Types of RP

RP, like all accents, changes constantly and incorporates new phenomena, while others are lost. Consequently, different subtypes of RP can be distinguished, which are more or less conservative or progressive, and which are spoken by different age groups. Gimson and Cruttenden (2008) identify three main types of RP:

1. **Conservative RP**, which is the most resistant to change and is characteristic of older generations. It is traditionally used by certain professions or social groups;
2. **General RP**, which is commonly defined as the pronunciation adopted by the BBC and is the type most commonly in use;
3. **Advanced RP**, which typifies attempts to change and is chiefly used by young people of exclusive social groups.

Wells (1982) makes a similar distinction by reducing the number to two types:

1. **Mainstream RP,** which largely corresponds to general RP and is the unmarked and modern type of RP, traditionally spoken by BBC newsreaders.
2. **Upper-Crust RP**, which is a more conservative and old-fashioned type of RP, mostly associated with elderly people, the upper class, or the members of the royal family.

It is also common to distinguish between RP and what Wells (1982) calls **Near-RP** accents. These are close to Mainstream RP but accommodate mild regionalisms and therefore do not fall completely within the boundaries of RP.

1.4. On Cockney and Estuary English

Cockney is a British accent, which originated in the East End of London. It is often associated with London's working class, and originally attributed to those who were "born within the sound of Bow Bells" (Wells 1982: 302), i.e. the bells of Saint Mary-le-Bow Church in Cheapside in London. For some time, the Cockney accent was scorned and regarded as inferior. However, it is currently an accent trending among middle-class Londoners. McArthur and McArthur (2005) indicate the following pronunciation features typified for Cockney accent: glottal stops (see p. 43), /l/ vocalisation (see p. 43), th-fronting (/v/ and /f/ sounds instead of /θ/ and /ð/),

and other phonetic features that have become characteristic in and around London and are notably favoured by the young.

Estuary English (EE) is the term, which seems to best reflect the predominant modern accent in London. EE seems to comprise both the prestige of RP and the back-to-modern features of working-class Cockney. Rosewarne (1994: 3) calls it "the accent between Cockney and the Queen." EE "supposedly originated in the counties adjacent to the estuary of the River Thames" (Crystal 2008: 173), and thus displays the influence of London regional speech. Rosewarne (1994) claims that this form of speech is a new sort of standard, which has replaced RP and is favoured by the young upwardly mobile people in all spheres of life, including professionals. Roach (2009) states that EE is not really an accent, but more a modern deviation from RP used in the London area and characterised by glottal stops and /l/ vocalisation.

1.5. Global English

English has become an international language not only because it is used by so many people all over the world, but also because it has developed into the essential means of global communication, embracing access to the world's intellectual and technical resources. Crystal (2003) defines a global language as a language that "achieves a global status when it develops a special role that is recognised in every country" (2003: 3). Thus, English is often referred to as **Global English** or **World English** and is used as a lingua franca[1] in all spheres of global activity. No other language has such global exposure as English, which is used around the globe for specific purposes other than language. The term **World Englishes** embodies all varieties of English developed in different regions of the world, especially those that emerged in nations colonised by the UK or influenced by the US. Some scientists (e.g. Widdowson 1994) claim that the extensive number of people who now use English means that it is no longer the property of native speakers, which consequently results in the deprivation of the standard dialects and accents. Some scientists (e.g. Jenkins 2000) introduced the term **intelligible pronunciation** to define the extent of the phonological features of the language that make the message recognisable by a listener. Consequently, the pedagogical priorities in pronunciation are reduced to features necessary to adopt international intelligibility only. This course, however,

[1] A **lingua franca** is "a term used in sociolinguistics, and often in everyday speech, to refer to an auxiliary language used to enable routine communication to take place between groups of people who speak different native languages; also sometimes called an interlingua" (Crystal 2008: 282).

points the EFL university students in the direction of a near-native pronunciation – what Gimson calls the target of "high acceptability" (Cruttenden 2014: 328).

Further reading options: Roach (2009: 1-7)**,** Collins and Mees (2003: 2-6, 268-272), Trudgill (1999: 123-125).

Terminology check:
dialect, accent, sociolect, social community, idiolect, national variety, Standard English, RP, BBC English, Cockney, Estuary English, World English, World Englishes, intelligible pronunciation

Study questions:

1. What is the difference between a dialect and an accent?
2. What is a sociolect?
3. What is an idiolect?
4. What is the difference between SE and RP?
5. What are the different types of RP?
6. What are the different names for RP? Why are they called so?
7. What is the difference between RP, Cockney, and Estuary English?
8. What native dialect / accent do you speak?

2. PHONETICS AND PHONOLOGY

2.1. The Object of Phonetics and Phonology

Phonetics and phonology are the branches of linguistics concerned with sounds, thus the main object of investigation in this course is **a sound**. The English alphabet is comprised of 26 letters, while the sound system of English contains 44 sounds as phonemes (see explanation of phonemes below). Both branches investigate the sounds from different perspectives:

- **Phonetics** is concerned with the physical manifestation of language in sound waves and how they are produced, transmitted, and perceived, and also "provides methods for their description, classification, and transcription" (Crystal 2008: 363).
- **Phonology** "studies the sound systems of languages" (ibid: 365) and how sounds function in relation to each other in a language.

Although phonetics and phonology are indistinguishable from one another in most instances, the scope of these pages deal with phonetics essentially and only touches upon a few concepts in phonology for practical purposes.

2.2. On Phone, Phoneme, and Allophone

The term **sound** is often regarded as not being a precise one in the fields of phonetics and phonology and is thus replaced by the term **phone.** Sound could mean any noise or sound, while phone is restricted to the human voice ('Phone' comes from a Greek word 'phone' [human voice] and is regarded as a speech sound which can be cut out from the speech stream. Crystal (2008) defines phone as "the smallest perceptible discrete segment of sound in a stream of speech" (2008: 361).

A **phoneme** includes all the phonetic specifications of phones and is the smallest independent unit that can bring about a change in meaning. Roach (2009) calls phonemes "abstract sounds" as there may be slightly different ways to realise the same phoneme. An example of a phoneme is the sound /t/ in the words ***t****eam* and *s****t****eam*. The slight difference in the realisation of this phoneme is that the /t/ in ***t****eam*

is aspirated [tʰ], while the /t/ in *steam* is not [t]. Phones that belong to the same phoneme, such as [t] and [tʰ] for English /t/, are called **allophones**. Allophones do not affect the semantic meaning of the word, while a substituted phoneme could bring a semantic change. For example, ***t**eam* pronounced with any allophone of the phoneme /t/ maintains its meaning, but if it is substituted with the phoneme /b/, then it brings about a semantic change. These two words then (*team* /**t**i:m/ and *beam* /**b**i:m/) form a **minimal pair**, which is an opposition of two words showing the existence of these two phonemes. For a set of words to form a minimal pair, they may differ in one phoneme only. Phonemes cannot, in fact, be pronounced – in actual speech, they are realised through allophones.

2.3. The Branches of Phonetics

Adopting the different perspectives referred to in the description of phonetics above, it can be viewed as investigating three distinct areas that are represented in the following **branches of phonetics**:

- **articulatory phonetics**, which studies the ways the vocal organs are used to produce speech sounds;
- **acoustic phonetics**, which investigates the physical properties of speech sounds (duration, frequency, intensity, and quality) that are generally measured by spectrographs to depict waveforms and spectrograms;
- **auditory phonetics,** which is concerned with how people perceive speech sounds, i.e. how the sound waves activate the listener's eardrum, and how the message is carried to the brain in the form of nerve impulses.

Further reading options: Roach (2009: 31-38), Crystal (2008: 361-365).

Terminology check:
phonetics, phonology, phone, phoneme, allophone, minimal pair, articulatory phonetics, acoustic phonetics, auditory phonetics

Study questions:

1. What is the difference between phonetics and phonology?
2. What is the difference between a letter and a sound?
3. How many sounds are there in the English sound system?

4. What is the number of sounds and letters in your native language?
5. Why is phone a more appropriate term than sound?
6. What is the difference between phoneme and allophone?
7. What is a minimal pair?
8. What branches of phonetics are distinguished, and what does each branch investigate?

Exercises:

1. Write the number of letters and the number of sounds in these words:

Word	Number of letters	Number of sounds
enough		
philosophy		
Christmas		
answer		
furniture		
Chinese		
picturesque		
delicious		
Wednesday		
colonel		
honour		
thorough		
naughty		
scene		
business		

2. Create minimal pairs substituting the sounds in bold in the following words:

Word	Minimal pairs with that word								
let /**l**et/									
let /le**t**/									
kid /kɪ**d**/									
got /**g**ɒt/									
keen /**k**iːn/									
book /**b**ʊk/									
come /kʌm/									

3. SPEECH MECHANISMS IN ARTICULATORY PHONETICS

3.1. The Stages in Sound Production

For practical purposes, of the three main branches of phonetics, articulatory phonetics will be discussed as an enhanced awareness of the articulatory apparatus and the exact production of each sound can help students to form conscious and physically correct articulation. Articulatory phonetics focuses on the organs of speech and their role in producing speech sounds, which is predominantly based on data provided by other sciences, such as human anatomy and physiology. Human beings do not possess organs used exclusively in the production of speech sounds. Instead, these organs primarily serve other functions (digestive, respiratory, etc). This actually raises an interesting question: whether we were born to speak or whether speech developed accidentally in the evolution of mankind. Either way, the production of speech sounds happens either simultaneously or alternatively with the physiological processes mentioned above.

Speech is the result of neuromotor activity, thus the sound originates in the brain. After the creation of the message in the mind, a number of commands are executed by the organs of speech to physically produce the sound. The physical production initiates in the lungs and undergoes important modifications in the respiratory tract before it is realised. The different stages involved in this process are referred to as a **speech chain**. Clark and Yallop (1992) view this process as a kind of **speech mechanism** involving the active or passive functioning of the organs of speech. The stages in physical speech mechanism are presented in *Figure 1* and are listed as follows:

1. **Initiation or Respiration** (the lungs provide the energy source);
2. **Phonation** (the vocal folds convert the energy into an audible sound);
3. **The Oronasal Process** (the soft palate distributes the audible sound into the oral cavity or nasal cavity);
4. **Articulation** (the organs of speech transform the sound into an intelligible speech sound).

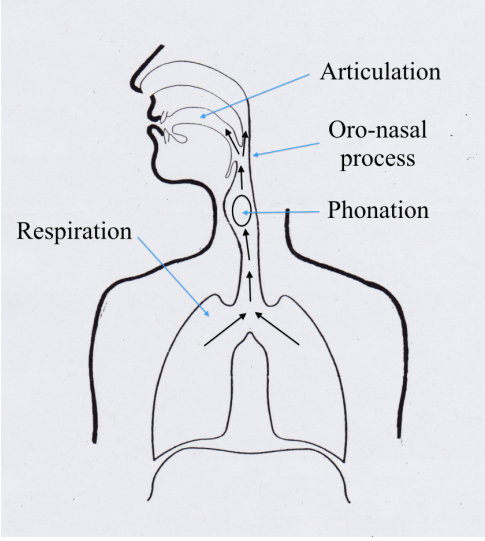


Figure 1. Stages in speech mechanism *(adapted from Roach 2009:25)*

3.2. Initiation or Respiration

The physical initiation process starts in the **lungs**. Clark and Yallop (1992: 21) describe the lungs as the "reservoir for airflow in much of speech". The lungs consist of spongy material that are filled with air when we inhale. The lungs are located in the thoracic cavity within the rib cage and are surrounded at the front by the ribs and at the ventral base by the diaphragm (see *Figure 2*). During the **inspiration** phase, the diaphragm lowers and the rib cage moves upwards and outwards, increasing the dimensions of the thoracic cavity and lowering the air pressure. This enlargement

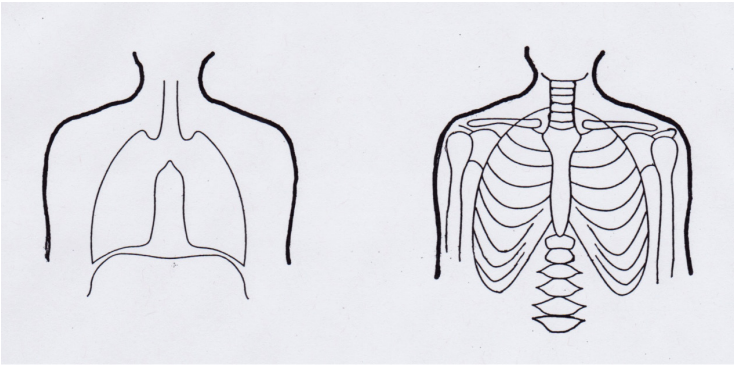


Figure 2. The lungs and the rib cage *(adapted from Roach 2009: 25)*

of the thoracic cavity increases the lung volume, which consequently allows air to flow into the lungs. In the **expiration** phase, the rib cage is pulled downwards and the lung volume is reduced, which in turn forces the airflow out of the lungs and generates an **egressive** airflow. It is during the latter phase that speech production takes place in English, and it is for this reason that the sounds produced are known as **egressive.**

3.3. Phonation

The airflow passes from the lungs into the vocal tract and then to the **larynx**. In the larynx, some of the essential features of the sound production take place as they contain the **vocal folds** (vocal cords). Clark and Yallop (1992) describe the larynx as a skeletal frame situated at the top of the trachea and made of a series of cartilages, with the two main cartilages (the thyroid and the cricoid) playing the crucial role in the process of phonation (see *Figure 3)*. Inside the thyroid cartilage, there is a so-called voice box, which consists of two plates joined together at an angle at the front. The vocal folds are two plates, or rather two thick flaps of tissue and are made of the so-called vocal ligament and a vocal muscle. At the back, the vocal folds are attached to a pair of arytenoid cartilages which move in rotational and sliding motions that shape the position of the vocal folds.

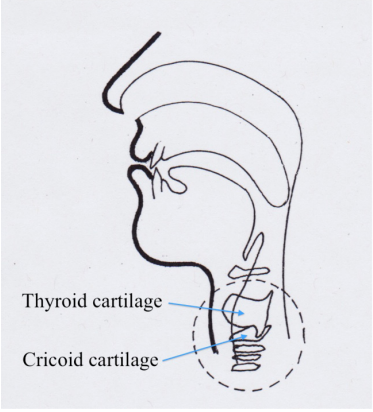


Figure 3. The larynx and the cartilages *(adapted from Roach 2009: 25)*

The vocal folds play a crucial role in one of the most important phonetic processes, which is that of **voicing**. The vocal folds can be brought together and when the airstream is forced between them, they vibrate and produce voice. When the vocal folds are wide apart, the airstream passes between them freely, meaning

that the vocal folds do not vibrate and no voice is produced. This position is set for breathing, so that air can pass in and out of the lungs unimpeded. The laryngeal aperture (or space) between the vocal folds is called the **glottis.** Clark and Yallop (1992: 32) characterise the glottal opening as being approximately 17 to 22 mm long in males and about 11 to 16 mm long in females. Vowels, vowel-like sounds (sonorants), and a number of consonants are produced by the vibration of the vocal folds, and consequently, they are defined as **voiced**. The open glottis with an absence of vibration in the vocal folds is characteristic for **voiceless** sounds. See *Figure 4* for the closing (a) and the opening (b) of the vocal folds.

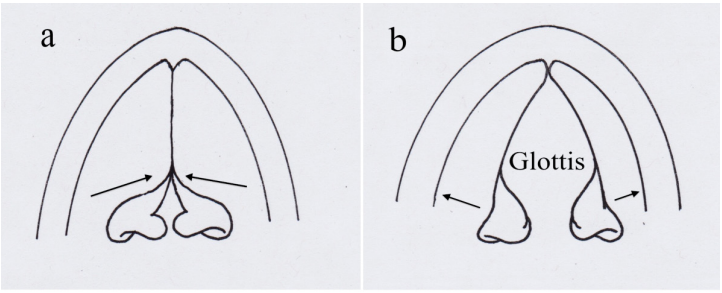


Figure 4. The closing and the opening of the vocal folds

Clark and Yallop (1992: 37) describe the **phonation cycle** in the following stages:

1. the vocal folds are drawn together fairly tightly;
2. the expiratory airflow builds up the pressure and forces the vocal folds apart;
3. as the airflow escapes through the glottis, the pressure is reduced, and the focal folds close again.

By varying the status of the vocal folds (more tense or relaxed, longer or shorter, higher or lower rate of vibration, etc.), we can change the quality of the voice (from loud to quiet, clear, harsh, creaky, etc.). Roach (2009: 25) identifies three basic differences in the **pressure** of the vocal folds as described below:

1. variation in **intensity** (loudness);
2. variation in **frequency** (high and low pitch);
3. variation in **quality** (harsh, breathy, creaky sounds).

Consequently, by manipulating the vocal folds in diverse ways, it is possible to distinguish various sets of categories generally referred to as the **modes of phonation**. Clark and Yalop (1992) recognise five main phonation modes as featured below in *Table 1*:

Table 1. **The modes of phonation** ***(adapted from Clark and Yallop 1992: 59-60)***

voiceless	the absence of any phonation, the airflow passes freely through the glottis;
voiced	the normal vocal fold vibration occurring along most or all the length of the glottis;
whisper	significant turbulence at the glottis, which is narrowed;
breathy voice	the normal vibration of the vocal folds accompanied by some continuous turbulent airflow, which occurs when glottal closure during the vibratory circle is not complete;
creaky voice	low frequency vibration of the vocal folds when the folds open for a very short time, often at irregular intervals.

3.4. The Oronasal Process

The next stage in sound production involves the airflow in the **upper vocal tract** and the configuration of the cavities through which it passes once it has left the larynx.

Clark and Yallop (1992: 42) describe the **pharynx** as a "tube of muscle shaped rather like an inverted cone". It lies between the larynx and the base of the skull and serves as a kind of crossroads between the upper respiratory system and the lower respiratory system, including the larynx. The pharynx functions as an air passage during breathing, and it branches into two cavities that act as resonators for the upward airflow: the **oral cavity** and the **nasal cavity**. The soft palate (velum) plays a significant role in the pharynx because it is the organ that directs the airflow into either of the two cavities. If the soft palate is raised, it closes the entrance to the nasal cavity and directs the air through the oral cavity (mouth) to produce **oral sounds** (see *Figure 5 (a)*). If the soft palate is lowered, the airflow is directed

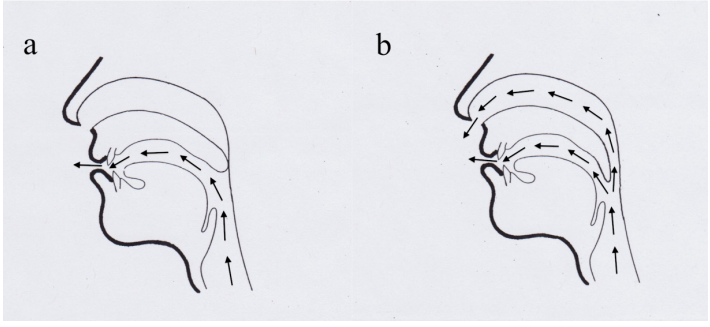


Figure 5. The production of oral and nasal sounds

through both cavities, escaping through the nostrils and mouth at the same time. During this pattern of airflow, the sounds produced are defined as **nasal sounds** (see *Figure 5 (b)*). The complex acoustic structure of the nasal cavity produces nasal sounds that sound relatively quiet as compared to oral sounds.

3.5. Articulation

After the initiation and phonation processes in the larynx and the pharynx, the audible sound is formed into a concrete sound with the help of the **organs of speech (articulators)** situated in the oral cavity. The main organs of speech are illustrated in *Figure 6* and are briefly described below.

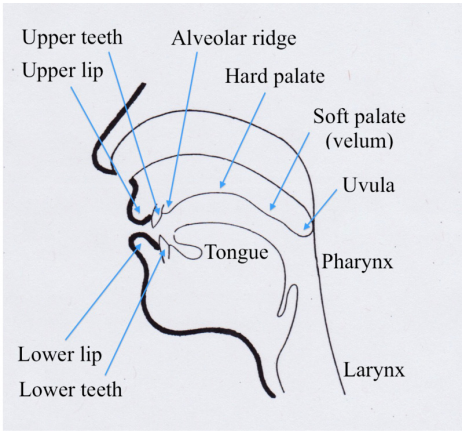


Figure 6. Organs of speech

The most important and flexible of all the organs of speech is the **tongue**, which is situated in the oral cavity and makes the greatest contribution to the articulation process. Gimson and Cruttenden (2008: 14) characterise it as "capable of assuming

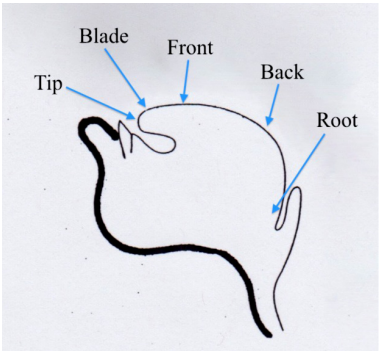


Figure 7. The subdivisions of the dorsum of the tongue

a great many varieties of positions of articulation for both vowels and consonants". The upper surface of the tongue, which comes into contact with other organs of speech is called the **dorsum**. For purposes of phonetic description, the dorsum is subdivided into several parts. Because there are no clear boundaries on the tongue itself, this division is somewhat arbitrary. The basic subdivisions of the dorsum are the **tip,** the **blade,** the **front,** the **back,** and the **root** as indicated in *Figure 7*.

The tongue comes into contact with several other articulators, which are either flexible and mobile or are stable and immobile. The **palate** is a smooth curved surface in the upper part of the mouth and consists of two parts: the **hard palate** and the **soft palate** or **velum** (with its pendent **uvula**). The hard palate is a stable articulator and is essential for the production of several consonants when in contact with the tongue. The soft palate and uvula are flexible and take place in the oronasal process of sound production. The **lips (upper and lower)** are quite mobile and may be shut or held apart to give a shape to the oral cavity. The **upper teeth** and **alveolar ridge** (located behind the upper teeth) are stable (immobile) articulators, while the **lower teeth** and **lower jaw** are mobile. Many organs of speech are located in the upper part of the oral cavity, a region deemed **the roof of the mouth** (*see Figure 8*) by Gimson and Cruttenden (2008: 13).

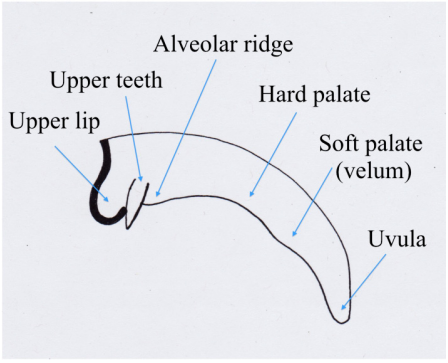


Figure 8. The roof of the mouth

From this discussion, we can see that numerous **organs of articulation** or **articulators** are involved either actively or passively in the production of speech, thus are referred to as active or passive (see Roach 2009a). The **organs of speech** are summarized in *Table 2*.

Although the organs of speech are universal in all people, the position and movements of the articulators differ for certain sounds. **Articulatory settings**, as

Table 2. **Active and passive organs of speech**

Active (flexible) organs of speech (because they can be moved into contact with other articulators)	
the lungs **the vocal folds** **the tongue** **the soft palate (velum)** **the uvula**	**the upper lip** **the lower lip** **the lower jaw** **the lower teeth**
Passive (stable) organs of speech (because they are stable (immobile) in sound production and their most important function is to act as the place of an articulatory stricture)	
the upper teeth **the alveolar ridge** **the hard palate**	**the pharynx** **the larynx** **the vocal tract**

defined by Collins and Mees (2003: 221), refer to "the overall way in which the speech organs (i.e. lips, tongue, mouth and throat muscles, velum, larynx) are held throughout the speech process". It is also worth noting that the settings vary not only between languages but also between different varieties of the same language. EFL learners typically find the acquisition of the articulatory settings of the English language to be the greatest challenge. However, working on these articulatory settings can often produce better results in pronunciation for EFL learners.

Further reading options: Roach (2009: 8-10, 22-24), Clark and Yallop (1992: 9-13, 21-25, 48-56), Collins and Mees (2003: 25-35, 221-225).

Terminology check:
articulatory phonetics, speech chain, initiation or respiratory stage, phonation, voicing, pressure of vocal folds, modes of phonation, glottis, oronasal process, articulation, active and passive organs of speech, the tongue, the roof of the mouth, articulatory settings

Study questions:

1. What stages are involved in sound production?
2. Why is the airflow in the initiation of the sound called egressive?

3. Why is the larynx an essential organ of speech?
4. Describe the phonation process in more detail.
5. Describe how the status of the vocal folds (tense vs relaxed, longer vs shorter, higher vs lower rate of vibration, etc.) is varied.
6. What process takes place in the pharynx, and what articulators are involved?
7. Which organs of speech are called active and which are called passive? What is the difference between an active and a passive articulator?
8. In what cavities does sound resonate?
9. Compare the articulatory settings of English with those of your native language

Exercises:

1. Slightly press two fingers against your throat and try to feel the vibration of vocal folds when you pronounce the sound /b/ and the absence of vibration when you pronounce /p/. Using the same method, decide whether the following sounds are voiceless or voiced:

The sound	Voiced/voiceless
/k/	
/g/	
/n/	
/z/	
/s/	
/r/	
/e/	
/f/	
/v/	

2. Imagine the work of your organs of speech and decide what sounds could be made when they act in the following ways:

Position of organs of speech	The possible sounds
Both lips shape an oval	
The lower lip nearly touches the upper teeth	
The tip of the tongue touches the alveolar ridge	
The lower jaw and the lower teeth are down, the mouth is wide open	
The back part of the tongue touches the hard palate	
The velum along with the uvula are down	

3. Decide which articulators are active and which are passive to produce the following sounds **/v/**, **/m/**, **/w/**, **/ʌ/**, **/n/**, **/e/**, **/k/**, **/h/**, **/ʊ/**, **/p/**:

Sounds	Active organ of speech	Passive organ of speech
/v/		
.		
.		

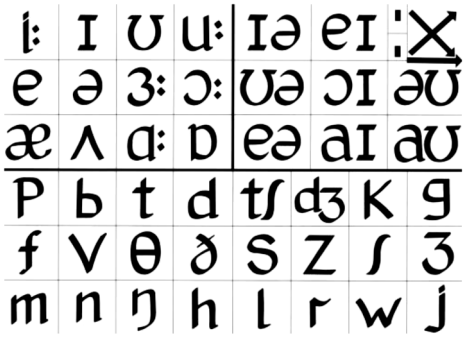
4. ENGLISH PHONEMES

4.1. The International Phonetic Alphabet and Transcription

Articulatory phonetics deals not only with the organs of speech but also with the categorisation and classification of the production features of phones. An extensive knowledge of how concrete vowels and consonants are articulated by particular organs of speech is essential for successful articulation.

There are 44 phonemes in English. **The English Phonemic Chart,** as presented by Underhill (1994) and given in *Table 3,* exhibits clear sets of vowels (monophthongs and diphthongs), consonants, and sonorants.

Table 3. **The English Phonemic Chart**



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The symbols for the English phonemic chart have been compiled from the **International Phonetic Alphabet (IPA)** devised by **International Phonetic Association** (also abbreviated **IPA**). The association was established in 1886, and since then, it has been functioning as the major as well as the oldest representative organisation for world phoneticians. The association's mission is to promote the scientific study of phonetics by providing phoneticians worldwide with a notational standard for the phonetic representation of all languages, i.e. the IPA. The alphabet

is based on the Latin letters and **diacritics** that indicate slight alterations to the usual value of phonetic symbols, e.g. [n̩] (meaning /n/ is syllabic). The latest version of the alphabet was published in 2005.

The term **transcription** refers to the process and "the methods of writing down speech sounds in a systematic and consistent way" (Crystal 2008: 490). Each sound must be identified and written in an appropriate symbol. Principally, there are two kinds of transcription: phonemic and phonetic transcription. **Phonemic transcription** gives only a basic idea of the sounds, and is thus often termed as **broad transcription**. It uses the 44 English phonemic symbols and does not show any phonetic details of the sounds. The symbols are enclosed in slashes / /, e.g. /t/; /taɪp/.

Phonetic transcription has a high degree of accuracy and shows a lot of articulatory and auditory details. It is often termed as the **narrow transcription** or **transcription proper** because it aims to represent actual speech sounds in the narrowest sense and uses additional diacritics. The symbols are therefore enclosed in square brackets [ ]. For example, [tʰ] means that /t/ is aspirated, and [spiːd̥] means that /d/ is a bit devoiced at final position.

4.2. Sound Classes: Vowels, Consonants, and Sonorants

Speech sounds are generally divided into two classes: vowels and consonants. Vowels are produced with a comparatively open vocal tract for the airflow to pass unimpeded. As a result, vowels are considered to be open sounds, whereas consonants are produced with a certain constriction in the vocal tract. Roach (2009a) gives the following characterisation of the sounds:

- **Vowel**s are the class of sounds that are associated with the least obstruction to the flow of air during their production.
- **Consonant**s are the class of sounds that are associated with obstructed airflow through the vocal tract during their production.

Vowels can also be distinguished from consonants as they display a different acoustic energy: vowels are highly resonant and intense and have greater sonority than do consonants. Vowels also have the function to be syllabic (a syllable can contain a minimum of one vowel), while consonants are units that function at the margins of syllables, either singly or in clusters, and are optional (see Section 8). Vowels typically involve the vibration of vocal folds, so they are voiced, while consonants split into voiced and voiceless forms.

A special set of consonants that demonstrate reduced levels of obstructed airflow during their production are called **sonorants (sonants, semivowels)**. According to Roach (2009):

- **Sonorants** are sounds that are voiced and do not cause sufficient obstruction to the airflow to prevent normal voicing from continuing.

A list of the **20 vowel phonemes** in English with word examples is given in *Table 4*:

Table 4. **Vowel phonemes**

/ɪ/	as in *sit*	**/eɪ/**	as in *may*
/iː/	as in *speak*	**/aɪ/**	as in *kite*
/ʊ/	as in *book*	**/ɔɪ/**	as in *toy*
/uː/	as in *tool*	**/ɪə/**	as in *near*
/ʌ/	as in *cup*	**/eə/**	as in *dare*
/ɑː/	as in *heart*	**/ʊə/**	as in *cure*
/ɒ/	as in *box*	**/əʊ/**	as in *cold*
/ɔː/	as in *door*	**/aʊ/**	as in *mouth*
/e/	as in *bed*		
/æ/	as in *cat*		
/ɜː/	as in *bird*		
/ə/	as in *ago*		

A list of the **17 consonant phonemes** in English with word examples is given in *Table 5*:

Table 5. **Consonant phonemes**

/p/	as in *pipe*	**/z/**	as in *zoo*
/b/	as in *be*	**/θ/**	as in *think*
/t/	as in *time*	**/ð/**	as in *that*
/d/	as in *do*	**/ʃ/**	as in *sure*
/k/	as in *car*	**/ʒ/**	as in *casual*
/g/	as in *go*	**/tʃ/**	as in *church*
/f/	as in *fine*	**/dʒ/**	as in *gin*
/v/	as in *vet*	**/h/**	as in *hat*
/s/	as in *sad*		

A list of the **7 sonorant phonemes** in English with word examples is given in *Table 6*:

Table 6. **Sonorant phonemes**

/m/	as in *map*
/n/	as in *nose*
/ŋ/	as in *king*
/l/	as in *love*
/r/	as in *red*
/j/	as in *yacht*
/w/	as in *wet*

Further reading options: Roach (2009; 2-3, 31-35), Underhill (1994: 5-7, 29-30).

Terminology check:
English Phonemic Chart, International Phonetic Association, International Phonetic Alphabet, diacritics, phonetic transcription, broad transcription, narrow transcription, vowel, consonant, sonorant

Study questions:

1. What are the responsibilities of the International Phonetic Association?
2. Compare the sonority in vowels, consonants, and sonorants.
3. How many vowels, consonants, and sonorants are there in your native language?
4. Which of the 44 English phonemes are not present in your native language? Compare and find similarities with the remaining phonemes.

Exercises:

1. Transcribe the vowel phonemes in the following words:

Word	Vowel	Word	Vowel
cup		*how*	
said		*hear*	
sea		*float*	
ash		*foot*	
blow		*first*	
glance		*dare*	
wash		*pool*	
sign		*cream*	
walk		*pill*	

2. Transcribe the consonant phonemes in the following words:

Word	Consonant	Word	Consonant
fee		*the*	
too		*palm*	
egg		*thin*	
show		*view*	
chew		*zoo*	
old		*massage*	
hair		*large*	

3. Transcribe the sonorant phonemes in the following words:

Word	Sonorant	Word	Sonorant
oil		*song*	
use		*knee*	
wave		*yolk*	
comb		*twelve*	
rice		*thumb*	

4. Spell out seven words for each of the 44 sounds.

No	Sound	Word examples						
1.								
.								
.								

5. CHARACTERISATION AND CLASSIFICATION OF VOWELS

The characterisation and classification of vowels is challenging. Clark and Yallop (1992) state that the quality of vowels depends on the size and shape of the tract, which can be modified using the tongue and the lips. The major challenge is to define the position of the tongue as it moves without forming any significant obstruction in the oral cavity. As a result, vowels are produced without any specific point of blockage. The other fundamental articulatory feature of vowels is determined by the shape and degree of protrusion of the lips.

5.1. The Cardinal Vowel Diagram

The cardinal vowel diagram devised by the IPA provides a set of reference points for the articulation and recognition of vowels. In the diagram, vowels are located on a four-sided figure, which in a way represents the shape of the tongue. Two dimensions of the diagram correspond to the positions of the tongue vertically and horizontally. The vertical axis represents tongue height, and the horizontal axis represents tongue fronting or advancement. The current diagram was systematised by D. Jones in the early 20th century, though the idea goes back to earlier phoneticians,

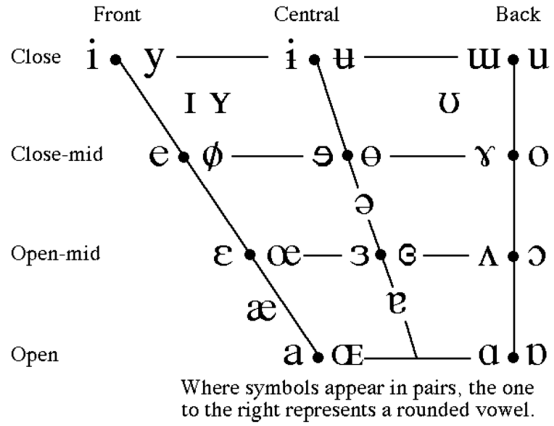

Figure 12. The cardinal vowel diagram *(reproduced by kind permission of the International Phonetic Association, see References)*

most notably A. J. Ellis and A. M. Bell. The cardinal vowel diagram illustrates the extremes of vowel quality that the vocal tract is able to produce, and thus the cardinal vowels are not the sounds of a particular language. Clark and Yallop (1992: 65) claim, that they "are best taken to be auditory qualities rather than articulatory specifications". Phoneticians recognise and articulate these artificial sounds so that they can describe all natural vowels in relation to the nearest cardinal vowel. The cardinal vowel diagram is given in *Figure 12*.

The characterisation of English vowels that follows will use the classification aspects of the cardinal vowel diagram.

5.2. The Height of the Tongue

The vertical movement of the tongue depicts the **height** of the body of the tongue and refers to how high or low the tongue is positioned in the mouth (see *Figure 11*). Carr (2013: 17-21) categorises the following groups of vowels in relation to the Cardinal Vowel Diagram:

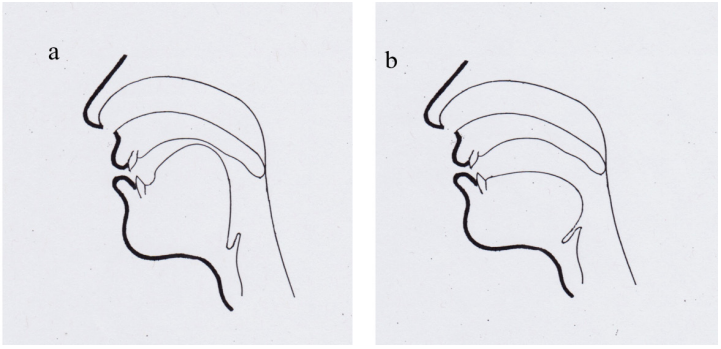

Figure 11. Vertical positions of the tongue

- **high** or **close** vowels articulated with the tongue located as high as possible in the oral cavity, thus narrowing the passage for the airflow: /ɪ/, /iː/, /ʊ/, /uː/;
- **mid** or **mid-open** vowels with the tongue lowered to the mid position in the oral cavity: /æ/, /ɒ/, /ʌ/, /ɑː/;
- **low** or **open** vowels produced with the tongue positioned as low as possible in order to leave a lot of space for the airflow: /e/, /ɔː/, /ɜː/, /ə/.

5.3. The Advancement of the Tongue

The horizontal movement of the tongue, or **tongue advancement** to the front position (see *Figure 10 a*) or back position (see *Figure 10 b*) is essential in forming the following groups of vowels as given by Carr (2013: 17-21):

- **front** vowels articulated with the tongue far forward in the oral cavity toward the hard palate: /iː/, /ɪ/, /e/, /æ/;
- **central or mixed** vowels produced with the tongue retracted to the middle position in the oral cavity: /ʌ/, /ɜː/, /ə/;
- **back vowels** produced with the tongue retracted as far as possible to shape the space in the front part of the oral cavity: /ɒ/, /ɔː/, /ʊ, /uː/, /ɑː/.

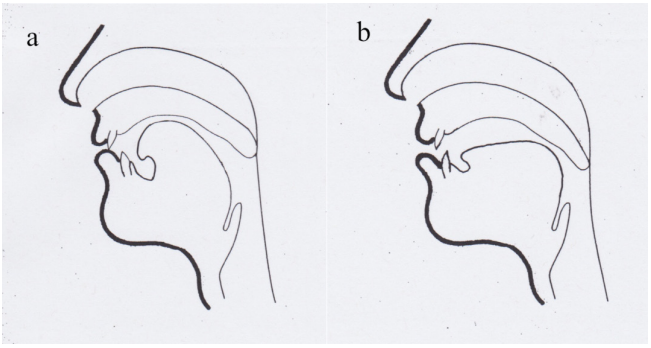

Figure 10. Horizontal position of the tongue

5.4. The Shape of the Lips

Vowels may also be different from each other with respect to the rounding and shaping of the lips necessary to enlarge or diminish the space within the mouth. The following sets of vowels are identified:

- **rounded** vowels**,** as the lips shape into a circle or a tube: /ʊ/, /uː/, /ɒ/, /ɔː/;
- **spread** vowels**,** as the corners of the lips are moved away from each other: /ɜː/, /e/, /iː/, /ɪ/, /æ/;
- **neutral** vowels, as the position of the lips is not noticeably rounded or spread: /ʌ/, /ɑː/, /ə/.

These various lip shapes are illustrated in *Figure 15*:

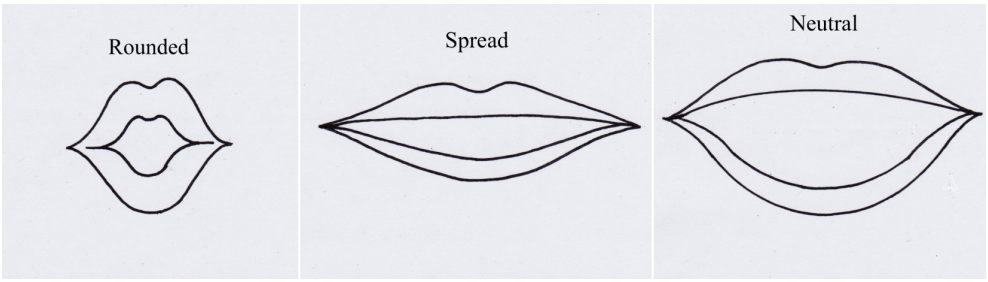

Figure 15. The shape of the lips *(adapted from Clark and Yallop 1992: 66)*

5.5. Tenseness and Length

According to the tenseness of the organs of speech, vowels are classified into one of two groups: **tense** and **lax**. Tense vowels are relatively higher and more marginal, while lax are shorter, lower, and slightly more centralised. Carr (2008: 175) claims that "tense vowels are articulated closer to the periphery of the vowel space and are typically longer than their lax counterparts". Of 12 English pure vowels, five are termed as **long** in duration: /ɑː/, /ɔː/, /iː/, /uː/, /ɜː/, and the remaining seven are termed as short in duration: /ʌ/, /ɔ/, /ɪ/, /ʊ/, /e/, /æ/, /ə/. The symbols for long vowels are followed by a **length mark** of two vertical dots. In addition, length seems to relate to several pairs of vowels:

/ɑː/ - /ʌ/ /ɔː/ - /ɔ/ /iː/ - /ɪ/ /uː/ - /ʊ/ /ɜː/ - /ə/

However, this is just a functional division. Phonology research shows that the length of vowels can only be contrasted in comparable contexts as there is no a clear-cut long/short distinction of one and the same vowel. An example of /iː/ and /ɪ/ having various lengths in centiseconds is illustrated in *Figure 13:*

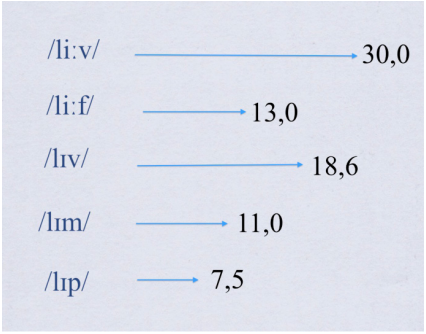

Figure 13. The length of vowels in contrasted contexts *(adapted from Gimson 1980: 98)*

The difference in length is normally accompanied by a difference in the sound quality. Thus, the members within a pair in length (e.g. /ɔː/ and /ɒ/) have slightly different positions concerning the height and advancement of the tongue. *Figure 14* displays English short and long vowels in the cardinal vowel diagram.

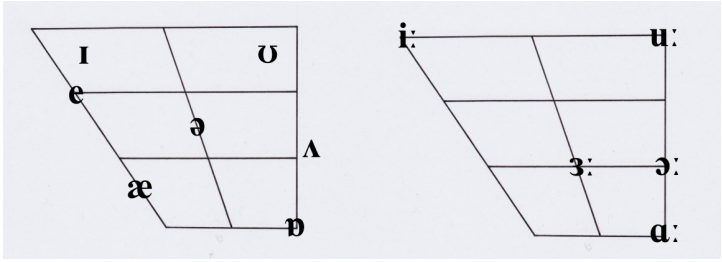

Figure 14. English short and long vowels in the cardinal vowel diagram

The /ə/ sound stands out from all other vowels and requires some further comment. It appears to be the shortest possible vowel, and in some forms of words, it is even omitted. It is known as the **schwa** (from Hebrew, meaning 'emptiness') or the **neutral vowel.** Furthermore, it is the most frequently occurring vowel in English, and it only appears in weak syllables, e.g. *across* /əˈkrɒs/, *character* /ˈkærəktə/.

Another remark should be made regarding the two intermediate sounds in the broad transcription: /i/ and /u/. These can be generally specified as **archiphonemes** because they represent the intermediate status between the phonemic contrasts in length in /iː/ and /ɪ/ as well as /uː/ and /ʊ/. This neutralisation of length suggests that the two sounds /i/ and / u/ have the quality of the respective long vowels and the length of the respective short vowels. Skandera and Burleigh (2011: 51) specify the following phonetic environments for the intermediate /i/:

- in word final position, e.g. *lucky* /ˈlʌki/;
- in prefixes like *re-*, *pre-*, and *de-* when followed by a vowel, as in *react* /riˈækt/, *deactivate* /diˈæktɪveɪt/;
- in suffixes like *-tal*, *-iate*, and *-ious* when they are pronounced as two syllables, e.g. *appreaciate* /əpriːʃieɪt/;
- in many function words (*he, she, we, me, be, the*, etc.) when followed by a vowel, e.g. *the air* /ði eə/.

The intermediate /u/ is much less common and usually occurs in unstressed syllables in these phonetic environments:

- in some function words (*you, to, into, do*, etc.) when followed by a vowel, e.g. t*o us* /tu ʌs/.
- before a vowel within a word, when they are pronounced as two syllables, e.g. *eventually* /ɪˈventʃuəli/, *evacuate* /ɪˈvækjueɪt/ (ibid: 51)

5.6. Diphthongs and Triphthongs

So far, the discussion has characterised pure vowels with a single perceived auditory quality, which are known as **monophthongs**. Such vowels remain constant in their articulation process and do not glide. There are 12 monophthongs in English: /ɪ/, /iː/, /ʊ/, /uː/, /ʌ/, /ɑː/, /ɒ/, /ɔː/, /e/, /æ/, /ɜː/, /ə/.

Diphthongs are vowels in which two vowel qualities can be perceived, and the articulators move from the production of one vowel to the other. The first part of the diphthong is longer and stronger than the second and is often referred as to the **nucleus** of the diphthong. The second part is just a **glide** whose full formation is generally not accomplished. The quality of the phoneme reduces to quite short and decreases in loudness. The organs of speech only move toward the articulation of the glide, but they are not set to pronounce it fully. The total number of diphthongs is eight: /eɪ/, /aɪ/, /ɔɪ/, /ɪə/, /eə/, /ʊə/, /əʊ/, /aʊ/. Diphthongs are usually grouped into the following three categories, depending on the height and advancement of the tongue:

- the diphthongs that glide toward the vowel /ə/ in the centre of the oral cavity are known as **centring to /ə/**: /ɪə/, /eə/, /ʊə/;

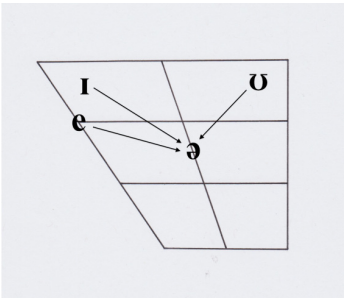

Figure 16. Centring diphthongs in the cardinal vowel diagram

- the diphthongs that glide toward a higher position in the mouth to reach the close sound /ɪ/ are known as **closing to /ɪ/**: /eɪ/, /aɪ/, /ɔɪ/;

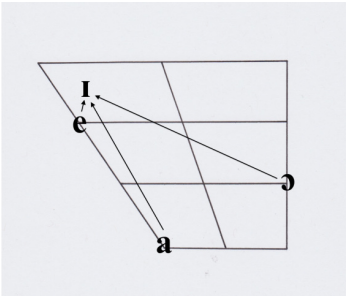

Figure 17. Closing to /ɪ/ diphthongs in the cardinal vowel diagram

- the diphthongs that glide toward a higher position in the mouth to reach the sound /ʊ/ and are known as **closing to /ʊ/**: /əʊ/, /aʊ/.

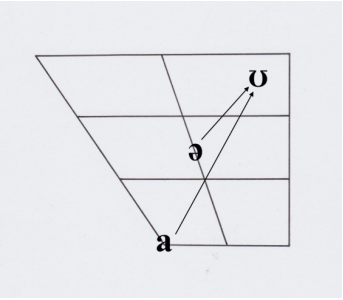

Figure 18. Closing to /ʊ/ diphthongs in the cardinal vowel diagram

There are also **triphthongs** – the most complex type of vowels. These are sounds in which three vowel qualities can be perceived as they glide from one vowel to another and then to a third. Roach (2009: 19) describes triphthongs as "composed of the five closing diphthongs […] with a schwa added on the end". The five examples of triphthongs are given below:

Table 7. **Triphthongs in English**

/eɪə/	as in *player*
/aɪə/	as in *fire*
/ɔɪə/	as in *lawyer*
/əʊə/	as in *lower*
/aʊə/	as in *our*

Further reading options: Roach (2009: 13-19), Gimson and Cruttenden (2008: 35-39), Collin and Mees (89-118), Carr (2013: 17-21).

Terminology check:
the cardinal vowel diagram, the height of the tongue, the advancement of the tongue, tenseness, length, schwa, the shape of the lips, monophthongs, diphthongs, nucleus, glide, triphthongs

Study questions:

1. According to what aspects are vowels classified?
2. Describe the characteristics of the vowels according to the movement of the tongue.
3. What does the cardinal vowel diagram represent?
4. Explain the relationship between tenseness and length of English vowels?
5. What quality do vowels have as monophthongs, diphthongs, and triphthongs?

Exercises:

1. Give the characteristics of the twelve pure vowels in the chart below:

No.	Sound	Tenseness	Length	Shape of the lips	Position of the Tongue	
					Height	Advancement
1.						
.						

2. Spell out 7 words for each of the 5 triphthongs.

No.	Sound	Word examples						
1.								
.								

6. CHARACTERISATION AND CLASSIFICATION OF CONSONANTS

All consonants have certain properties in common that identify them from vowels. There are 24 consonants in English, although seven of them are referred to as sonorants because they share several features (sonority and continuation) with vowels: /m/, /n/, /ŋ/, /l/, /r/, /j/, /w/. The pure 17 consonants are narrowed to the term **obstruents** because the airflow is always obstructed to a great extent when the sounds are articulated: /p/, /b/, /t/, /d/, /k/, /g/, /f/, /v/, /s/, /z/, /θ/, /ð/, /ʃ/, /ʒ/, /tʃ/, /dʒ/, /h/.

Sonorants function in the English language the same way as consonants, and both groups of sounds have a lesser or greater obstruction of the airflow. Therefore, it is customary to attach sonorants to the class of consonants. Consonants can be described in terms of the location of the constriction, the manner of the constriction, and the type of phonation it supports (see Clark and Yallop 1992: 76). In short, consonants are classified by **place, manner,** and **voicing** as detailed below.

6.1. The Place of Obstruction

In the classification system for consonants, "place" denotes the location or place of obstruction and the active organ of speech involved in the articulation stage of the production of the consonants. Clark and Yallop (1992: 79) list the following groups of consonants in which various tongue positions are combined with various locations:

- **bilabial** sounds are produced with the upper and lower lips pushed together (see *Figure 19*): /p/, /b/, /m/, /w/;

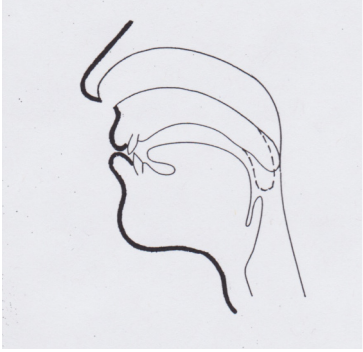

Figure 19. Bilabial sounds

- **labio-dental** sounds are articulated with contact between the lower lip and the upper teeth (see *Figure 20*): /f/, /v/;

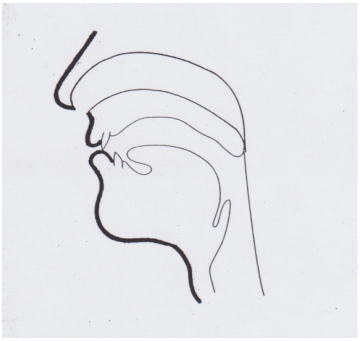

Figure 20. Labiodental sounds

- **apico-dental** sounds are generated with the tip of the tongue protruded between the lower and the upper teeth (see *Figure 21*): /θ/, /ð/;

Figure 21. Apicodental sounds

- **apico-alveolar** sounds are made by advancing the tip of the tongue toward the alveolar ridge (see *Figure 22*): /t/, /d/, /n/, /l/, /s/, /z/;

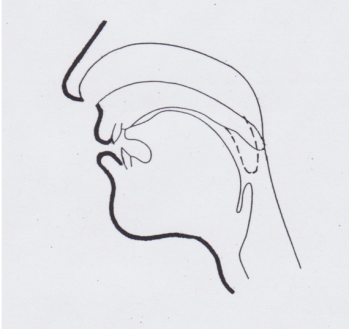

Figure 22. Apico-alveolar sounds

- **lamino-alveolar** sounds are produced by raising the blade of the tongue toward the alveolar region (see *Figure 23*): /ʃ/, /ʒ/, /tʃ/, /dʒ/;

Figure 23. Lamino-alveolar sounds

- **apico-postalveolar** sound is made by upturning the tip of the tongue behind the alveolar ridge (see *Figure 24*): /ɾ/;

Figure 24. Lamino-alveolar sounds

- **lamino-palatal** sounds are pronounced by advancing the blade of the tongue toward the highest part of the hard palate (see *Figure 25*): /j/;

Figure 25. Lamino-palatal sounds

- **velar** sounds are made as the tongue body makes contact with the soft palate (see *Figure 26*): /k/, /g/, /ŋ/;

Figure 26. Velar sounds

- **glottal** sound is produced by the narrowing of the glottis as the wall of the pharynx makes contact with the root of the tongue (see *Figure 27*): /h/.

Figure 27. Glottal sounds

6.2. The Manner of Obstruction

The **manner of obstruction** is concerned with the degree or extent of the obstruction and the way in which it is formed in the vocal tract (see Clark and Yallop 1992: 81). The variables range from total closure of the vocal tract to nearly open. When the obstruction totally blocks the airflow, it is called a complete or **occlusive** obstruction**.** The obstruents and sonorants with this type of obstruction are classified under one of two terms:

- **plosive obstruents:** /p/, /b/, /t/, /d/, /k/, /g/**;**
- **nasal sonorants**: /m/, /n/, /ŋ/.

In the production of the plosive obstruents, the air is obstructed and then released with a small burst of noise (plosion). They are also defined as **stops** because they cannot be prolonged. The following organs of speech form the full closure: lips pressed together for /p/, /b/; the tip of the tongue pressed against the alveolar ridge for /t/, /d/; and the body of the tongue pressed against the velum for /k/and /g/**.** Nasal sonorants have a stoppage at some point in the oral cavity, and the velum is lowered for the air to escape through the nasal cavity.

When the closure is not quite complete, it is called **constrictive**. The air either escapes through a narrow passage and makes a hissing sound for obstruents, or it penetrates through the sides of the obstruction and escapes rather freely through the nasal or oral cavity for sonorants. The following sounds are produced with constriction:

- **fricative obstruents**: /f/, /v/, /s/, /z/, /θ/, /ð/, /ʃ/, /ʒ/, /h/;
- **constrictive sonorants**: /l/, /r/, /j/, /w/.

Clark and Yallop (1992: 83) differentiate between fricatives and approximants by comparing the degree of the constriction. In the production of fricatives, the constriction is narrowed to generate turbulent airflow. The turbulence results in a sound with a hissing or sibilant quality. Moreover, fricatives are all continuant consonants: they can be continued for a long time. Approximants have an articulation in which the constriction is not great enough to cause turbulence, so the airflow penetrates in higher volume. Some phoneticians (e.g. Collins and Mees 2003) subdivide the approximants into lateral /l/ and medial /r/, /j/ and /w/ to demonstrate the escape of the airflow via the rims of the tongue and the middle of the tongue, accordingly.

A few sounds are generated with a double-sided obstruction, which may be defined as **occlusive-constrictive**. Affricates are the two sounds that are produced in this manner: /tʃ/, /dʒ/. The initial complete closure of the plosive sounds /t/ and /d/ is released through a constriction for the fricative sounds /ʃ/ and /ʒ/. In addition, the two affricates are **homorganic**, which means that the place of articulation of the plosive is the same or nearly the same as that of the paired fricative.

6.3. Voicing

All the consonants are subclassified as either **voiced** or **voiceless**. At the phonation stage, the vocal folds are in tight contact for the production of voiced consonants, while the air for voiceless consonants passes through the glottis with vocal folds set apart. All the sonorant sounds are voiced. *Table 8* presents the list of voiced and voiceless consonants and sonorants:

Table 8. **Voiced and voiceless consonants and sonorants**

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

According to the force of articulation or energy with which they are articulated and perceived, consonants are subdivided into relatively strong (**fortis)** or relatively weak (**lenis;** see Roach 2009: 28). English voiced consonants are lenis, whereas English voiceless consonants are fortis. The latter seem to be pronounced with a stronger muscular tension and breath force. For example, compare *pow* /**p**aʊ/ and *bough* /**b**aʊ/. The force of articulation is not easy to define and measure, however some phoneticians prefer to use the terms fortis and lenis rather than the terms voiceless and voiced.

6.4. Articulation of the Plosive Consonants

Roach (2009: 26) details the articulation of the plosive consonants and describes them as starting with **the closing phase** when articulators are pushed together to form a complete closure behind which the air will be trapped. During the **holding phase**, the vocal tract is completely closed. Air cannot escape through the nose because the soft palate is raised. However, the lungs are still forcing the air out of the vocal tract, so the pressure behind the closure builds up. Finally, in the **release phase,** a plosion takes place, allowing the air trapped behind the closure to escape. Because of the pressure, this release generates a burst of noise.

Further reading options: Roach (2009: 26-30, 39-55), Underhill (1994: 29-47), Clark and Yallop (1992: 83-88).

Terminology check:
obstruents, bilabial, labiodental, apicodental, apico-alveolar, lamino-alveolar, apico-postalveolar, lamino-palatal, velar, glottal, occlusive, constrictive, occlusive-constrictive, plosive, fricative, affricate, homorganic, nasal sonorant, lateral approximant, medial approximant, fortis, lenis

Study questions:

1. Why are consonants termed as obstruents?
2. What are the basic features that characterise consonants?
3. What are the various types of obstructions?
4. How do plosives differ from fricatives?
5. How are approximants subdivided?
6. Why are affricates called homorganic sounds?
7. Describe the phases in the production of plosive sounds.

Exercises:

1. Divide each of the following groups of phonemes into sets of three that share common characteristics. The first set is done as an example.

Group of phonemes	Set 1		Set 2	
	Phonemes	Characteristic feature	Phonemes	Characteristic feature
/p/ /m/ /t/ /n/ /k/ /ŋ/	/p/ /t/ /k/	plosive obstruents	/m/ /n/ /ŋ/	nasal sonorants
/s/ /l/ /p/ /m/ /v/ /ʃ/				
/r/ /f/ /j/ /s/ /w/ /ʃ/				
/k/ /g/ /l/ /s/ /n/ /z/				
/t/ /k/ /d/ /s/ /g/ /z/				
/ʒ/ /ð/ /t/ /z/ /k/ /g/				

2. Give the characteristics of consonants and sonorants in the chart below. The first sound is done as an example.

Sound	Voice	Place	Manner		Consonant
/p/	voiceless	bilabial	occlusive	plosive	obstruent
.					
.					

7. ABOVE THE SEGMENTAL LEVEL: ALLOPHONES AND THEIR CONTEXTS

Up to this point in the course, phonemes have been described as phonetic segments as if they existed in isolation and did not affect one another. However, speech production is not a series of isolated events. Instead, it is a complex chain of events, with the organs of speech operating independently and many fine adjustments being made as we speak. As a consequence, allophones are used for actual speech production, and they have different **distribution,** i.e. occupy different **contexts** and **environments**.

7.1. Pre-Fortis Clipping

Clipping is the process of "the reduction of duration of sonorous sounds when followed in the same syllable by a fortis consonant" (Ashby and Maidment 2005: 197). This type of reduction generally affects vowels. In return, a clipped vowel is pronounced quicker when it is located next to a voiceless consonant. Compare the following minimal pairs:

rice /raɪs/ (with clipped /aɪ/) and *rise* /raɪz/

sit /sɪt/ (with clipped /ɪ/) and *seat* /si:t/

7.2. Aspiration

The plosive voiceless (fortis) sounds /p/, /t/, /k/, after they are released, undergo a post-release phasein which the sounds are followed by a brief additional puff of air. Cruttenden (2014: 164) defines the post-release phase as "a voiceless interval consisting of strongly expelled breath between the release of the plosive and the onset of the following vowel". This special feature of articulation is termed **aspiration,** and the plosives are said to be **aspirated**. The IPA diacritics for aspiration are transcribed as a superscript: [ʰ]. The degree and duration of aspiration depend on the context of the sound. Aspiration is the strongest in the initial position of a syllable, e.g. *type* [tʰaɪp], in the initial position of a stressed syllable, e.g. *potato* [pəˈtʰeɪtəʊ], and before a long vowel or a diphthong, e.g. *keep* [kʰi:p].

Aspiration is lost when a fricative sound (usually /s/) follows the voiceless plosives (see Cruttenden 2014: 164). Compare the following pairs of words with the strongest level of aspiration in the first word and absence of aspiration in the second one:

team [tʰiːm] and *steam* [stiːm]
tone [tʰəʊn] and *stone* [stəʊn]
Kate [kʰeɪt] and *skate* [skeɪt]
cold [kʰəʊld] and *scold* [skəʊld]

7.3. Palatalised /l/

The term **palatalisation** refers to a process by which a sound, usually a consonant, is articulated with the tongue shifted near the hard palate (see Crystal 2008: 347). The sound /l/ can be realised as a palatalised allophone with the tongue slightly raised toward the palate. This allophone is called **clear /l/,** and it occurs before vowels (e.g. *light, love*). The nonpalatalised allophone, the **dark/l/,** is realised in other contexts: before consonants and in the final positions of words (e.g. *milk, ball*). It has a special allophonic symbol [ɫ]. However, palatalisation is highly dependent on the dialectal use that is specific to RP speakers. In several nonstandard varieties of English, the dark /l/ may be articulated like a vowel or a sonorant: /w/, /ɒ/ or /ʊ/, e.g., *milk* /mɪʊk/ or *feel* /fiːw/. This is called **/l/ vocalisation** and is a notable feature of Cockney and Estuary English.

7.4. Allophonic Release of the Plosives

In certain contexts, the six plosive sounds are released in a different manner as they acquire the features of their neighbouring sounds (see Roach 2009a for each type of the release below). A plosive sound followed by another plosive sound seems to have **no audible release**, which is typically referred to as **loss of plosion** or incomplete plosion. In the IPA, this allophonic realisation of the consonants is denoted with a diacritic in the upper right corner [t̚], e.g. *expect* [ɪkˈspek̚ t], *dog bite* [ˈdɒg̚ baɪt].

Nasal plosion (nasal release) occurs when a plosive sound is followed by a nasal sound. The release of the plosive sound happens by lowering the soft palate so that air escapes through the nose. The plosive sound becomes nasalised, and the whole process is referred to as **nasalisation** (see Roach, 2009a). The plosive and the nasal are homorganic because they share the same place of articulation. The special

diacritic is a small [ⁿ] symbol above the sound as in [tⁿ], e.g. *goodnight* [gʊdⁿ naɪt], *black magic* [blækⁿ ˈmædʒɪk].

L**ateral plosion** (lateral release) takes place when the compressed air for the production of a plosive sound is released by lowering the sides of the tongue before the lateral sound /l/. The plosive sound becomes lateralised, and the process is called **lateralisation,** which is indicated by a vertical line as in [tˡ], e.g. *plosive* [ˈpˡləʊsɪv], *lightly* [ˈlaɪtˡli].

A glottal release of several plosives is widely found in contemporary English pronunciation. This is termed as a **glottal stop** or **glottalisation**. Instead of the plosive articulation, a complete closure is made at the glottis to cause a period of silence, which is very typical of the sound /t/. The symbol for glottal stop is /ʔ/, e.g. bottle /bɒʔl/; *water* /wɔːʔə/. The glottal closure may occur immediately before plosive sounds at the end of a syllable, which is typical of the plosives /p/ /t/ /k/ and the affricate /tʃ/, e.g.:

butter /ˈbʌtə/ or /ˈbʌʔtə/
atmospheric /ætməsˈferɪk/ or /æʔtməsˈferɪk/
accurate /ˈækjərət/ or /ˈæʔkjərət/
teaching /ˈtiːtʃɪŋ/ or /ˈtiːʔtʃɪŋ/

7.5. Treatment of /ŋ/

The nasal /ŋ/ needs to be discussed separately because this is a sound that often causes problems for EFL students. Roach (2009: 47) gives a thorough explanation on the distribution of the sound. The /ŋ/ sound is never found in the initial position of a syllable or a word. In the medial position, /ŋ/ is always followed by the plosive /k/ if the word has *–nk-* in spelling, e.g. *think* /θɪŋk/ or *banknote* /ˈbæŋknəʊt/. The difficulty starts when /ŋ/ is expected to be followed by the sound /g/ in the words with *–ng- in* spelling. When /ŋ/ occurs at the end of a morpheme (at the end of a minimal unit of meaning), /g/ is not present, e.g. *sing* (root) + *er* (suffix) /ˈsɪŋə/. When /ŋ/ occurs in the middle of a morpheme, it is followed by the plosive /g/, e.g. *finger* /ˈfɪŋgə/, *anger* /ˈæŋgə/.

There are exceptions, however. The main exception to the morpheme-based rule is the pronunciation of /ŋ/ in comparative and superlative forms of adjectives and adverbs: even when /ŋ/ occurs at the end of a morpheme, it is pronounced /ŋg/ when it is followed by the comparative suffix *-er* or the superlative suffix *–est*, e.g. *longer* /ˈlɒŋgə/, *longest* /ˈlɒŋgəst/.

7.6. Treatment of /r/

The approximant /r/ is another case to be considered, as its articulation and distribution are not the same in different accents of English. Most British accents like RP are **non-rhotic,** which means that speakers exclude the sound /r/ before a consonant or in final positions of words before a prosodic break. Meanwhile, **rhotic accents** generally realise /r/ in all contexts, e.g. General American. Accordingly, in the following examples of words in RP, the sound /r/ is not pronounced:

car /kɑː/
ever /ˈevə/
nurse /nɜːs/
farm /fɑːm/
stairs /steəz/

7.7. Treatment of Final /s/, /z/ and /ɪz/

Many students often confuse /s/ and /z/ sounds at the end of words when, in spelling, they write *–s*. This is essentially relevant for the plural forms of nouns, the possessive case of nouns, and the third person singular form of verbs. Actually, there are three types of endings, and they are determined by the voice quality of the preceding sound as presented in *Table 9*:

Table 9. **Treatment of final /s/, /z/, and /ɪz/** ***(adapted from Celcia-Murcia et al 2007: 248)***

/s/	after voiceless consonants	*books, roofs, aunt's, wife's, month's, stops, writes*
/z/	after voiced consonants and vowels	*sons, songs, walls, heroes, dog's, pupil's, goes*
/ɪz/	after /s/ /z/ /ʃ/ /ʒ/ /tʃ/ /dʒ/	*churches, languages, judge's, actress's, teaches*

7.8. Treatment of Final /t/, /d/, and /ɪd/

The past form of regular verbs in spelling *–ed* may be pronounced as /t/, /d/, or /ɪd/, which is again determined by the voice quality of the preceding sounds (see *Table 10*):

Table 10. **Treatment of final /t/, /d/, and /ɪd/** ***(adapted from Celcia-Murcia et al 2007: 252)***

/t/	after voiceless consonants	*looked, missed, passed, baked, crossed*
/d/	after voiced consonants and vowels	*played, served, appeared, spammed, bottled*
/ɪd/	/t/ /d/	*hated, started, wanted, speeded, voted, loaded*

The allophones and their contexts described in the section are the objects of investigation in suprasegmental phonetics. When combined, sounds are often affected by the neighbouring environment and undergo various modifications Because the scope of this course is generally limited to segmentals, just a few allophonic realisations have been discussed.

Further reading options: Roach (2009: 46-51), Cruttenden (2014: 163-164), Ashby and Maidment (2005: 197).

Terminology check:
distribution, clipping, aspiration, palatalisation, clear /l/, dark /l/, /l/ vocalisation, loss of plosion, nasal plosion, lateral plosion, glottalisation, glottal stop, non-rhotic accent

Study questions:

1. Why is the distribution of allophones important?
2. How does a voiceless consonant affect a preceding vowel?
3. What three environments are necessary for the strongest level of aspiration?
4. In what context is /l/ palatalised?
5. How is glottal stop different from glottal reinforcement?
6. In what cases is the sound /ŋ/ followed by the plosive /g/?
7. What does the term **non-rhotic accent** mean?
8. Under what influence is the *–s* ending in the plural of nouns pronounced in three different ways?

Exercises

1. Give minimal pairs showing the existence of a clipped and unclipped vowel.

Minimal pair		Minimal pair	
Clipped vowel	Unclipped vowel	Clipped vowel	Unclipped vowel

2. Underline the plosive sounds that may have the strongest level of aspiration in the given environments:

/fənˈtæstɪk/	/ˈpəʊites/	/kəmˈpeə/	/riˈkɔːl/	/priˈkɔːʃəs/	/ˈtəʊtəlaɪz/	/kəmˈpəʊnənt/

3. Which of the following words are pronounced with clear /l/ and which are pronounced with dark /l/?

Word	Clear /l/ / dark /l/
alphabet	
meal	
bell	
glow	
especially	
milk	
social	
glare	
stumble	
familiar	

4. How are the plosive sounds released in the following words and phrases?

Word / phrase	Loss of plosion / nasal plosion / lateral plosion
bad man	
respect	
nutmeg	
blackleg	

big lad	
big man	
bed covers	
glow	
kidnap	

5. Which of the following words are pronounced with /ŋ/ and which are pronounced with /ŋg/: ***England, strongest, ringer, anger, anguish, banging, hanger, jingle, mongoose, Tango, younger, bungalow, angriest, angry, finger, dangle, language, hungriest.***

/ŋ/	/ŋg/

6. Complete this chart by writing the sound that correctly ends each of these words:

Word	/s/ /z/ /ɪz/	Word	/t/ /d/ /ɪd/
inventions		*placed*	
professors		*allotted*	
coughs		*characterised*	
pronounces		*mentioned*	
matches		*pronounced*	
cultures		*remembered*	
Spencer's		*suggested*	
chocolates		*crusaded*	
Mary's		*computed*	
Gimson's		*argued*	
examples		*flowered*	
entertains		*frightened*	
manages		*masked*	
devotes		*accomplished*	
saves		*bleached*	
attaches		*annoyed*	

8. THE SYLLABLE

8.1. The Structure of the Syllable

The syllable may be defined as an uninterrupted unit of utterance that is typically larger than a single sound and smaller or equal to a word, e.g. *see* /siː/, *simplify* /ˈsɪm.plɪ.faɪ/ (Crystal 2008: 467). In English, a **minimum syllable** is formed by a single vowel, e.g. *are* /ɑː/, *or* /ɔː/. Longer syllables have one or more consonants preceding or following the vowel, e.g. *meet* /miːt/, *consonant* /ˈkɒn.sə.nənt/.

Phonologically, the syllable is "a unit of phonological organisation whose central component is a nucleus, which is normally a vowel, and which may be preceded or followed by consonants" (Carr 2008: 171). The vowel in the centre of the syllable is called the **syllable nucleus,** and the optionally surrounding consonants or sonorants are defined as **margins**. The initial margin is the **onset**, whereas the final margin is called the **coda**. See *Figure 28*:

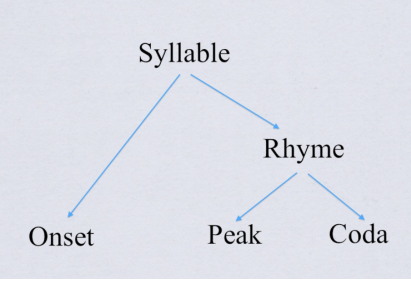

Figure 28. The syllable structure *(adapted from Roach 2009: 60)*

Some syllables have **syllabic sonorants** as their nucleus. Words like *bottle* /ˈbɒtl/, *trouble* /ˈtrʌbl/, *pigeon* /ˈpɪdʒn/, *often* /ˈɒfn/ are formed by two syllables, though they do not have a vowel as the nucleus. Instead, sonorants may serve the function of the nucleus, and in these positions, they are noted with a small vertical diacritics underneath the symbol, e.g. /ˈtrʌb̩/, /ˈpɪdʒn̩/. The typical syllabic sonorants are /l/ and /n/, yet /r/, /m/, and /ŋ/ can also acquire syllabic positions, especially under the influence of some processes in connected speech. If distributed in word final position

or if preceded by a vowel, sonorants do not count as syllabic. Compare the following examples:

sadden /sædn̩/ – *sand* /sænd/
doesn't /dʌzn̩t/ - *don't* /dəʊnt/

The division of words into syllables is referred to as **syllabification** or syllabication, which helps to distinguish between **monosyllabic, disyllabic**, **trisyllabic** and **polysyllabic** words according to the number of syllables they possess.

Syllables are often defined as **strong** or **weak** (see Roach 2009: 64). The strong syllables are relatively longer, more intense, and different in quality as they appear in stressed positions of a word (see section on Word Stress). The weak syllables contain either /ə/, /i/ or /u/ and are never stressed. Syllabic sonorants are also counted as forming weak syllables.

The **transcription** of monosyllabic words is very straightforward. It involves the recognition of concrete sounds and relating them to their phonemic symbols. Monosyllabic content words represent strong syllables only and may hold any phonemes, except for /ə/, /i/ or /u/. Function words, however, may be realised in strong and weak syllables (see Section 9). The usefulness of transcription is undeniably important as it enables the learners to extract precise information on the pronunciation of any word from a dictionary.

8.2. Word Stress

Syllabification is closely connected with the accentual structure of words, which is known as the **word stress** or **lexical stress.** In transcription, a superscribed vertical line appears before the stressed syllable, e.g. *never* /ˈnevə/, *agree* /əˈgriː/. Every disyllabic or polysyllabic word is pronounced with one or more syllables emphasized more than the remaining syllables in the word. Stress is usually equated with the notions of **emphasis** and **strength,** as the stressed syllables seem to be pronounced

Table 11. **The prominence characteristics of stressed and unstressed syllables** (adapted from Roach 2009: 74)

	Loudness	**Vowel length**	**Vowel quality**	**Pitch**
Stressed syllables	loud	long	strong	high
Unstressed syllables	quiet	short	weak	low

with more effort than unstressed ones. Clark and Yallop (1992: 295) say that this emphasis is "signalled by pitch as well as by supporting factors, notably loudness and duration". Roach (2009: 73) defines it as a **prominence** that is determined by four main factors: loudness, vowel length, vowel quality and pitch. In *Table 11* the stressed syllables are opposed to unstressed ones:

8.2.1. Levels of Stress

In some words it is possible to determine a second, weaker, stressed syllable as contrasted to the syllable holding the **primary stress**. This is considered to be the **secondary stress** and is notated by subscripting a low vertical line before the stressed syllable, e.g. pronunciation /prəˌnʌnsiˈeɪʃn/. There is also a third level of stress that is regarded by Roach (2009: 75) as '**unstressed'** and is characterised by the weak prominence factors mentioned above. It should be noted, however, that the syllables containing weak vowels /ə/, /i/, /u/ or a syllabic sonorant will sound even less prominent then the unstressed syllable with any other vowel. Consider the relative prominence of the first syllable in these words:

poetic /pəʊˈetɪk/ the first syllable is more prominent;
pathetic /pəˈθetɪk/ the first syllable is less prominent.

8.2.2. Placement of Stress

The position of the stress determines the different types of it as described below. In many languages, word stress is fairly predictable, i.e. it is determined by rules that apply to the majority of entries in the vocabulary. These languages are said to have **fixed stress**. However, languages with **free stress** have a vocabulary for which stress placement is difficult to predict. English is a free stress language. Moreover, free word stress may be either **constant** (remaining on the same syllable in different word class or in different derivatives from the same root, e.g. ***won**der, **won**derful, **won**derfully*) or **shifting** (varying between the syllables, e.g. ***pro**verb, pro**ver**bial*).

Although English is a free stress language, it is possible to predict the stress placement according to the following information as indicated in Roach (2009: 76): the syllable number in the word, the phonological structure of the syllable, the grammatical category of the word, and the morphological structure of the word. The basic stress patterns are given in the tables below, but there are exceptions, thus learners should treat each single case individually.

Syllabification is one of the factors that support the prediction of stress placement. *Table 12* presents the context when the stress is influenced by strong and weak syllables.

Table 12. **Stress patterns according to syllabification** ***(adapted from Roach 2009: 77-78)***

Disyllabic words	**Nouns**	Stress on the first syllable	*object*	/ˈɒbdʒekt/
			speaker	/ˈspiːkə/
			center	/ˈsentə/
	Verbs	Stress on the final syllable (if the final syllable is strong)	*arrange*	/əˈreɪndʒ/
			release	/rɪˈliːs/
			admit	/ədˈmɪt/
		Stress on the first syllable (if the final syllable is weak)	*fasten*	/ˈfɑːsn̩/
			open	/ˈəʊpən/
			answer	/ˈɑːnsə/
	Adjectives	Stress on the final syllable (if the final syllable is strong)	*polite*	/pəˈlaɪt/
			discrete	/dɪˈskriːt/
			correct	/kəˈrekt/
		Stress on the first syllable (if the final syllable is weak)	*lovely*	/ˈlʌvli/
			fatal	/ˈfeɪtl̩/
			shabby	/ˈʃæbi/
Trisyllabic words	**Nouns**	Stress on the first syllable	*chocolate*	/ˈtʃɒklət/
			paragraph	/ˈpærəgrɑːf/
			emperor	/ˈempərə/
		Stress on the second syllable (if the first syllable is weak)	*confusion*	/kənˈfjuːʒn̩/
			potato	/pəˈteɪtəʊ/
			behaviour	/bɪˈheɪvjə/
	Verbs	Stress on the final syllable (if it is strong)	*entertain*	/ˌentəˈteɪn/
			disconnect	/ˌdɪskəˈnekt/
			resurrect	/ˌrezəˈrekt/
		Stress on the preceding final syllable (**penultimate**) (if the final syllable is weak)	*remember*	/rɪˈmembə/
			acknowledge	/əkˈnɒlɪdʒ/
			determine	/dɪˈtɜːmɪn/
		Stress on the first syllable (if the final and the preceding final syllables are weak)	*motivate*	/ˈməʊtɪveɪt/
			monitor	/ˈmɒnɪtə/
			celebrate	/ˈseləbreɪt/
	Adjectives	Stress on the first syllable	*insolent*	/ˈɪnsələnt/
			positive	/ˈpɒzɪtɪv/
			shimmering	/ˈʃɪmərɪŋ/

Another important factor in stress determination is the **morphological structure** of the words. Some suffixes and prefixes in complex words may influence the level of stress (see *Table 13*).

Table 13. **Stress patterns according to suffixes** ***(adapted from Roach 2009: 83-84)***

Self-stressed suffixes (carry the primary stress themselves)	*-ee*	*refugee*		/ˌrefjʊˈdʒiː/	
	-eer	*engineer*		/ˌendʒɪˈnɪə/	
	-ese	*Portuguese*		/ˌpɔːtʃʊˈgiːz/	
	-ette	*kitchenette*		/ˌkɪtʃɪˈnet/	
	-esque	*sculpturesque*		/ˌskʌlptʃəˈresk/	
Neutral suffixes (do not affect stress placement)	*-able*	*knowledge*	/ˈnɒlɪdʒ/	*knowledgeable*	/ˈnɒlɪdʒəbl̩/
	-ous	*continue*	/kənˈtɪnjuː/	*continuous*	/kənˈtɪnjʊəs/
	-age	*cover*	/ˈkʌvə/	*coverage*	/ˈkʌvərɪdʒ/
	-al	*rebut*	/rɪˈbʌt/	*rebuttal*	/rɪˈbʌtəl/
	-er	*advertise*	/ˈædvətaɪz/	*advertiser*	/ˈædvətaɪzə/
	-ate	*affection*	/əˈfekʃn̩/	*affectionate*	/əˈfekʃənət/
	-en	*threat*	/θret/	*threaten*	/ˈθretn̩/
	-ful	*wonder*	/ˈwʌndə/	*wonderful*	/ˈwʌndəfəl/
	-ess	*steward*	/ˈstjʊəd/	*stewardess*	/ˌstjʊəˈdes/
	-hood	*like*	/ˈlaɪk/	*likelihood*	/ˈlaɪklɪhʊd/
	-man	*business*	/ˈbɪznəs/	*businessman*	/ˈbɪznəsmæn/
	-like	*child*	/tʃaɪld/	*childlike*	/ˈtʃaɪldlaɪk/
	-less	*power*	/ˈpaʊə/	*powerless*	/ˈpaʊəlɪs/
	-ish	*fool*	/fuːl/	*foolish*	/ˈfuːlɪʃ/
	-ly	*hurried*	/ˈhʌrɪd/	*hurriedly*	/ˈhʌrɪdli/
	-ment	*acknowledge*	/əkˈnɒlɪdʒ/	*acknowledgment*	/əkˈnɒlɪdʒmənt/
	-ness	*discursive*	/dɪˈskɜːsɪv/	*discursiveness*	/dɪˈskɜːsɪvnəs/
	-ous	*poison*	/ˈpɔɪzn̩/	*poisonous*	/ˈpɔɪzənəs/
	-fy	*glory*	/ˈglɔːri/	*glorify*	/ˈglɔːrɪfaɪ/
	-ship	*relation*	/rɪˈleɪʃn̩/	*relationship*	/rɪˈleɪʃnʃɪp/
	-some	*burden*	/ˈbɜːdn̩/	*burdensome*	/ˈbɜːdnsəm/
Influencing suffixes (influence stress in the stem)	*-al*	government	/ˈgʌvənmənt/	*governmental*	/ˌgʌvn̩ˈmentl̩/
	-eous	advantage	/ədˈvɑːntɪdʒ/	*advantageous*	/ˌædvənˈteɪdʒəs/
	-graphy	photograph	/ˈfəʊtəgrɑːf/	*photography*	/fəˈtɒgrəfi/
	-ate	origin	/ˈɒrɪdʒɪn/	*originate*	/əˈrɪdʒəneɪt/
	-ic	climate	/ˈklaɪmət/	*climatic*	/klaɪˈmætɪk/
	-ion	transport	/træns ˈpɔːt/	*transportation*	/ˌtrænspɔːˈteɪʃn̩/
	-ious	injure	/ˈɪndʒə/	*injurious*	/ɪnˈdʒʊərɪəs/
	-ity	banal	/bəˈnɑːl/	*banality*	/bəˈnæləti/
	-ive	*prospect*	/prəˈspekt/	*prospective*	/prəˈspektɪv/
	-nda	*agent*	/ˈeɪdʒənt/|	*agenda*	/əˈdʒendə/

Most **compounds words** have two stresses: primary and secondary. Depending on how compounds function in the sentence, the following stress patterns are found (see *Table 14*):

Table 14. **Stress patterns in compounds** ***(adapted from Roach 2009: 85-86)***

Compound nouns	General rule	Primary stress on the first element, secondary stress on the second element	*wristwatch*	/ˈrɪstˌwɒtʃ/
			swimming pool	/ˈswɪmɪŋ ˌpuːl/
			goldfish	/ˈgəʊldˌfɪʃ/
	If the first element is an ingredient of the second element	Primary stress on the second element, secondary stress on the first element	*apple pie*	/ˌæpl ˈpaɪ/
			strawberry milkshake	/ˌstrɔːbri ˈmɪlkʃeɪk/
			chicken bouillon	/ˌtʃɪkɪn ˈbuːjɒn/
			beef stew	/ˌbiːf ˈstjuː/
	Except compounds ending in cake, juice or water	Primary stress on the first element, secondary stress on the second element	*chocolate cake*	/ˈtʃɒklət ˌkeɪk/
			lemon juice	/ˈlemən ˌdʒuːs/
			rosewater	/ˈrəʊz ˌwɔːtə/
Compound adjectives	General rule	Primary stress on the second element, secondary stress on the first element	*blue-eyed*	/ˌbluː ˈaɪd/
			open-minded	/ˌəʊpən ˈmaɪndɪd/
			kindhearted	/ˌkaɪnd ˈhɑːtɪd/
	If the first element is a noun	Primary stress on the first element, secondary stress on the second element	*homesick*	/ˈhəʊm ˌsɪk/
			handmade	/ˈhænd ˌmeɪd/
Compound verbs		Primary stress on the second element, secondary stress on the first element	*overboil*	/ˌəʊvə ˈbɔɪl/
			underestimate	/ˌʌndəˈrestɪmeɪt/
			outrun	/ˌaʊtˈrʌn/

8.2.3. Stress in Word Class Pairs

There are words with identical spelling that represent different parts of speech. These words are differentiated by means of **shifting of the stress**. A small group of words for which the noun is differentiated from a verb by stress without a change in sound quality, e.g.:

increase /ˈɪnkriːs /, Noun, whereas *increase* /ɪnˈkriːs/, Verb
insult /ˈɪnsʌlt/, Noun, whereas *insult* /ɪnˈsʌlt /, Verb
impress /ˈɪmpres/, Noun, whereas or *impress* /ɪmˈpres/, Verb

Next follows another group of words for which the shifting of the stress may or may not be accompanied by a change in the quality of the vowel in the unstressed syllable of the verbs, e.g.:

transport /ˈtrænspɔːt/, Noun, whereas *transport* /trænˈspɔːt/ or /trənˈspɔːt/, Verb
torment /ˈtɔːment/, Noun, whereas *torment* /tɔːˈment/ or /təˈment/, Verb

Finally, there is a large group of words for which the shifting of the stress is accompanied by a change in the quality of the unstressed vowel, e.g.:

combine /ˈkɒmbaɪn/, Noun, whereas *combine* /kəmˈbaɪn/, Verb
conduct /ˈkɒndʌkt/, Noun, whereas *conduct* /kənˈdʌkt/, Verb
contrast /ˈkɒntrɑːst/, Noun, whereas *contrast* /kənˈtrɑːst/, Verb

There are also quite a few nouns that can form compounds but that can also be used like adjectives to make phrases with other nouns. When they constitute a compound, the main stress is placed on the first element. If they function as a phrase, the second element acquires the main stress (see Carr 2013: 86). Consider the following examples:

a blackboard /ˈblækbɔːd/ as a compound noun;
a black board /ˌblæk ˈbɔːd/ as an adjective and noun.

8.2.4. Stress Shift

When the change in stress placement is caused by the context, this is known as **stress shift** (Roach, 2009a). When a polysyllabic word with a stress placed at the end of it is followed by another word with the stress placed in the beginning of it, there is a tendency for the stress in the first word to shift towards the beginning, especially if it has a syllable that is capable of receiving stress, e.g.:

Japanese /ˌdʒæpəˈniːz/, but a *Japanese student* /ˈdʒæpəˌniːz ˈstjuːdnt/

Further reading options: Roach (2009: 56-68, 82-88), Crystal (2008: 467), Cruttenden 2014: (51-54).

Terminology check:
minimum syllable, the syllable nucleus, margins, onset, coda, syllabic sonorants, syllabification, monosyllabic, disyllabic, trisyllabic, polysyllabic, word stress, primary stress, secondary stress, fixed stress, free stress, constant stress, stress shift

Study questions:

1. What is the structure of an English syllable?
2. What is the meaning of the term syllabification?
3. Why is English called a free stress language?
4. What are the levels of stress?
5. What factors may help predict word stress in English?
6. How are word class pairs with identical spelling stressed and pronounced?
7. Under what circumstances does stress shift happen?

Exercises:

1. Transcribe these monosyllabic words:

Word	Transcription	Word	Transcription
Comb		*Choose*	
Last		*Month*	
Feel		*Year*	
Rose		*Quick*	
Bug		*Sword*	
Pack		*Hear*	
Gloves		*Laugh*	
Short		*Large*	
Long		*Five*	
Chair		*Write*	
Want		*Back*	
One		*Hold*	
Three		*Rude*	
Six		*Young*	
Town		*Use*	
Watch		*Joke*	
Age		*Front*	
Worm		*How*	
Warm		*Air*	
Walk		*Fire*	
News		*Wife*	
Phone		*Teeth*	
Next		*Voice*	
Quite		*File*	
Thanks		*Foot*	

Please		*Shoes*	
Kiss		*Check*	
Oil		*John*	
Half		*Jeep*	
Worse		*Chain*	
Wood		*Jazz*	
Twelve		*Bridge*	
Lunch		*Word*	
Thumb		*Chop*	
Each		*French*	
Taught		*Cheese*	
Though		*Cash*	
Bank		*Ash*	
Clothes		*Wage*	
Know		*Says*	
Corn		*Draw*	
Wrong		*Both*	
Wash		*Shelf*	

2. Transcribe the following polysyllabic words:

Word	Transcription	Word	Transcription
Capital		*Apply*	
Picture		*Pleasure*	
Support		*Sentence*	
Additional		*Dictionary*	
Ballad		*Personnel*	
Dramatic		*Future*	
Prefer		*Ordinary*	
Popular		*Philology*	
Particular		*Ability*	
Knowledge		*Learner*	
Affirm		*Command*	
Attempt		*Authentic*	
Activity		*Trainer*	
Teacher		*Register*	
Parents		*Number*	
Nature		*Traditional*	
Approach		*Historically*	
Personal		*Volume*	

Confidence		*Significant*	
Capacity		*Material*	
Example		*Perform*	
Interesting		*Student*	
Practice		*Yesterday*	
Difficult		*Telephone*	
Available		*Happens*	
Separately		*Customer*	
Alone		*Passenger*	
Unit		*Envelope*	
Edition		*Architect*	
Trouble		*Structural*	
Garden		*Brackets*	
Lovely		*Minimal*	
Careful		*Attention*	
Spelling		*Purpose*	
Money		*Surprise*	
Hospital		*Together*	
Husband		*Forever*	
Comfortable		*Another*	
Village		*Energy*	
Perhaps		*Exercise*	
Author		*Expression*	
Leather		*Statement*	
Clothing		*Atmosphere*	
Polite		*Component*	
Computer		*Produce*	
Remember		*Develop*	
Catastrophe		*Generate*	
American		*Translation*	
Important		*Family*	
Entrance		*Circus*	
Appreciate		*Twisters*	
Answer		*Memorable*	
Wonderful		*Although*	
Vegetable		*Feature*	

3. First underline the primary and secondary stresses in these words and then transcribe them.

Word	Transcription	Word	Transcription
Intonation		*Entertainment*	
Pronunciation		*Generation*	
Examination		*Fragmentation*	
Intermediate		*Cooperation*	
Capitalization		*Homogeneous*	
Photographic		*Application*	
Congratulations		*Topicality*	
Understand		*Transportation*	
Acquisition		*Volunteering*	
Opportunities		*Workaholic*	
Education		*Evolution*	
University		*Proportionality*	
Comprehension		*Illumination*	
Supplementary		*Particularisation*	
Punctuation		*Organisational*	
Lexicology		*Normalisation*	
Orthographic		*Neurological*	
Orientation		*Moralistic*	
Obligation		*Mineralogist*	
Acceleration		*Memorisation*	
Accommodation		*Legibility*	
Composition		*Hemispheric*	
Characterisation		*Harmonisation*	
Civilisation		*Gubernatorial*	
Capitalistic		*Guarantee*	
Enthusiastic		*Futurology*	

4. Decide what function the compounds serve in the sentence and transcribe the compounds according to the proper stress pattern:

Word	Function	Transcription	Word	Function	Transcription
Secondhand			*Overreact*		
Post office			*Movie star*		
Childlike			*Fall apart*		
Keyboard			*Undergo*		
Duty-free			*Colour-blind*		

Well-mannered			*Whitehouse*		
Turn away			*Shortsighted*		
Makeup			*Break-through*		
Make up			*Fall apart*		
Notebook			*Olive oil*		
Air-conditioned			*Handmade*		
Bedroom			*Seasick*		
Teapot			*Haircut*		
Look forward			*Toothpaste*		
Windscreen			*Waterproof*		
Trouble-free			*Quick-tempered*		
Update			*Tennis shoes*		
Tongue-tied			*Trainspotting*		
Middle-aged			*Upgrade*		
Outrun			*Software*		
Passer by			*English-speaking*		
Blacklist			*Washing machine*		
Car wheel			*Far-reaching*		
Brightly-lit			*Open-minded*		
Time-saving			*Underworld*		
Well-behaved			*Old-fashioned*		
Sun-dried			*Downsize*		
Long-lasting			*School-teacher*		

9. STRONG AND WEAK FORMS IN RELATION TO SENTENCE STRESS

9.1. Content Words and Function Words

Up to this point in the course, stress patterns have been attached to words in isolation. Stress operates at the word level and at the sentence level. In natural connected speech, however, not all words are stressed. Traditionally, the main meaningful words (those that carry the main semantic content) are stressed, while the other words that convey minor information in sentences are not stressed. The meaningful words, i.e. those that have an independent meaning and refer to a thing, an event, a property, etc. are called **content words,** and they include nouns, verbs, adjectives and adverbs. As opposed to content words are function words that have no or very little lexical meaning and are usually not stressed. They convey only grammatical information and express various grammatical relations. Depending on whether they are stressed or unstressed, the function words have several pronunciations. There are approximately 50 function words in English, including auxiliary verbs, prepositions, conjunctions, particles, etc. Typically, when they are unstressed, they are pronounced in their **weak form.** However, in some rare contexts, they can be stressed and appear in their **strong form**.

9.2. Reduction

The weak form is also often referred to as the **reduced form** because it is generally distinguished from the strong form of the word and undergoes the process of reduction. **Reduction** is the process that affects the quality and quantity of the sound. Thus, depending on the character of the change, reduction may be purely quantitative, qualitative, or zero. The reduction is called **quantitative** when it affects the length of sounds, e.g. *me* /miː/ to /mɪ/. The reduction is called **qualitative** when the vowel changes its quality to a neutral sound, e.g. *can* /kæn/ to /kən/. **Zero realisation** or **elision** is the process when sounds are elided, e.g. *of* /əv/ to /v/ (see Roach 2009: 113). *Table 15* presents the most common English function words in their strong and weak form:

Table 15. **Strong and weak forms of function words** ***(adapted from Collins and Mees 2003: 239-241)***

Function word	Strong form	Weak form
Determiners		
the	/ðiː/	/ði/ (before vowels)
		/ðə/ (before consonants)
a	/eɪ/	/ə/
an	/æn/	/ən/
some	/sʌm/	/səm/
Pronouns		
his	/hɪz/	/(h)ɪz/
him	/hɪm/	/(h)ɪm/
her	/hɜː/	/(h)ə/
you	/juː/	/ju/ (before vowels)
		/jə/ (before consonants)
your	/jɔː/	/jə/
she	/ʃiː/	/ʃi/
he	/hiː/	/(h)i/
we	/wiː/	/wi/
me	/miː/	/mi/
them	/ðem/	/ðəm/
us	/ʌs/	/əs/
who	/huː/	/(h)u/
that	/ðæt/	/ðət/
Prepositions and Particles		
then	/ðen/	/ðən/
at	/æt/	/ət/
for	/fɔː/	/fə/
from	/frɒm/	/frəm/
of	/ɒv/	/əv/
into	/ˈɪntuː/	/ˈɪntu/ (before vowels)
		/ˈɪntə/ (before consonants)
through	/θruː/	/θru/
to	/tuː/	/tu/ (before vowels)
		/tə/ (before consonants)
as	/æz/	/əz/
there	/ðeə/	/ðə/
Conjunctions		
and	/ænd/	/ənd/ /ən//n̩/
but	/bʌt/	/bət/

that	/ðæt/	/ðət/
than	/ðæn/	/ðən/
or	/ɔ:/	/ə/
Auxiliary verbs		
can	/kæn/	/kən/
could	/kʊd/	/kəd/
have	/hæv/	/(h)əv/
has	/hæz/	/(h)əz/
had	/hæd/	/(h)əd/
will	/wɪl/	/wɪl/ /l/
shall	/ʃæl/	/ʃəl/ /ʃl̩/
should	/ʃʊd/	/ʃəd/
would	/wʊd/	/wəd/
must	/mʌst/	/məst/ /məs/
do	/du:/	/du/ (before vowels)
		/də/ (before consonants)
does	/dʌz/	/dəz/
be	/bi:/	/bi/
been	/bi:n/	/bin/
am	/æm/	/əm/
are	/ɑ:/	/ə/
is	/ɪz/	/ɪz/
		/z/ /s/ (in contracted forms)
was	/wɒz/	/wəz/
were	/wɜ:/	/wə/

Strong forms of function words are rare, however, they may appear if the speaker intentionally emphasises the function words. The following environments usually require the use of strong forms:

- when in isolation, as in: *Who?* /hu:/;
- when being quoted, as in: *he said "of", not "off"* /ov/;
- at the end of a phrase or sentence, as in: *What are you looking for?* /fɔ:/;
- as the first of two consecutive auxiliary verbs without a full verb, as in: *would have liked* /wʊd/;
- in coordinations, as in: *he travels to and from London* /tu:/, /frɒm/;
- in contrasts, as in: *a message from John, not for John* /frɒm/, /fɔ:/;
- when used to emphasise a particular aspect of the message, as in: *Paris is the love city* /ði:/.

Further reading options: Roach (2009: 89-96), Collins and Mees (2003: 239-241).

Terminology check:
content word, function word, strong form, weak form, reduced form, reduction, qualitative reduction, quantitative reduction, elision

Study questions:

1. What words are typically stressed in a sentence?
2. How are function words realised under the stress influence?
3. What environments may determine the use of strong forms of the function words?

Exercises:

1. Choose 15 function words and write short sentences for their realisation in strong and weak forms:

Function word	Strong form	Weak form
.		
.		

2. Stress and transcribe the following sentences:

After about an hour, I managed to catch a bus.
Could you keep the secret until we get to our homes?
Don't lose your temper if Ann forgets to come.
I want a pound of sugar for making jam.
Look at the shop windows on the corner of the street.

Say that over and over again to make me feel better and better.
The airplanes are landing every two minutes, making a terrible noise.
There were a lot of people in the room who wanted to stay.
There is nothing better for a cold than a cup of hot tea with honey and lemon.

A LIST OF ABBREVIATIONS

EFL	English as a Foreign Language
SE	Standard English
RP	Received Pronunciation
EE	Estuary English
BBC	The British Broadcasting Corporation
IPA	International Phonetic Alphabet
IPA	International Phonetic Association

A GLOSSARY WITH LITHUANIAN EQUIVALENTS

Below is provided a glossary that uses Lithuanian equivalents as described by Bacevičiūtė (2008), Aprijaskytė and Pažūsis (1994), to help explain the key terms and complex anatomy concepts.

accent	tartis, akcentas arba kirtis
acoustic	akustinis
active organ of speech	aktyvus kalbos padargas
affricate	afrikata, priebalsinis dvigarsis
allophone	alofonas, fonemos variantas
alveolar ridge	alveolės, dantenos
apical (apico)	apikalinis, liežuvio galiuko kliūtinis
apico-alveolar	liežuvio priešakinis alveolinis
apico-dental	liežuvio priešakinis dantinis
apico-post alveolar	liežuvio pirešakinis užalveolinis
archiphoneme	tarpinis garsas
articulatory	artikuliacinis
articulatory settings	artikuliacinė bazė
arytenoid cartilage	vedeginė kremzlė
back vowel	užpakalinės eilės balsis
bilabial	abilūpinis
blade of the tongue	priešakinė liežuvio dalis
central vowels	vidurinės eilės balsiai
clipping	trumpinimas
coda	skiemens pabaigos garsas

consonant	priebalsis
constrictive	ankštumos
cricoid cartilage	žiedinė kremzlė, gerklų pagrindas
diacritics	diakritikas, žymėjimas
dialect	dialektas
diphthong	dvibalsis
distribution	distribucija, galimų pozicijų visuma
dorsum of the tongue	liežuvio nugarėlė
egressive	sudaromas iškvėpimo metu
expiration	iškvėpimas
flaps of muscle	raumenų audinių lopai
fortis	stiprusis
fricative	pučiamasis
front vowel	priešakinės eilės balsis
glide	slankas, antrasis dėmuo
glottal	glotalinis, ryklinis
glottalisation	ryklinis garso tarimas
glottis	balsaskylė, tarpas tarp balso stygų
hard palate	kietasis gomurys
high vowel	aukštutinio pakilimo balsis
homorganic	homorganinis, tariamas toje pačioje vietoje
initiation	iniciacija, garso sudarymo pradžia
inspiration	įkvėpimas
labio-dental	lūpinis dantinis
laminal (lamino)	liežuvio priešakinis
lamino-alveolar	liežuvio priešakinis alveolinis
lamino-palatal	liežuvio priešakinis gomurinis
larynx	gerklos

lateral	liežuvio šoninis
lenis	silpnasis
low vowel	vidutinio pakilimo balsis
lower jaw	apatinis žandikaulis
lungs	plaučiai
medial	liežuvio vidurinis
mid-open vowel	žemutinio pakilimo balsis
monophthong	vienbalsis
monosyllabic	vienskiemenis
nasal cavity	nosies ertmė
nasality	nosinimas, tarimas nosies ertmėje
nostrils	šnervės
nucleus	branduolys, pagrindinis elementas
obstruction	kliūtis
obstruent	kliūtinis garsas
occlusive	uždarumos
occlusive-constrictive	uždarumos-ankštumos
onset	skiemens pradžios garsas
oral cavity	burnos ertmė
oronasal	procesas burnos ir nosies ertmėje
palatalisation	minkštinimas
passive organ of speech	pasyvus kalbos padargas
pharynx	ryklė
phonation	fonacija, garso susidarymas
phone	kalbos garsas
phoneme	fonema
plates of vocal folds	balso stygų klostės
plosive	sprogstamasis

polysyllabic	daugiaskiemenis
primary stress	pagrindinis kirtis
qualitative reduction	kokybinė redukcija
quantitative reduction	kiekybinė redukcija
resonator	rezonatorius, ertmė, kurioje formuojasi garsas
respiratory	respiracinis, kvėpuojamasis
rims of the tongue	liežuvio šonai
root of the tongue	liežuvio šaknis
rounded vowel	lūpinis balsis
secondary stress	šalutinis kirtis
shifting stress	nepastovus kirtis
soft palate	minkštasis gomurys
sonorant	sonantas, pusbalsis
sonority	balsingumas
syllabic	skiemeninis
syllabification	skiemenavimas
syllable nucleus	skiemens centras
thyroid cartilage	skydinė kremzlė
tip of the tongue	liežuvio galiukas
tongue	liežuvis
trachea	trachėja, kvėpavimo aparato organas
transcription	transkripcija, tikslus garsų tarimo užrašymas
triphthong	tribalsis
unrounded vowel	nelūpinis balsis
uvula	liežuvėlis
velar	veliarinis, minkštojo gomurio
velum	minkštasis gomurys
vocal folds	balso stygos

vocal ligament	balsinis raištis, balso stygos
vocalisation	vokalizacija, balsinimas
voiced	skardus
voiceless	duslus
vowel	balsis

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Giedrė Balčytytė-Kurtinienė

A COURSE IN ENGLISH PHONETICS FOR EFL UNIVERSITY STUDENTS

Segmental Phonetics. Syllable. Stress.

3,00 aut. l.
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Computer-assisted Programme for the Teaching of the English Syllable in RP Allophonic Pronunciation

Rasim Tayeh Jehjooh
M.A.
College of Languages

1. Introduction :

Native speakers of English from different parts of the world have different accents,but the differences of accents are mainly the result of differences in the sound of vowels and consonants . The actual use of all these sounds in combination leads the speaker to produce a number of segments which only appear on the production level and realized on the perceptual one . RP pronunciation represents the teachable variety in all Iraqi universities because it is the most acceptable and understandable accent all over the world and not only in South East London ..The structure of the English syllable in RP pronunciation is influenced by the appearance of certain allophones especially aspiration and glottalization which change the form of CV in RP pronunciation.

This study is a new experiment to show how chapter 8 & 9 (the English Syllables)in Roach's book Phonetics & Phonology (2002) have been taught to the second stage ,department of English ,College of Languages through a computer programme and how certain allophones have changed the form of CV system in the structure of the English "syllable" in RP through the use of narrow transcription .

2. Definitions

The term 'syllable', in its broadest sense, is studied from the phonetic and phonological point of view since it represents one of the basic components in phonetics and phonology. However, the syllable theories are based on evidence taken from different fields of knowledge such as psycholinguistics which involves the study of child language acquisition and language universals(Fallows ,1980:76).

Roach (2002:66) states that the syllable is a fundamentally important unit in both phonetics and phonology.

Crystal (1989: 164) defines the syllable as " an element of speech that acts as a unit of rhythm, consisting of a vowel, a syllabic consonant or vowel / + consonant combination ". On the other hand, Hancock (2003: 50) beliefs that a syllable is often described as a group of one or more sounds with a peak or nucleus.

Phonetically speaking, the air pressure is most noticeable in the nucleus. The hearer may distinguish the central part of a syllable because it has more prominence than the surrounding sounds, but people often have difficulty in hearing when one syllable ends and another begins, for example, the word "bitter"[b'ɪtə] may be heard as (bi-tter, bit-ter or bitt-er).

Phonologically speaking, a syllable is defined as the way in which vowels and consonants combine to form various sequences (the study of the location of sounds in sequence is called phonotactics) . Vowels can form a syllable on their own or they can be the " centre or nucleus " of a syllable , e.g. [e] in bed [b ˈed],I [aɪ].

In addition, some consonants like / m, n, ŋ , l / are called syllabic consonants since they function as syllables in final position and also we have what is called " minimum syllable ", as in [ˈm] to show agreement and [ˈʃ] to keep someone quiet and these are consonant sounds, but they have meaning. (Roach, 2002: 76).

Roach (ibid: 66) divides a syllable into two parts onset plus rhyme (hence nucleus & coda). For example, sit consists onset[s]+nucleus[ɪ]+coda[?t]]; therefore [ɪ] + [?t] represent the rhyme part of the syllable as in fig ure 1

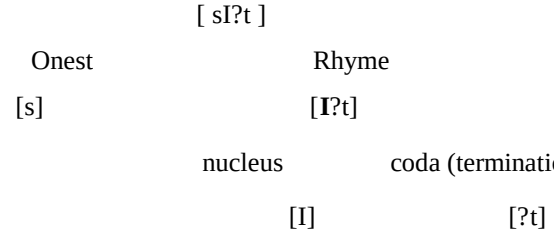

Figure (1)

The proposed definitions of the term "syllable" can be divided into three types: phonetic, phonological and phonotactic.

Phonetically, a syllable is usually described as consisting of a centre which has little or no obstruction to the flow of air out of the mouth and which sounds comparatively loud and before and after this centre. (Abrecrombie, 1989:39; Roach, 2002:67).

Phonologically speaking, a syllable is defined by Laver (1994:39) as "a complex unit made up of nucleus and marginal elements". Nucleus elements are the vowels or syllabic consonants. In the 'one word syllable' try [trˈaɪ] the diphthong /aɪ/ is the nucleus element; while the initial consonant cluster which consists of [t] and [r]are the marginal elements.

A number of scholars suggest that the term "syllable "should not be used in either a phonetic or a phonological sense, but it should refer to a linguistic unit composed of phonemes that are arranged according to certain phonotactic criteria. McCarthy (1978:107)

3. Significance of the Syllable

For Crystal (2003:447) "The syllable is important in phonology in relation to prosody, and cross-linguistic studies of rhythm .In the distinctive features theory of phonology 'syllable' is used to replace the syllabic nucleus".

Likewise, Bolinger (1975:56) emphasizes that the syllable obtains much of its obviousness because of the role it plays in rhythm, i.e., when people segment the stream of speech and give it a rhythm of strong and weak beats, as in music. In addition, the best justification for ending the structure of sound–units at the level of the syllable is that anything higher is almost necessarily related to the meaning and the structure of the language.

It is necessary to mention that the significance of syllable has increased especially in models of non–linear phonology in relation to derivation .In addition, a syllable plays a role in prosodic morphology as being "a level above the 'mora' and below the 'foot'- the unit of rhythm in languages" (ibid.).

Finch (2000:68); and the Free Encyclopedia (2005:Int.) state that syllables serve in carrying the stressed patterns of English which are essential to the way in which speech is organized.

O'Connor (1973:201) explains the importance of the syllable when he affirms that "the syllable is useful as the largest unit one needs to consider in explaining how phonemes are permitted to combine together in a language".Moreover, Smith and Wilson (1980:141) also refer to the importance of the syllable in the need for something larger than a phoneme and smaller than a word.

4. The Syllable : Various Theories

A number of studies have been made to explain theories of syllable. Phonetically speaking, one of the most important theories is "the chest pulse theory" which tackles the syllables in the context of muscular activities and lung movements in the process of speech. Experiments which have shown that the number of chest pulses, accompanied by the increase of air pressure, can determine the number of syllables produced, thus, allowing associate with the number of chest pulses. (ibid.56)

This theory, however, can not account for cases when two vowels occur one after another, for example, in words like being [b'i:ɪŋ] the second chest pulse must be almost irrelevant and thus leads erroneously to the conclusion that such English words consist of one syllable only. (Roach, 2004:1)

Another well-known theory is 'the prominence theory', which tackles the syllable from a phonological point of view and depends on auditory judgements, i.e., the number of syllables in a word is determined by the number of peaks of prominence. In the word beautiful,[bj'u:?tɪfʊl], for example, the peaks of prominence are represented by the vowel phonemes /u: , ɪ ,ʊ/, respectively. However, this theory does not help much in the problem of division of the syllable (Gimson, 1989:52).

Another theory is the “Sonority theory” in which “the pulses of pulmonic air stream in speech correspond to peaks in sonority”. The sonority of speech of a sound is seen as its relative loudness compared to other sounds. Each syllable corresponds to a peak in the flow rate of pulmonic air. Thus, the nucleus elements or syllabic segments are described as intrinsically more sonorant than marginal or non-syllabic segments.Speech sounds can be ranked in terms of their intrinsic sonority according to sonority scale as in figure(2) (Rogers,2000:268).

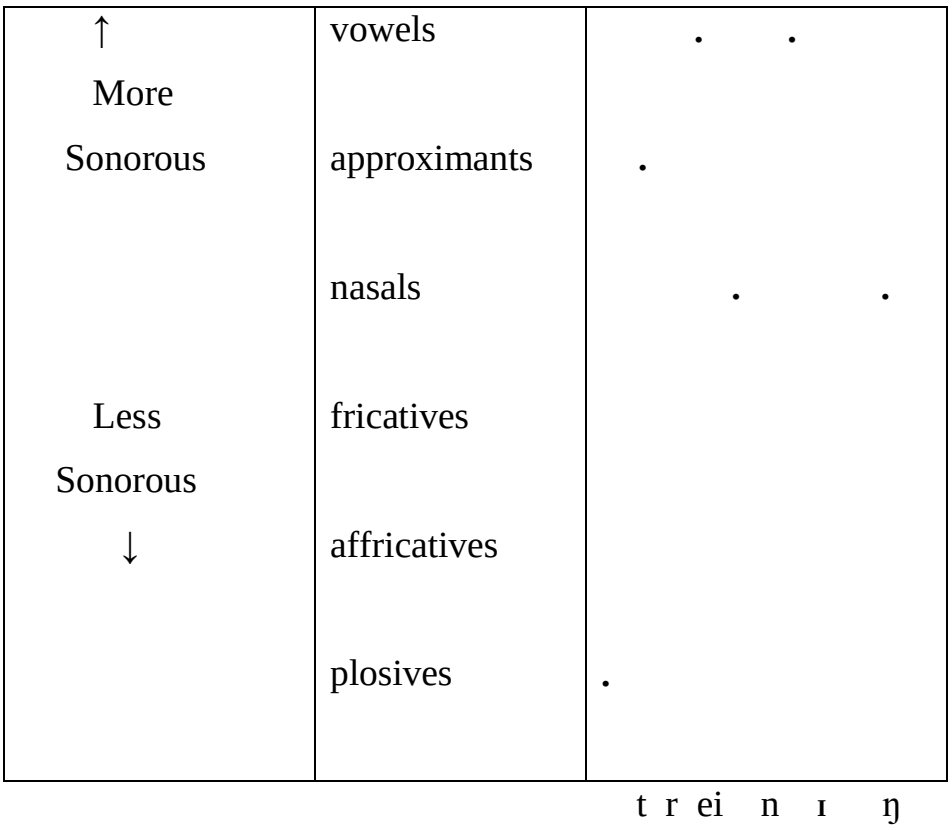

Figure (2): The Sonority Scale of the Word Training [tr'eɪnɪŋ]

(after Roach 2004:2).

In the above figure two peaks of sonority can be seen in the linear sequence of phonemes **/tr-eɪ-n-ɪ- ŋ/**i.e., the diphthong /**eɪ** /and the pure vowel / **ɪ** /.Thus, the number of syllables is two (ibid).

5 . English syllable: Nature of Structure of patterns .

O’Connor, (1973:201) states that the nature of a syllable structure varies from one language to

another since there is no universal phonological syllable. The phonological view of the syllable requires a separate definition for each language. However, Malmberg (1963:1), among other phoneticians, believes that a syllable consisting of a consonant plus a vowel is the only one which is general for all languages.

There are two types of English syllable structures which can be classified into two types: a phonetic syllable structure and a phonological one.

5.1 Phonetic Syllable Structure :

The phonetic syllable structure consists of three phonetic parts: the onset, the peak and the coda (Hyman, 1975:188). Sequences of segments within a phonetic syllable depend upon an inherent hierarchical scale of sonority. The most sonorous segment occupies the nucleus and farther from the nucleus on either margin the least sonorous, the sounds will be optional consonants (Hawkins, 1984:66). On the other hand, the phonological syllable structure displays the following pattern of arrangements: 0, 1, 2, 3 consonants +V + 0, 1, 2, 3, 4 consonants. This pattern means that a syllable consists of a vowel(V)which is preceded by zero, one, two, three, consonants and followed by zero, one, two, three, four consonants as in[ˈaɪ] [t^h ˈi:],[tr ˈaɪ],[str ˈi:t],[ɪn], [i:ʔt],[g ˈa:dn] ….etc. (O'Connor, 1973:229).

5.2 Phonological Syllable Structure :

Moreover, as for phonological theories of syllable, they are mostly concerned with the internal structure of syllables .In this respect, phonologists have adduced every possible configuration for the internal structure of syllables. For instance, the main concern of CVC syllables is whether the vowel is grouped with the prior consonant (called the onset) or with the posterior consonant (called the Coda) or with neither.

More recently, some phonologists have claimed that the components of the syllable are units of weight called 'Moras' (Hyman, 1982:9) .

Two parts can be found in the internal structure of the syllable. These parts are onset and rhyme; with the rhyme, nucleus and coda are found .It is important to point out that not all syllables have these parts; the smallest possible syllable

contains a nucleus only .Simply, onset means the beginning sound(s)of the syllable which precede the nucleus and coda means the sounds at the end of the syllable which follow the nucleus. These are always consonants in English (Roca and Johnson, 2000:239). Vowels and consonants do not act alone, but there are very few words-like which consist of only one sound, for instance, (I, eye, oh, m (to show agreement), or, are….etc.)(ibid.)

Accordingly, there are four patterns of syllables.They are: (ØVØ), (CVØ), (ØVC) and (CVC). In this case, a syllable may be a vowel only, viz. the pattern (ØVØ), as in or ['ɔ:], this kind of syllable is known as a 'minimum syllable'. The syllable which is not closed by consonant, viz. the pattern (CVØ) as in be [b'i:] is called an "open syllable".

Phonetically speaking, syllables consist of a centre, which has little or no obstruction to air flow and before and after this centre, there may be greater obstruction as in eye ['aɪ], in ['ɪn]. more [m'ɔ:]. But phonologically, consonants always occupy the margins of the syllable structure, and it happens that a consonant occupies the nucleus of the syllable as in syllabic consonant' (Gimson, 1989: 54).

6. English Syllables: Major Types

6.1 Simple Vs Complex Syllables

English syllables are classified into simple and complex according to their structure.. The simple syllable consists of a nucleus only or a nucleus with one consonant preceding it and /or another consonant following it. Consequently, the simple syllable has the structures: V, CV, VC and CVC as in "I" ['aɪ] , 'knee' [n'i:] , 'if'['ɪf] and dog[d'ɒg]. Other types of syllables are complex, i.e., they have cluster(s) of consonants before and /or after the vowel (ibid.).

Concerning the longest complex monosyllable English words, the following is a list of some of the nine- letter English words which have (7) sounds that each consists of a single complex syllable:

Table 1

Nine – letter Monosyllabic words in English

The word	narrow Trans.	syllable structure
scratched	[skr'æ?ʧ t]	CCCVCCC
straights	[str'eɪ?ts]	CCCVCCC
stretched	[str'e?ʧt]	CCCVCCC
scrounged	[skr'aʊndʒd]	CCCVCCC
scrunched	[skr'ʌn ʧt]	CCCVCCC
strengths	[str'eŋθs]	CCCVCCC

6.2 Open vs. Closed Syllables

Syllables are divided into open and closed according to the ending of the syllable. Open (free) syllables are those that end with a vowel or diphthong, i.e., they end with ‘nuclei’. Closed syllables (also called complete or blocked) are those that have at least one consonant following the vowel, i.e., they end with 'coda'. (Hartman and Stork, 1976:228)

Thus, closed syllables are those that have a branching rhyme while open syllables have a non-branching rhyme (Roach et al., 2004:Int.).The most common closed syllable has the structure CVC as in ‘died’ [d'aɪd]. This type of syllables, that has the CVC structure, is thought to be a subsequent innovation of the open syllable CV (Brosnahan and Malmberg, 1970:210). On the other hand, the most common open syllable has the structure CV, as in ‘we’ [w'i:] , the CV (a consonant followed by a vowel) structure, which is not closed by another consonant, is regarded as a basic phonological unit in all languages since relatively all languages

have it in their structures and may be the first systematic utterances of children are expected to be of this form (Hogg and McCully, 1989:36).

Cox et al., (2004:Int.) show the different structures of each type in English monosyllabic words as illustrated below:

Table (2)

Open and closed Syllables

(A). Closed syllables		
VC	is	['iz]
VCC	end	['end]
VCCC	ants	['ænts]
CCVCCCC	prompts	[prompts]
CVC	moon	[m'u:n]
CVCC	jump	[ʤ ʌ mp]
CVCCC	hands	[h'ændz]
CVCCCC	sixths	[s'Iksθs]
CCVCCC	plants	[pl'ænts]
CCVCCC	twelfths	[twelf θ]
CCCVC	strong	[str'ɒŋ]
CCCVCC	springs	[spr'Iŋz]
CCCVCCC	splints	[spl'Ints]
(B.) Open syllables		
V	or	['ɔ:]
CV	sea	[s'i:]
CCV	through	[θr'u:]
CCCV	screw	[skr'u:]

6.3 Strong Vs Weak Syllables

Phoneticians have found that it is useful to make a distinction between syllables that have more prominent nucleus and less prominent nucleus .In this respect they divided syllables into strong and weak syllables.

Smith (1982:10) refers to strong syllables using the terms “heavy” and “long”, and to weak syllables using the terms “light” and ‘short”. These two types of syllables can be described in part in terms of stress since they are closely associated with this aspect. Also, in a polysyllabic word there is always a syllable with primary stress; this syllable is called a “strong syllable”. Syllables that have no stress are known as “weak syllables” (Singh and Singh 1979:170).

Crystal (2003:493) states that syllables can be metrically “heavy” or “light”:- a light syllable is one whose rhyme comprises a short vowel nucleus alone or followed by a coda of no more than one short consonant, thus it has the structure CV or CVC.

In fact, English puts certain restrictions on the structures of strong syllables .They can be open only if they contain a long vowel or a diphthong and only a closed strong syllable may have a short vowel. In other words, long vowels and diphthongs can occur in both open as in ‘sue’ [s'u:], ‘bay’[b'eI] and closed as in ‘bean’[b'i:n]and ‘eight’['eI?t]which constitute strong syllables, whereas short vowels occur only in closed ones as in ‘cat’ *[*k^{h}'æ?t*]* and ‘ill’ *[*'ɪl*]*(Roach et al., 2004:Int).

Generally, strong syllables can have in its centre any long vowel, like the first syllable of the word ‘father’ [f'a:ðə] or diphthong as the first syllable of the word ‘daily’ [d'eɪlɪ] except the vowel [ə], whereas weak syllables can only have the following types of nucleus (Roach, 1999:76):

A. Short Schwa

Schwa is symbolized as /ə/, which is the most common unstressed vowel in English. This vowel occurs initially e.g. ‘alive’ [əl'aɪv], medially e.g. ‘forget’ [fəg'e?t] and finally as in ‘cinema’ [s'ɪnəmə]. Many English words have one stressed vowel and a schwa in their unstressed syllables as in ‘purpose [p'ə:pəs],

‘elephant’ ['elɪfənt] and ‘tremendous’ [trəm'endəs] (Kreidler, 2003:80). Actually in English, there are words that have two forms in pronunciation: one with short schwa (the weak form) and the other with some other vowels like / ɪ /, / æ / and / ɒ/ instead of this schwa. For example, ‘of’ has the weak form [əv] and the strong form ['ɒv] (Wells and Colson, 1981:24).

B. The [i, u] vowels

Roach (1999: 77-8) illustrates that the weak syllable can have one of two other vowels as its centre. The first is a vowel that occurs in the general area between /i:/ and /ɪ/ while the second one lies in the region between /u:/ and /u/. Here, unlike the case with strong syllables, there is no clear borderline between the long and short forms of each vowel in weak syllables, i.e., no one can tell which vowel one realizes in words like ‘easy’ or ‘busy’. Wells and Colson (1981:22) argue that these vowels are more like the long forms when they come before another vowel and they tend to be shorter when they precede a consonant or pause. Thus, a different (or a third) vowel is introduced symbolized as [i] in the first example and [u] in the second one. As a result, the words ‘busy’,‘easy’ and influence are transcribed as [b'ɪzi] ,['i:zi] and ['ɪnfluəns] respectively. Some other examples are the [i] in ‘happy’ /hæpi/; ‘valley’ [væli] and [u] thank you [θæŋkju] and ‘coffee’ [kɒfi] (ibid.).

C. Syllabic Consonants:

Laver,(1994:114) pointed out that “the syllable must have a compulsory constituent in its structure, i.e., the nucleus, which consists of a vowel (pure or diphthong”). The exception to this rule is syllabic consonants. Those are the lateral sound [l̩] and the nasals [m̩], [n̩], [ŋ̩] in which each consonant can form a syllable. The English syllabic consonants in RP symbolized by vertical dash[ˌ],

written under the sound as in ‘bottle’ [b'ɒt$_{\text{l}}$]; ‘bottom’ [b'ɒt$_{\text{m}}$]; ‘garden’/g'a:d$_{\text{n}}$/and ‘thicken', [θ'ɪk$_{\eta}$]but /θ'ɪk$_{\text{n}}$/, is also possible)(Jones,1984:55) .

7.1 Syllabication

Pulgram (1970:40) defines syllabication as a phonotactic operation which is performed in conformity with the distributional criteria of the language under analysis (CF.Hans, 1981:257). Although it is possible that one can specify the number of syllables in words, it is very difficult to determine syllable boundary placement. (Ladefoged, 1975:218).

Some phonotactic criteria for syllable boundary placement are suggested by a number of phoneticians.

Pulgram (1970:47-51) proposes the following principles:

1. A principle of maximal open syllabicity.
2. A principle of minimal coda and maximal onset.
3. A principle of irregular coda.

As far as the first principle is concerned, a syllable boundary is inserted after every vowel of a word. Thus, words such as rooster and master are syllabified as [rˈʊ.stə] and [mˈæ.stə] so as to make the first syllable open. A problem arises; however, in the form (mæ . stə) since the principle of maximal open syllabicity creates a sequence which violates a sequential constraint in English by which the short vowel /ɪ, e, æ, ɒ, ʊ / are disallowed in word-final position. Since [mˈ æ. stə] contains the vowel / æ/, which doesn’t occur in word finally, it must be resyllabified by the next principle to yield [mˈæs.tə]. A similar motivated readjustment must occur in a second set of circumstances.

Pulgram (1970:40) explains this by stating that:

If the syllable can not be kept open because the consonant or consonants that would form the onset of the next syllable do not occur in word- initial position, then many consonants, as necessary –but not more –to reduce the onset to a

permissible word-initial shape, must be detached from it and transferred to the preceding syllable as coda, to close the syllable.

Hence, while employ [ɪmpl'oɪ] would be syllabified [ɪ .mpl'oɪ] by the principle of maximal open syllabicity, this would create a syllable- initial /mpl/ sequence which can not occur in word initially. Hence, the/m/ must be sent back to the first syllable to yield [ɪm.pl'oɪ] where each syllable now meets the syllable structure constraints of English. Pulgram's final principle is stated as follows:

If the necessary transfer from syllable- initial to syllable-final position leads to a group of consonants, then the burden of irregularity must be borne by the coda rather than the following onset.

Pulgram's principle is further expanded by Fallows (1980:78) who suggests two principles of syllabication: stress and ambisyllabicity. The first principle means that a stressed syllable will attract the maximum number of consonants in both initial and final position. The next principle shows the sharing of an inter-vocalic consonant by the neighbouring syllables. So, a word like begin [bɪgˈɪn] is syllabified as [bɪ.gɪn] or [bɪg.ɪn). It seems that the second division of the word begin [bɪg-ɪn] is more acceptable since it is familiar to find English beg and in through the dictionary.

7.2 Rules of syllabification

1- Recognition of certain prefixes and suffixes un-,mis-,dom-,in-**.**
2- If the first syllable in disyllabic words is a long or a diphthong vowel, it ends the syllable**.** And the next sound goes to the following syllable**.**

Example. Writer [r'aɪ **.** ʔtə] o [r'aɪʔt **.** ə]

3- The syllable division is marked before the schwa /ə/ in triphthongs**.**
Example.
chaos $k^{h_{h_w}}$e**ɪ.**əs]

Note: Division of disyllabic and polysyllabic words should not produce unacceptable consonant cluster in both the onset and coda in English language**.**

4- In **VCV** if one consonant occurs between two vowels and the second vowel is long (stressed or unstressed), the consonant becomes part of the second syllable**.**

Example.

Return [rɪ ʔt 'əː n] VCV

V C V [rɪʔt'ɜː n]

| |

Short long

Vacation [v ə.ʔk 'eɪʃ.n]

| | |

V C V

| |

short long

Delay [dɪl'eɪ] VCV [dɪ.l'eɪ]

Example

Windy [w'ɪn.dɪ]

[w'ɪnd.ɪ]

But not

[wɪ. ndɪ] English words can not begin with (nd-)

5- In (VCV) if one consonant occurs between two short vowels, and the first vowel is stressed the consonant goes with the preceiding vowel.

Example.

[l 'ɪ m ɪ? t] [l'ɪm.ɪʔt]

| |

short short

| |

Stressed unstressed

6- In the intervocalic consonants as in [b] in [h'æbɪʔt] here, the consonant sound [b] is treated as ambisyllabic ,i.e. ,

[b] can be

To the first syllable ← coda and onset → To the second syllable

Therefore , [b] has dual function.

8- The Manipulation of Computer Techniques in Monitoring English Syllables

Studying the English Syllable at the University level practically represents the task of the researcher who does his best to design a comprehensive programme to be used by teachers at the college on one hand and the students themselves on the other hand.

4.3 Procedures for Presenting the Programme

To design the CD programme of this study two steps have followed.

The First step is to select the data which is taught by using computer and the second step is to design the actual CD programme to be a ready-made software for studying the English syllable. As far as the first step is concerned, the data of the present study have taken from chapters "Eight" and "Nine" included in the text-book which is taught at the second year in departments of English under the title Phonetics and Phonology: A Practical Course by Peter Roach: 2002. Some relevant topics have been added to the programme from other books to achieve a comprehensive programme for studying syllables at the university level.

The researcher designed an actual CD programme which presents the content in slides through selective programmes such as Microsoft Word 2003/2007 for writing and power point for making slides and visual Basic 2003 for testing items. Multimedia is also used in this study.

The programme has been designed in three stages which can be summarized as follows:

1- Presentation

After loading the programme into the computer, the content of the programme will appear on the monitor in form of slides. The content is arranged

into presentation, application or practice and testing. A learner can click on the button "introduction" to read the main aims and advantages of the programme. On the presentation stage, the learner can click on any topic from the main menu to study it in all its details. In each slide, a number of buttons appeared to give the learner the freedom to choose whatever he likes to do the next. On the left hand, in the bottom, there is a button of reading the material in the selective slide, whereas on the right hand,there is a button of music which he can use while reading the slide silently.

To attract the learner's attention and make the process of learning more interesting, different pictures and colours are used with soft music which accompanied all the stages of programme.

A learner can repeat the material endlessly until he/she is satisfied with the results.

2- Application

After presenting and explaining the contents in words, the learner can click on an icon of application which transfers what has been written in words to a simple tree diagram to combine between theory and practice on the same screen.

3- Testing

The last stage of the programme is a test for the learner to check himself/herself whether she /he understands the material of each item in the main menu or not. Questions have been designed or prepared according to the nature of each item in the topic and its weight in the text-book itself.

4.4 Programme Mechanism

Our programme entitled "the English syllables" has been designed through the use of VB 2005 which has wide spread capacities on educational and productive scientific levels.At first, the mechanism will be explained, illustrated by some electronic windows with its own demonstration, and then a simplified explanation

about the programming language (VB 2005) will be given. (See Figure.3)

Figure 3: The Main Frame of the Programme

The above (Compiled Window) represents the main frame of the programme which has been designed according to Visual Basic Programme 2005, where two buttons **(Introduction, the End)** activate either to introduce the programme or end it.

The effective use of colours, pictures and orthography has been done according to the productive programme entitled **(Adobe PhotoShop CSME)**.

The following designed[1] window shows the aim of our study and a letter to the users to know why this programme has been designed and its effect on the scientific level of the university students in this branch of knowledge (phonetics and phonology). In this window, there will be a button entitled **(Main Menu)** by which one can see and choose the item he / she wants to study of the English Syllables.

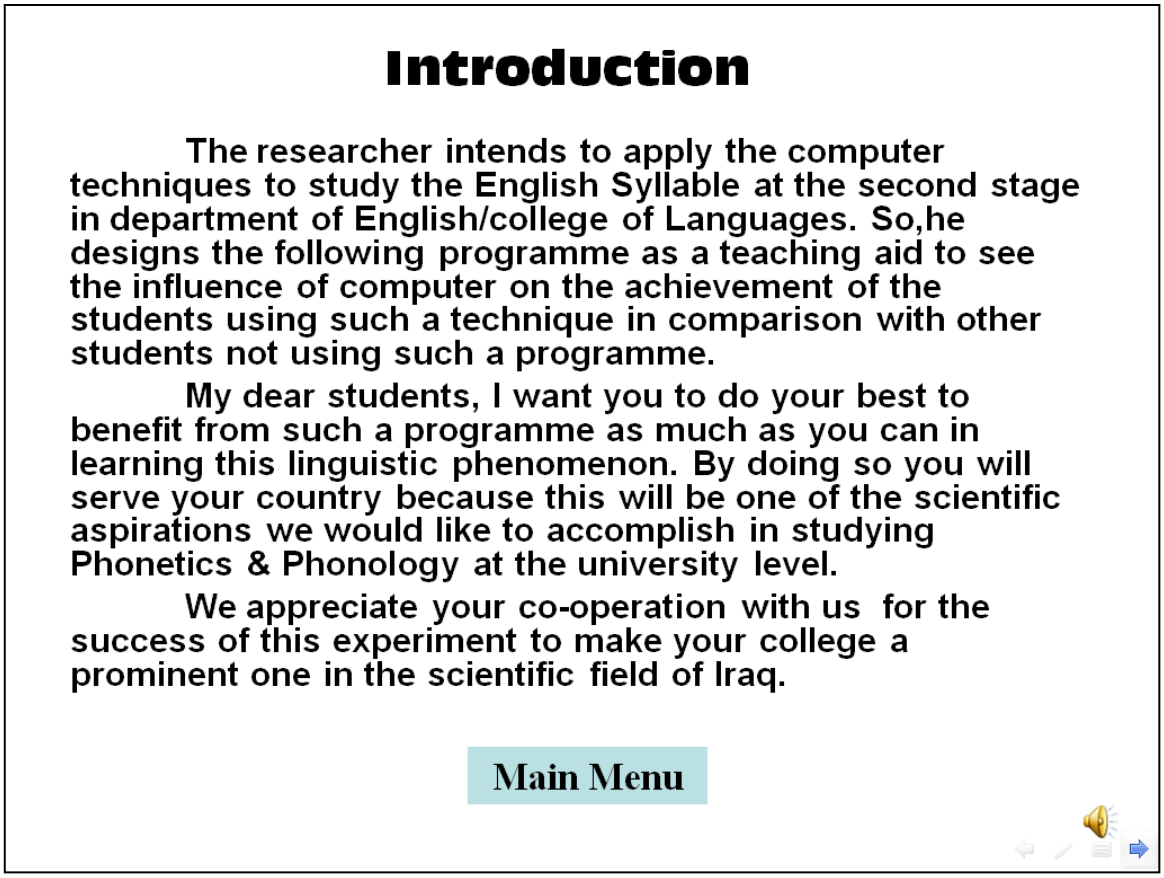

Figure 4: Introduction to the Programme

Figure 5: The Main Menu

The above compiled window **(Figure5)** represents (the main menu) where the eight topics that are included in this study (The English syllable) will be shown. Only one example has been taken, that is the First button (Definition: The English Syllable) with its windows represented in the following pages.

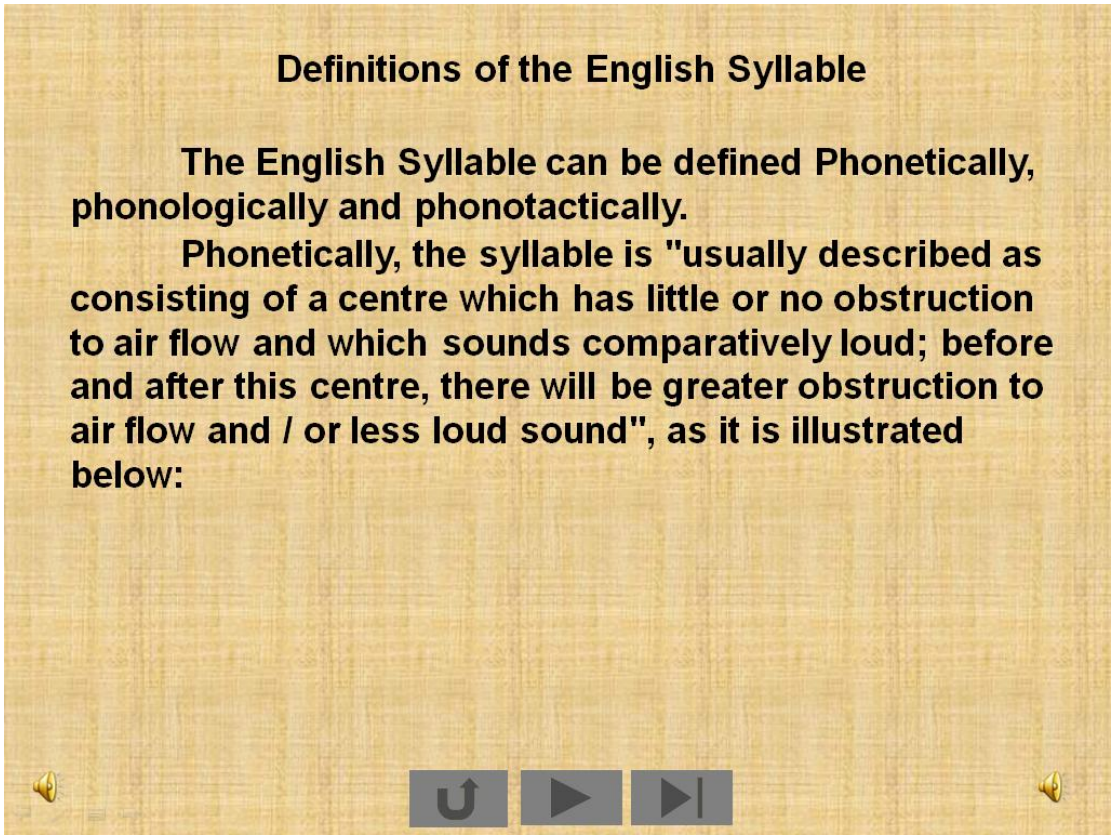

Figure 6: The Electronic Slide of the Definition of the English Syllable

The above frame (Figure 6) represents the electronic slide of the first topic in the main menu where one can see a number of buttons to control sound or another to show the next electronic window that leads to presenting questions about the topic itself.

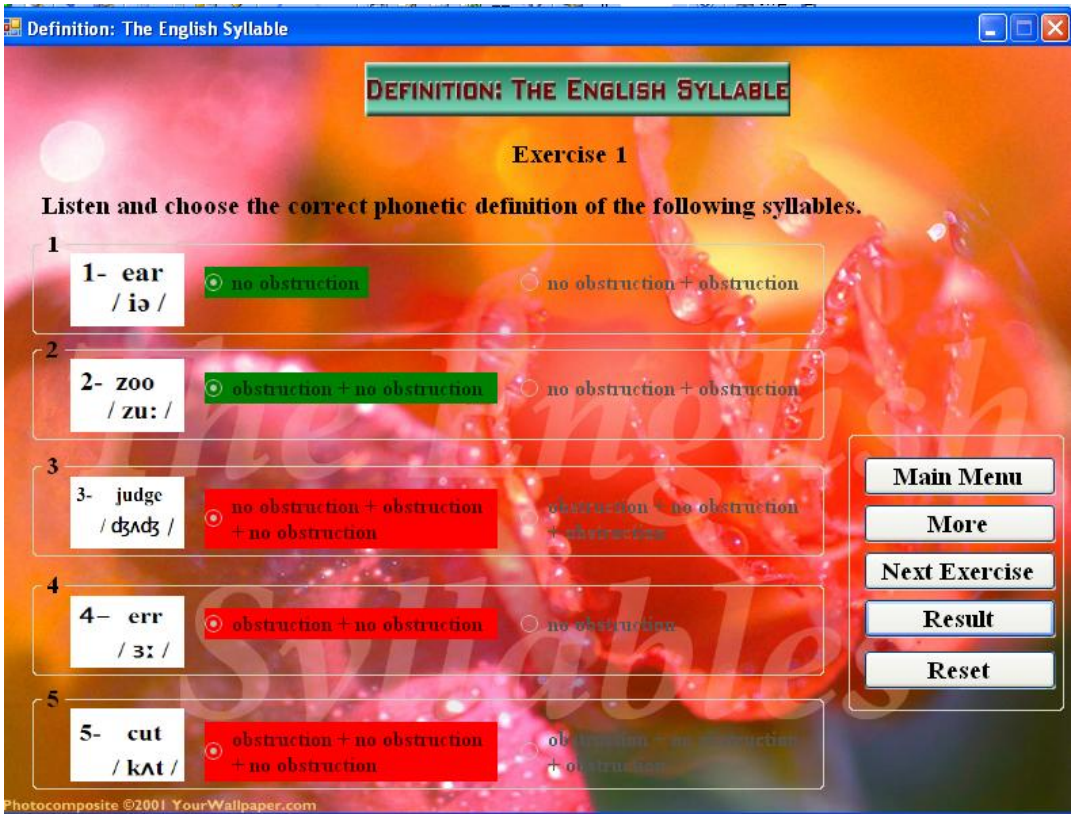

Figure 7: Exercise on Definition: The English Syllable

This window represents as in its full form the first two questions of the first topic where it contains some important buttons repeated in other windows of other topics as follows:

1- (Main Menu): This button leads us to the eight – button window.

2- (More): This button shows us successive choices of the same question.

3- (Next Exercise): This button transfers to the window of the following question of the same topic.

4- (Results): This button examines the results of responses of all the choices of the present question where the green colour shows the correct responses and the red color states the wrong answer

9. Conclusions:

In the light of the empirical evidence revealed in this study and according to the researcher's own observation, the following conclusions are drawn on the theoretical and practical level of this study :

1- Some allophones in RP pronunciation change the form of CV system of the English syllable by using narrow transcription as in put [p^{h}ʊ?t] becomes CCVCC but not CVC; text [t^{h}è?kst] becomes CCVCCCC but not CVCCC (Roach, 2009) in a letter to the researcher on Thursday, April 16, 2009, 5: 36 P.M.

Roach says: "It would be true to say those counting phonetic segments in narrow transcription would result in a different number of segments from the number resulting from counting phonemes".

2- Whenever we deal with a particular accent, for example (BBC/RP) narrow transcription must be used to distinguish this accent from other varieties of EngliAccording to the sonority theory of the English syllable, the place of stress must be put above the peak and not on the preceding consonant in the stressed syllables.

whereas, on the practical level, this study shows that: First, the achievement of the experimental group is higher than that of the control group and that is attributed to the application of computer techniques. Secondly, there is an improvement in the level of knowledge of the experimental group between pre- and post test.

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Chapter 1

Introduction

The major objective of this book is to cover the fundamentals of general linguistics. It is assumed in this book that students have had some prior knowledge in general linguistics. It is highly recommended that students have studied an introduction to linguistics as a prerequisite for this course.

The book covers almost all main areas of general linguistics. These areas include language change, phonology, and the sound patterns of language, morphology and morphological analysis, syntax and sentence patterns, semantics, lexical semantic properties which determine syntactic patterns and pragmatics. Below is a brief outline of each of these chapters.

Chapter one is general introduction, while chapter two introduces the major branches of general linguistics. Chapter two deals with the different areas of linguistics. Among these areas are: descriptive linguistics, comparative linguistics, formal linguistics, and sociolinguistics, psycholinguistics, computational

linguistics, applied linguistics, anthropological linguistics and philosophical linguistics.

Regarding formal linguistics, three different schools of thought are discussed: the traditional school, the structural school and the generative transformational school. As for the different areas of formal linguistics, five main areas are introduced. These include phonetics, phonology, morphology, syntax and semantics.

With respect to sociolinguistics, a number of issues are included. Among these issues are the following: language variation, language and social interaction, pragmatics, discourse analysis, ethnography of communication, language attitudes, and language planning.

In addition, this chapter discusses such areas as cognitive linguistics, corpus linguistics, etymology, and stylistics. Examples and illustrations to simplify and explain these issues are provided. The chapter ends with a number of revision questions.

Chapter three deals with the different definitions of language, while chapter four discusses the issue of language varieties. In chapter three such issues as the origin of language, language productivity and language arbitrariness are discussed. The issue of the functions of language is also discussed in chapter three. Chapter four on the other hand discusses such topics as dialectology, social varieties of language, pidgin languages and creole languages.

Chapter five deals with the issue of linguistic change. It is shown in this chapter that just like living beings, languages undergo change at all linguistic levels. Indeed, the role of change is not the same at different linguistic levels. For instance, at the lexical level we expect high rate of change since new lexical items or words are frequently added to the vocabulary of any language. By contrast, we do not expect new phonemes to emerge in languages or dramatic syntactic change, except for rare cases.

The issue of linguistic change is also relevant to the original human language and how such a language developed into different language families and different languages due to linguistic change. In this regard, it is assumed by historical linguists that the first human language is known as Proto- Human- Language. Due to linguistic change over thousands of years, this Proto-Human- Language split into different language families. For instance, while both Arabic and English belong to the So called Proto- Human-Language, Arabic belongs to the Semitic family, which in turn belongs to the Afro- Asiatic family. On the other hand, English belongs to the Germanic family, which in turn belongs to the Indo-European family.

Chapter six deals with phonology as one of the major branches of linguistics. It is shown in this chapter that although phonology and phonetics deal with the sounds of language, each branch has its own focus and perspectives. For instance, the issues of allophonic variation, phonemic contrast, assimilation, allophonic and

constructive features and stress patterns constitute the main focus of phonology.

Chapter seven deals with morphology and morphological analysis. It contains a basic introduction to morphemes, allophones, and conditions which determine allomorphic variation. Types and functions of morphemes are also included. This chapter also presents illustrations of how morphological analysis is carried out. An outline of the inflectional and derivational morphemes, as well as the main differences between the two types is also included in this chapter.

Chapter eight is assigned to syntax as one of the major branches of linguistics, while chapter nine is devoted to semantics. It contains an outline of the very basic notions of syntax. In particular, the relevance of grammatical categories, phrase structure rules, and the different syntactic patterns are discussed in this chapter. Reference to different approaches to syntactic analysis is also included in this chapter. On the other hand, Chapter nine is assigned to the component of semantics. In this

chapter the basic semantic notions are introduced. The role of semantics to linguistic analysis is also discussed in this chapter. The issue of interface between semantics and syntax is also explored.

Chapter ten deals with the issue of the lexical semantics of verbs in Arabic and English and their role in determining syntactic patterns. Specifically, in this chapter the role of the lexical properties of verbs and how they condition syntactic variation will be explored. Illustrations of how different semantic classes of verbs are associated with different syntactic patterns are included.

What is significant about the issue of lexical semantics and their role in syntactic variation is that none of the major syntactic theories can adequately capture the role of these semantic properties. For instance, if we examine such syntactic theories as Transformational Syntax (Chomsky), Relational Syntax (D. Perlmutter), and even Lexical functional Syntax (J.Bersnan), we find that none of these theories can adequately capture the fact

that certain syntactic variations are completely conditioned by the semantic properties of verbs.

Moreover, a comparison is included in this chapter between English and Arabic with respect to the phenomenon in consideration. Despite the fact English and Arabic are genetically unrelated languages since Arabic is Semitic and English is Germanic, the two languages exhibit interesting similarity in this regard. More specifically, it is shown in this chapter that both English and Arabic exhibit the same behavior regarding the fact that variation is syntactic patterns is conditioned by subtle semantic properties.

Chapter eleven is devoted to pragmatics and how this area of linguistics is different from semantics. While semantics is concerned with the objective or neutral meanings which can be found in dictionaries, pragmatics goes beyond that. It is concerned with the speakers intention and the meanings which can be inferred from given contexts. Among the notions discussed are the following: physical context vs. linguistic context, deictic

expressions, anaphora, inference, presupposition and speech acts.

Chapter twelve is intended to provide a variety of exercises on syntax, phonology and morphology. In addition, it contains some exercises on basic syntactic rules which students often have problems with. Many of the issues covered do not have direct Arabic counterparts. Hence, our students who are native speakers of Arabic often encounter some difficulties with these rules due to interference from Arabic. These rules include subject-verb agreement, pronoun- antecedent agreement, placement of modifiers, avoiding fragments, avoiding comma splices and fused sentences, pronoun case, avoiding shifts, and parallel structure.

CHAPTER 2

MAJOR BRANCHES OF LINGUISTICS

CHAPTER 2
AREAS OF BRANCHES OF LINGUISTICS

I. WHAT IS LINGUISTICS?

Linguistics is the scientific study of language. It encompasses the description of languages, the study of their origin, and the analysis of how children acquire language and how people learn languages other than their own. Linguistics is also concerned with relationships between languages and with the ways languages change over time.

Linguists may study language as a thought process and seek a theory that accounts for the universal human capacity to produce and understand language. Some linguists examine language within a cultural context. By observing talk, they try to determine what a person needs to know in order to speak appropriately in different settings, such as the workplace, among friends, or among family. Other linguists focus on what happens when speakers from different language and cultural backgrounds interact. Linguists may also concentrate on

how to help people learn another language, using what they know about the learner's first language and about the language being acquired.

Linguistics is a 'foundation' discipline in the sense that it bridges the social sciences, the natural sciences, and the humanities. Linguistics also has links with cognitive science, computer science, education (through reading, child language acquisition, and classroom interaction), geography (through linguistic geography and dialectology), history (through historical linguistics), literature (through stylistics, poetics, and critical theory), neurology (through neurolinguistics, the study of how language functions in the brain), philosophy (through the philosophy of natural language, semantics, and logic), psychology (through psycholinguistics, cognitive psychology, and clinical applications), sociology (through sociolinguistics and the sociology of language), speech therapy, and zoology (through animal communication and the evolution of language).

Several of the subfields of linguistics that will be discussed here are concerned with the major components of language: Phonetics is concerned with the sounds of languages, phonology with the way sounds are used in individual languages, morphology with the structure or formation of words, syntax with the structure of phrases and sentences, and semantics with the study of meaning.

Another major subfield of linguistics, pragmatics, studies the interaction between language and the contexts in which it is used. Synchronic linguistics studies a language's form at a fixed time in history, past or present. Diachronic, or historical, linguistics, on the other hand, investigates the way a language changes over time.

A number of linguistic fields study the relations between language and the subject matter of related academic disciplines, such as sociolinguistics (sociology and language) and psycholinguistics (psychology and language). In principle, applied linguistics is any application of linguistic methods or results to solve

problems related to language, but in practice it tends to be restricted to second-language instruction.

II. DESCRIPTIVE AND COMPARATIVE LINGUISTICS

Although there are many ways of studying language, most approaches belong to one of the two main branches of linguistics: descriptive linguistics and comparative linguistics.

A. DESCRIPTIVE LINGUISTICS:

Descriptive linguistics is concerned with the study and analysis of spoken language. The techniques of descriptive linguistics were devised by German American anthropologist Franz Boas and American linguist and anthropologist Edward Sapir in the early 1900s to record and analyze Native American languages.

Descriptive linguistics begins with what a linguist hears native speakers say. By listening to native speakers, the linguist gathers a body of data and analyzes it in order to identify distinctive sounds, called phonemes.

Individual phonemes, such as /p/ and /b/, are established on the grounds that substitution of one for the other changes the meaning of a word.

After identifying the entire inventory of sounds in a language, the linguist looks at how these sounds combine to create morphemes, or units of sound that carry meaning, such as the words *push* and *bush*. Morphemes may be individual words such as *push*; root words, such as *berry* in *blueberry*; or prefixes (*pre-* in *preview*) and suffixes (*-ness* in *openness*).

The linguist's next step is to see how morphemes combine into sentences, obeying both the dictionary meaning of the morpheme and the grammatical rules of the sentence. In the sentence "He pushed the bush," the morpheme *he*, a pronoun, is the subject; *push*, a transitive verb, is the verb; *the*, a definite article, is the determiner; and *bush*, a noun, is the object. Knowing the function of the morphemes in the sentence enables the linguist to describe the grammar of the language.

The scientific procedures of *phonemics* (finding phonemes), *morphology* (discovering morphemes), and *syntax* (describing the order of morphemes and their function in the sentence) provide descriptive linguists with a way to write down grammars of languages never before written down or analyzed. In this way they can begin to study and understand these languages.

B. COMPARATIVE LINGUISTICS:

Comparative linguistics is the study and analysis, by means of written records, of the origins and relatedness of different languages. In 1786 Sir William Jones, an English scholar, asserted that Sanskrit, Greek, and Latin were related to one another and had descended from a common source. He based this assertion on observations of similarities in sounds and meanings among the three languages. For example, the Sanskrit word *bhratar* for "brother" resembles the Latin word *frater,* the Greek word *phrater,* (and the English word *brother*).

Other scholars went on to compare Icelandic with Scandinavian languages, and Germanic languages with

Sanskrit, Greek, and Latin. The correspondences among languages, known as genetic relationships, came to be represented on what comparative linguists refer to as family trees. Family trees established by comparative linguists include the Indo-European, relating Sanskrit, Greek, Latin, German, English, and other Asian and European languages; the Algonquian, relating Fox, Cree, Menomini, Ojibwa, and other Native North American languages; and the Bantu, relating Swahili, Xhosa, Zulu, Kikuyu, and other African languages.

Comparative linguists also look for similarities in the way words are formed in different languages. Latin and English, for example, change the form of a word to express different meanings, as when the English verb *go* changes to *went* and *gone* to express a past action. Chinese, on the other hand, has no such inflected forms; the verb remains the same while other words indicate the time (as in "go store tomorrow"). In Swahili, prefixes, suffixes, and *infixes* (additions in the body of the word) combine with a root word to change its meaning. For

example, a single word might express when something was done, by whom, to whom, and in what manner.

Some comparative linguists reconstruct hypothetical ancestral languages known as proto-languages, which they use to demonstrate relatedness among contemporary languages. A proto-language is not intended to depict a real language, however, and does not represent the speech of ancestors of people speaking modern languages. Unfortunately, some groups have mistakenly used such reconstructions in efforts to demonstrate the ancestral homeland of a people.

Comparative linguists have suggested that certain basic words in a language do not change over time, because people are reluctant to introduce new words for such constants as *arm*, *eye*, or *mother*. These words are termed *culture free*. By comparing lists of culture-free words in languages within a family, linguists can derive the percentage of related words and use a formula to figure out when the languages separated from one another.

By the 1960s comparativists were no longer satisfied with focusing on origins, migrations, and the family tree method. They challenged as unrealistic the notion that an earlier language could remain sufficiently isolated for other languages to be derived exclusively from it over a period of time.

Today comparativists seek to understand the more complicated reality of language history, taking language contact into account. They are concerned with universal characteristics of language and with comparisons of grammars and structures.

III. SUBFIELDS OF LINGUISTICS

The field of linguistics both borrows from and lends its own theories and methods to other disciplines. The many subfields of linguistics have expanded our understanding of languages. Linguistic theories and methods are also used in other fields of study. These overlapping interests have led to the creation of several cross-disciplinary fields.

A. FORMAL LINGUISTICS:

Formal linguistics is the study of the structures and processes of language, that is, how language works and is organized. Formal linguists study the structures of different languages, and by identifying and studying the elements common among them, seek to discover the most efficient way to describe language in general. There are three main schools of thought in formal linguistics:

(1) The "traditional," or "prescriptive," approach to grammar is probably familiar to most of us. It is what we are usually taught in school. "A noun is a person, place, or thing" is a typical definition in a traditional grammar. Such grammars typically prescribe rules of correct or preferred usage.

(2) "Structural linguistics," a principally American phenomenon of the mid-20th century, is typified by the work of Leonard Bloomfield, who drew on ideas of the behaviorist school of psychology. Structuralists are primarily concerned with phonology, morphology, and syntax (described below). They focus on the

physical features of utterances with little regard for meaning or lexicon (Crystal, 1980). They divide words into form classes distinguished according to grammatical features. For example, a noun is defined in terms of its position in a sentence and its inflections, such as the "-s" for plural.

(3) The "generative/transformational" approach to the study of grammar was introduced by Noam Chomsky in 1957 in his seminal work, "Syntactic Structures." Here he traced a relationship between the "deep structure" of sentences (what is in the mind) and their "surface structure" (what is spoken or written). For example, the surface structure of the sentence, "The postman was bitten by the dog," was derived from the deep structure, "The dog bit the postman," through the application of a passive transformation. From transformational/generative grammar arose the theory of Universal Grammar. This widely accepted theory starts from the perception that all languages share certain linguistic features (universals). The goal of this theory is to explain the uniformity of language

acquisition among humans despite ostensible differences in their native languages. Since Chomsky's original proposals in 1957, numerous elaborations and alternative theories have been proposed.

Formal linguistics includes five principal areas of study as follows:

1. PHONETICS:

Phonetics is a multi-faceted branch of linguistics with a long history reaching ancient times. Nevertheless, even nowadays there are several opinions as to whether phonetics and phonology should be treated as two separate disciplines whose scope of interest overlap, or as one complex study having many different interests and methods of inquiry.

Generally, it is said that phonetics deals with physical and physiological aspects of speech production, while phonology is more abstract and focuses on psychological and functional perspective. What is more,

phonetics is also interested in how children learn the sounds of their first language, what can be done in cases of speech and hearing defects, how is speech perceived and produced. In addition to this, phonetics also deals with investigating ways of successful foreign language pronunciation teaching and designing means of speech synthesis. Therefore, with such a wide range of concerns phonetics has benefited from many seemingly unrelated scholarly disciplines, such as psychology, anthropology, engineering as well as language teaching and stenography.

As phonetics is interested in the way in which humans produce, transmit and receive speech it is, by and large, sub-divided according to the focus of investigations. Thus articulatory phonetics deals with the processes that take place in the vocal tract when humans produce speech sounds. So it takes into consideration the use of the vocal organs, muscle contractions, the airflow and pressure in the vocal tract, as well as intonation, phonation (modulations of the airstream), together with various manners of articulation - for instance, lets consider the pronunciation of the words 'debt management '. The first word consists of three sounds in English: 'd' - plosive

consonant, 'e' - short vowel, and 't' - another plosive consonant. The three sounds combined together form the word debt /det/. The second is made up of eight sounds. The properties of each sound are analyzed by articulatory phonetics.

Accoustic phonetics studies the physical features of speech sounds as they are sent from mouth to ears. Acoustic phonetics, which deals only with human speech sounds, needs to be distinguished from instrumental phonetics which deals with the transmission of all types of sounds, by means of computers, telephones, microphones and other instruments. Because of the very nature of speech sounds, and the way they disperse in the air, it is difficult to analyse their properties without the use of the instruments mentioned above, therefore many methods of inquiry have been adopted.

Auditory phonetics focuses on how speech sounds are perceived by the listeners, how they are heard and interpreted. As articulatory phonetics studies the speech sounds from the point of view of the speaker, auditory

phonetics analyses them from the point of view of the listener. This branch of linguistics is, at least partially, based on the findings of such disciplines as anatomy and biology. Since it is the brain that humans use in order to interpret the perceived sounds auditory phonetics analyses also processes occurring in it while listening to speech.

Apart from the main three branches of phonetics mentioned above there is also a relatively new sub-branch called forensic phonetics that deals with speaker identification for example. However, what is probably the most important achievement of phonetics from the point of view of an ordinary language learner is the description of speech sounds made by the native speakers. Thus, thanks to the linguists occupied with this science a thorough division of the English consonants and vowels together with the means of their production and different peculiarities have been accounted for, thus making the process of language learning much easier. As in the English language the writing system does not reflect the pronunciation of words a very useful tool for language learners is phonetic description. Phoneticians have created

the International Phonetic Alphabet (IPA) which shows the means and place of articulation of consonants and vowels that users of English as a mother tongue use. Many dictionaries published in the recent years have used the IPA to show how the English words ought to be pronounced. The following chart shows the complete IPA, therefore not all of the symbols shown there are used in the description of the English language.

2. PHONOLOGY:

Phonology is a branch of linguistics, closely related to phonetics, which studies the manners of organization and usage of the speech sounds in natural languages. The history of this science reaches ancient times, as the Greek and Roman grammarians also investigated the phonological systems of their languages. The foundations for modern phonological inquiries were laid in the nineteenth century by linguists such as Ferdinand de Saussure and Henry Sweet.

Phonology deals with the smallest chunks of language, yet it is in connection with other linguistic

disciplines like morphology, because adding morphemes may change the meaning of words and their pronunciation, frequently following patterns. Phonology is also related with syntax, as depending on a function of a word in a sentence it can be pronounced differently with a shifted phrasal stress and with changed intonation.

Similarly, this branch of linguistics is connected with semantics because of intonation constraints. While phonetics studies the production and perception of the speech sounds (for instance, in the expression 'London photography', phonetics would analyze all the sounds present in the words 'London' and 'photography', describing how they are produced), phonology is more interested in the abstract, that is mental aspects of these sounds. It inquiries into and describes the patterns of sounds and sound types which native speakers acquire intuitively.

However, since the term 'speech sounds' seems to be used mainly in phonetics, phonologists speak of phonemes. A phoneme is the smallest meaningful unit of

sound in the human language. Yet it is not identical with the sound itself, it is rather a theoretical representation without mentioning its position in a syllable, word, or phrase (for instance, there are eleven sounds in 'contract hire' but only nine phonemes). One important feature of phonemes is their contrastiveness which enables their identification. It is by contrasting the two phonemes, for example /k/ and /g/ that can be seen that they differ in at least one feature, like voicing. All languages have a set of such distinctive phonemes. By and large, it seems that the majority of languages have about 30 phonemes, but there are some that have as few as 11 or as many as almost 150. The English language, it is said, has about 43 phonemes, depending on the variety of English in question. Even though the number of phonemes may differ from language to language, the sets are always limited, but enable speakers to create unlimited numbers of words. In English the word step consists of four phonemes, and the word pest has the same four phonemes, yet since they are in different order the meaning is not the same.

Phonology also investigates the possible sequences of phonemes in a given language. Therefore, it indirectly studies word formation processes, as they too are constrained by the rules of phonotactics, that is allowable organization of phonemes. Thus it is very unlikely that any English word should begin with ng- or the sound /N/ while this sound is quite common in the middle, or at the end of English words. However, the fact that phonotactic constraints do not allow for some sounds in a language to occur in certain positions, which confines the word-coining and word formation processes of a language, it does not mean that such words do not appear in that language. Sometimes loan words may break the phonological rules of a given language and still be in use, as is the case with the initial position of the /N/ sound in English. By and large, words with such a sound in the initial position have started appearing in English only recently and all of them are loan words: schnapps, schnitzel, schmo.

The analysis of the possible sequences of phonemes focuses not only on phonemes themselves, but also on

syllables and clusters. A syllable must comprise a vowel, but usually there is also a consonant (C) before the vowel (V). **Syllables** are frequently described as consisting of an **onset**, which is a consonant, or a few consonants, and a **rhyme**, often subdivided into a **nucleus** (a vowel), and **coda** (any following consonants). In the English language coda does not always have to occur in a syllable, like for instance in the words: he (CV), or too (CV). Clusters, or consonant clusters are simply two or more consonants one after another. Clusters, like other phonotactic rules, are characteristic of a given language, for instance the /st/ cluster in English can be an onset: street, or a coda: highest, however it is impossible in Japanese.

Apart from analyzing the phonemes of a language, clusters and syllables, phonology also deals with the processes that occur in everyday, fluent speech. The most frequent processes that can be observed in casual speech are assimilation and elision. Assimilation is a process in which certain sounds copy the characteristics of another, adjacent sound. Elision is a process in which some sounds, or even syllables are omitted and not pronounced at all,

although in other situations they are normally uttered. Elision occurs not because of laziness of speakers, but to make the pronunciation more fluent.

3. MORPHOLOGY:

Morphology is the part of linguistics that deals with the study of words, their internal structure and partially their meanings. Morphologists study minimal units of meaning, called "morphemes," and investigate the possible combinations of these units in a language to form words. For example, the word "imperfections" is composed of four morphemes: "im" + "perfect" + "ion" + "s." The root, "perfect," is transformed from an adjective into a noun by the addition of "ion," made negative with "im," and pluralized by "s."

Scholars differentiate between derivational morphology and inflectional morphology. The former is concerned with the relationships of different words, and with the ways in which vocabulary items can be built from some elements, as in *un-speak-able*; while the latter deals with the forms of one word that it takes up

depending on its grammatical functions in a sentence. When it comes to English it appears that it rather takes advantage of derivational morphemes rather than inflectional ones.

Morphology is also interested in how the users of a given language understand complex words and invent new lexical items. As morphology is concerned with word forms it is akin to phonology (which describes how words are pronounced), it is also related to lexical studies as the patterns examined by morphology are used to create new words. Furthermore, it is also linked with semantics as it deals with the meanings of words.

4. SYNTAX:

Syntax is a branch of linguistics that is concerned with the study of the structure of a **sentence** and ordering of its elements. The word syntax itself derives from Greek words meaning ‘together’ or ‘arrangement’, but also the modern syntactic tradition and investigations have their roots in the findings of ancient Greeks. One of such ‘traditional’ tasks of linguists dealing with syntax was to

describe the organization of the parts of a **sentence**, however, with the development of this branch of **linguistics**, and especially in contemporary inquiries the scope of interest has widened.

Yet, before the most recent theories are presented the very concept of a ‘sentence’ needs clarification. As a general rule, a sentence is described as a full formulation of an idea, nevertheless, there are numerous examples of thoughts expressed in a **language**, and yet in not fully developed sentences, like: ‘Go!’, or ‘Coffee?’. That is why two different approaches to defining sentences have emerged: *notional* which characterizes a sentence as an expression of a single idea, and *formal* focusing on the manners of constructing sentences, and patterns within them

As a consequence of the differences in the approaches a division of sentences on the basis of their complexity was created. And thus sentences are either major, or minor. Major sentences are those which can be modified or analyzed further into patterns of elements.

They are further subdivided into simple sentences, which consist of only one clause, or multiple sentences consisting of two or more clauses. On the other hand, minor sentences cannot be broken down into patterns of elements, because they use ‘abnormal’ patterns, in that they do not follow the rules of grammar. Some types of minor sentences include: abbreviated forms, such as ‘wish you were here’; proverbs: ‘easy come, easy go’; emotional noises: ‘ouch!’, ‘ugh!’; formulae: ‘how do you do?’.

Seeing all those difficulties an American linguist Noam Chomsky came up with an idea of **generative grammar**, which was supposed to look at the **grammar** of language from the mathematical point of view, constructing a limited number of rules describing all the possible patterns of forming correct sentences. Moreover, what Chomsky showed was the difference between the deep and surface structure of a sentence. What he called the surface structure of a sentence was its grammatical form, and the deep structure was understood as the meaning of sentence. For example the two sentences: *I*

know Mary. and *Mary knows me.* differ in their surface structure, but not in their deep structure. Still, it is the deep structure that might cause the biggest problems. Certain sentences, although easily understood, can be ambiguous because of their structure, like, for instance, *He hit a guy with a car*. This sentence can mean that he was driving a car and hit someone, or that he hit somebody who had a car.

All of the above mentioned issues are in the focus of attention of linguists dealing with syntax who, in order to analyze various types of sentences, had to introduce specific methods and symbols. Lets start with the symbols, and abbreviations:

Adj	adjective
Adv	adverb
Art	article
N	noun
NP	noun phrase
PN	proper noun
PP	prepositional phrase

Prep	preposition
Pro	pronoun
S	sentence
V	verb
VP	verb phrase

With such symbols practically all sentences can be presented as a tree diagram. Such diagrams fulfill at least two roles: they show how sentences can be broken down to illustrate their structure, but what is more, it shows a general manner of creating sentences, which led to the idea that with one diagram like that a number of sentences can be created providing similar structures are used. Thus *phrase structure rules* were formulated in order to construct unlimited sentences with a small number of rules. However, sentences made with the use of such rules would always have similar word order, therefore another set of rules, called *transformational rules*, was introduced to enable more flexibility and to explain how statements can be transformed into questions, or negations. . (A whole chapter on syntax is included in this book)

5. SEMANTICS:

Semantics is the study of meaning in language. The goal of semantic study is to explain how sequences of language are matched with their proper meanings and placed in certain environments by speakers of the language. The importance of meaning is revealed in the following well known example from Chomsky (1957): "Colorless green ideas sleep furiously." Though grammatical, this sentence is largely meaningless in ordinary usage. . (A whole chapter on semantics is included in this book)

B. SOCIOLINGUISTICS:

Sociolinguistics is the study of patterns and variations in language within a society or community. It focuses on the way people use language to express social class, group status, gender, or ethnicity, and it looks at how they make choices about the form of language they use.

Sociolinguistics also examines the way people use language to negotiate their role in society and to achieve positions of power. For example, sociolinguistic studies have found that the way a New Yorker pronounces the phoneme /r/ in an expression such as “fourth floor” can indicate the person’s social class. According to one study, people aspiring to move from the lower middle class to the upper middle class attach prestige to pronouncing the /r/. Sometimes they even overcorrect their speech, pronouncing an /r/ where those whom they wish to copy may not.

Some sociolinguists believe that analyzing such variables as the use of a particular phoneme can predict the direction of language change. Change, they say, moves toward the variable associated with power, prestige, or other quality having high social value. Other sociolinguists focus on what happens when speakers of different languages interact. This approach to language change emphasizes the way languages mix rather than the direction of change within a community. The goal of sociolinguistics is to understand communicative

competence—what people need to know to use the appropriate language for a given social setting.

The major divisions within the field of sociolinguistics are described below

LANGUAGE VARIATION:

Language variation describes the relationship between the use of linguistic forms and factors such as geography, social class, ethnic group, age, sex, occupation, function, or style. The combination of these various factors results in an individual's "idiolect," that is, their particular and idiosyncratic manner of speech.

When a variety of language is shared by a group of speakers, it is known as a "dialect," A dialect, whether standard or nonstandard, includes the full range of elements used to produce speech: pronunciation, grammar, and interactive features. In this respect, dialect should be distinguished from accent, which usually refers only to pronunciation.

All speakers of a language speak a dialect of that language. For example, the speech of an Alabaman is quite different from that of a New Englander, even though the language spoken by both is English. Further differentiation is possible by investigating factors such as social class, age, sex, and occupation.

LANGUAGE AND SOCIAL INTERACTION:

This is the province of language and its function in the real world. Three subfields of sociolinguistics investigate this relationship.

(1) PRAGMATICS:

Pragmatics looks at how context affects meaning. It is the study of meaning of words, phrases and full sentences, but unlike semantics which deals with the objective meanings of words that can be found in dictionaries, pragmatics is more concerned with the meanings that words in fact convey when they are used, or with intended speaker meaning as it is sometimes referred to. It can be said that pragmatics attempts to analyze how it happens that often more is communicated

than said. As frequently the meaning of discourse is context-dependant, pragmatics examines the devices used by language users (ex. deictic expressions, or anaphora) in order to express the desired meaning and how it is perceived.

The interpretation of what meanings the speaker wanted to convey using particular words is often influenced by factors such as the listeners' assumptions or the context. In pragmatics two types of context can be differentiated: linguistic context and physical context. **Linguistic context**, sometimes called co-text is the set of words that surround the lexical item in question in the same phrase, or sentence. **Physical context** is the location of a given word, the situation in which it is used, as well as timing, all of which aid proper understating of the words.

There are numerous frequently used words which depend on the physical context for their correct understanding, such as: *there*, *that*, *it*, or *tomorrow*. Terms like that are known as **deictic expressions**. Depending on

what such words refer to they can be classified as **person deixis**: *him*, *they*, *you*; s**patial deixis**: *there*, *here*; and **temporal deixis**: *then*, *in an hour*, *tomorrow*. However, in pragmatics it is assumed that words do not refer to anything by themselves and it is people who in order to grasp the communicated idea perform an act of identifying what the speaker meant. This act is called **reference**.

Another act involved in the analysis of discourse so as to make an association between what is said and what must be meant is **inference** and it is often used in connection with anaphora. **Anaphora** is subsequent mentioning of a formerly introduced item, as in the following sentences: '*He went to a shop', 'It was closed'.* When *shop* was mentioned for the second time the pronoun *it* was used to refer to it. Moreover, when people make use of such linguistic devices they necessarily make some assumptions about the knowledge of the speaker. Although some of the assumptions might be wrong, most of them are usually correct what makes the exchange of information smooth. What the producer of discourse

correctly assumes to be known by the text's recipient is described as a **presupposition**.

In addition, pragmatics is also concerned with the functions of utterances such as promising, requesting, informing which are referred to as **speech acts**. Certain grammatical structures are associated with corresponding functions, as in the interrogative structure '*Do you drink tea?'* the functions is questioning. Such a case can be described as a **direct speech act**. However, when the interrogative structure is used to fulfill a different purpose as in *'Can you close the window?'* where it clearly is not a question about ability, but a polite request, such a situation is described as an indirect speech **act**.

The use of both directs and indirect speech acts is strongly connected with the linguistic concept of politeness. **Politeness** in the study of language is defined as showing awareness of others people self-image by adjusting own speech style. Every person's self image in pragmatics is called **face** and utterances presenting a threat to the interlocutor are known as **face-threatening acts**, while those which lessen the threats are called **face**

saving acts. It is assumed that the use of indirect questions is characteristic of face saving acts. . (A whole chapter on pragmatics is included in this book)

(2) DISCOURSE ANALYSIS:

Discourse analysis examines the way in which sentences relate in larger linguistic units, such as conversational exchanges or written texts. Matters of cohesion (the relationship between linguistic forms and propositions) and coherence (the relationship between speech acts) are also investigated. The links between utterances in sequence are important topics of analysis.

(3) ETHNOGRAPHY OF COMMUNICATION:

Ethnography of communication uses the tools of anthropology to study verbal interaction in its social setting. One example of ethnographic research is the study of doctor-patient communication. Such study involves microanalysis of doctor-patient interaction, noting not only what is said but also pauses between turns, interruptions, questioning and response patterns, changes

in pitch, and nonverbal aspects of interaction, such as eye contact.

LANGUAGE ATTITUDES:

This term refers to the attitudes people hold toward different language varieties and the people who speak them are important to sociolinguists. Whereas studies in language and social interaction investigate actual language interaction, language attitude studies explore how people react to language interactions and how they evaluate others based on the language behavior they observe.

LANGUAGE PLANNING:

Language planning is the process of implementing major decisions regarding which languages should be used on a societal scale. Language attitude studies are an essential component of language planning. In the United States, issues such as establishing bilingual education programs or whether to declare English the official language are major language planning decisions.

It is in multilingual nations, however, that language planning is most significant. Governments must decide which of a country's many languages to develop or maintain and which to use for such functions as education, government, television, and the press.

"Corpus" planning involves the development or simplification of writing systems, dictionaries, and grammars for indigenous languages, in addition to the coining of words to represent new concepts. In such contexts, language planning is an important factor in economic, political, and social development.

C. PSYCHOLINGUISTICS:

Psycholinguistics is a branch of linguistics which combines the disciplines of psychology and linguistics to study how people process language and how language use is related to underlying mental processes. It is concerned with the relationship between the human mind and language as it examines the processes that occur in the brain while producing and perceiving both written and spoken discourse. What is more, it is interested in the

ways of storing lexical items and syntactic rules in mind, as well as the processes of memory involved in perception and interpretation of texts. Also, the processes of speaking and listening are analyzed, along with language acquisition and language disorders

Psycholinguists work to develop models for how language is processed and understood, using evidence from studies of what happens when these processes go awry. They also study language disorders such as *aphasia* (impairment of the ability to use or comprehend words) and *dyslexia* (impairment of the ability to make out written language).

Psycholinguistics as a separate branch of study emerged in the late 1950s and 1960s as a result of Chomskyan revolution. The ideas presented by Chomsky became so important that they quickly gained a lot of publicity and had a big impact on a large number of contemporary views on language. Consequently also psycholinguists started investigating such matters as the processing of deep and surface structure of sentences. In

the early years of development of psycholinguistics special experiments were designed in order to examine if the focus of processing is the deep syntactic structure. On the basis of transformation of sentences it was initially discovered that the ease of processing was connected with syntactic complexity. However, later on it became clear that not only syntactic complexity adds to the difficulty of processing, but also semantic factors have a strong influence on it.

All the same, certain principles of sentence processing that were formulated at that time are still valid. One of them, namely the **principle of minimal attachment** means that when processing a sentence which could have multiple meanings people most often tend to choose the simplest meaning, or the meaning that in syntactic analysis would present the simplest parse tree with fewest nodes. Thus, a sentence 'Mary watched the man with the binoculars' by most language users would be interpreted that it was Mary, and not the man, who was using binoculars. One other principle worth noting is **the principle of late closure** which states that there is a

tendency to join the new information to the current phrase, or clause, which explains why in a sentence such as ‘John said he will leave this morning’ the phrase ‘this morning’ would be understood as relating to the verb ‘leave’ and not to ‘said’.

Other psycholinguistic investigations into how processing of texts occurs led to conclusions that complex sentences with multiple clauses are interpreted faster and with less mental effort when the clauses are not reduced. When it comes to speech the experiments show that the interpretation of sentences can vary depending on the placing of pauses, or disfluencies.

In addition, it is has been proven that visual contact between speakers also has a strong influence on the ease, or difficulty of processing texts. During experiments subjects were listening to some sentences and those who saw the speaker could understand what the speech was about better, while those who did not see him often had difficulties with it.

D. COMPUTATIONAL LINGUISTICS:

Computational linguistics involves the use of computers to compile linguistic data, analyze languages, translate from one language to another, and develop and test models of language processing. Linguists use computers and large samples of actual language to analyze the relatedness and the structure of languages and to look for patterns and similarities. Computers also aid in stylistic studies, information retrieval, various forms of textual analysis, and the construction of dictionaries and concordances.

Applying computers to language studies has resulted in machine translation systems and machines that recognize and produce speech and text. Such machines facilitate communication with humans, including those who are perceptually or linguistically impaired.

E. APPLIED LINGUISTICS:

Applied linguistics is an interdisciplinary field of linguistics that identifies, investigates, and offers solutions to language-related real-life problems. Applied

linguistics is an umbrella term that covers a wide set of numerous areas of study connected by the focus on the language that is actually used.

Applied linguistics draws on a range of disciplines, including linguistics. In consequence, applied linguistics has applications in several areas of language study, including language learning and teaching, the psychology of language processing, discourse analysis, stylistics, corpus analysis, literacy studies and language planning and policies.

The emphasis in applied linguistics is on language users and the ways in which they use languages, contrary to theoretical linguistics which studies the language in the abstract not referring it to any particular context, or language, like Chomskyan **generative grammar** for example.

Applied linguistics is a discipline which explores the relations between theory and practice in language with particular reference to issues of language use. Applied

linguistics is a branch of linguistics which is concerned with employing linguistic theory and methods in teaching and in research on learning a second language. Applied linguists look at the errors people make as they learn another language and at their strategies for communicating in the new language at different degrees of competence. In seeking to understand what happens in the mind of the learner, applied linguists recognize that motivation, attitude, learning style, and personality affect how well a person learns another language.

F. ANTHROPOLOGICAL LINGUISTICS:

Anthropological linguistics, also known as linguistic anthropology, uses linguistic approaches to analyze culture. Anthropological linguists examine the relationship between a culture and its language, the way cultures and languages have changed over time, and how different cultures and languages are related to one another. For example, the present English use of family and given names arose in the late 13th and early 14th centuries when the laws concerning registration, tenure, and inheritance of property were changed.

As anthropologic linguistics works on the assumption that communities' cultures are reflected by language change, it investigates synchronic and diachronic language change – that is it analyses various dialects and if it is possible the historical development. Moreover, the emergence and evolution of pidgins and creoles is also within the scope of interest of anthropologic linguistics. What is more, language acquisition in children is also studied by anthropolinguists, however, not the stages of language development are examined, but how the acquisition of linguistic abilities is perceived by the community. It turns out that in certain cultures parents do not interfere with the process, while in others caretakers put a lot of effort in teaching verbal etiquette.

G. PHILOSOPHICAL LINGUISTICS:

Philosophical linguistics examines the philosophy of language. Philosophers of language search for the grammatical principles and tendencies that all human languages share. Among the concerns of linguistic

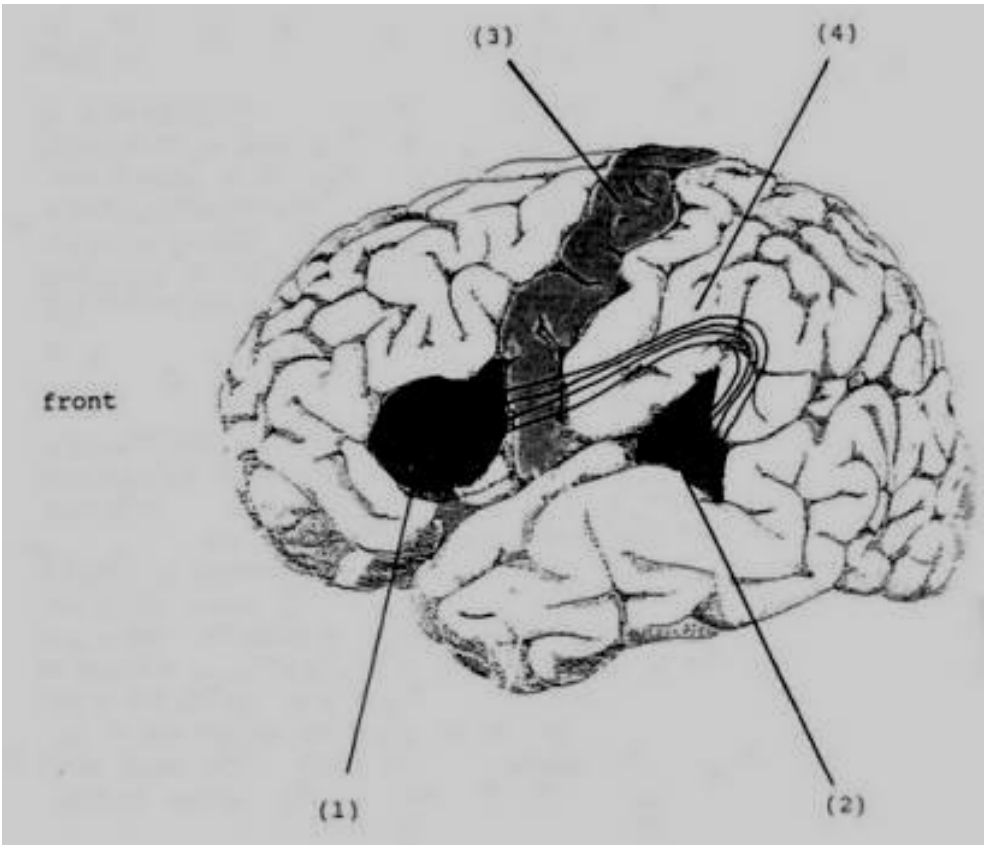
philosophers is the range of possible word order combinations throughout the world. One finding is that 95 percent of the world's languages use a subject-verb-object (SVO) order as English does ("She pushed the bush."). Only 5 percent use a subject-object-verb (SOV) order or verb-subject-object (VSO) order.

H. NEUROLINGUISTICS:

Neurolinguistics is a branch of linguistics which deals mainly with the biological basis of the relationship of the human language and the brain. Although the very name of this science was coined relatively recently, the issues investigated by it were analyzed already in the nineteenth century.

The first attempts to account for the parts of the brain responsible for the ability to produce speech were made on the basis of unfortunate accidents in which people suffered some damage to the head and brain, thus enabling scientists to exclude the damaged brain parts from linguistic investigations if the injured remained capable of language production

Since that time on the basis of posthumous analysis of brains of people with some language dysfunctions it has been determined that the left hemisphere of the brain plays a major role in language comprehension and production, and especially some of its areas that are more or less above the left ear. In the following picture of the left hemisphere of the human brain the grey areas indicate the parts of brain responsible for language recognition and production:



(Adapted from Fromkin V. & R. Rodman, 2011)

The part marked as (1) is known as **Broca's area** or 'anterior speech cortex' and as it has been discovered it is responsible for speech production. Interestingly, damage made to the same spot on the right hemisphere of the brain does not cause any language-related problems,

therefore only the part of the left hemisphere is connected with linguistic abilities.

Posterior speech cortex, or as it is usually described **Wernicke's area**, in the picture marked (2) is responsible for speech comprehension. This fact has been stated after the examination of a group of subject who had enormous difficulties with the understanding of speech.

The largest part of the brain marked in the picture is the **motor cortex** (3) and it is responsible for the muscular movements. The part of motor cortex that is close to the Broca's area is responsible for the articulatory muscles of jaw, face, as well as tongue and larynx. Part (4) in the picture shows **arcuate fasciculus** which is the bundle of nerve fibers connecting Wernicke's and Broca's areas.

When all the above mentioned parts were described it was proposed that brain activity connected with the perception and production of language would follow certain patterns. Thus, it is claimed that speech is

perceived by the Wernicke's area, then the signal is transferred through arcuate fasciculus to Broca's area. Afterwards, the signal goes to the motor cortex to articulate the word.

However, such a sophisticated system sometimes fails us in everyday conversations when it is difficult to remember a well known word. In situations like that speakers often claim that they have the word at the tip of the tongue. Studies show that in fact speakers can often tell how many syllables the word has, or what sound it begins with, and in some tests they produce similar words which led neurolinguists to believe that the word-storage may be organized on the basis of phonological information.

There are some other similar phenomena analyzed by neurolinguists, such as the slip of the tongue for example. **The slip of the tongue** is an unconsciously made error in which the (usually) initial sounds of a few words are interchanged. One other type of mistakes often made in conversations is **the slip of the ear** which can be

described as hearing a word as a different word which might not have been said. It is said that such mistakes are in fact slips of the brain which is trying to process and organize the linguistic information.

Moreover, neurolinguistics deals with various language disorders known as '**aphasia**' which is impairment of language functions because of some brain damage leading to difficulties in either producing or understanding linguistic forms. There are different aphasias depending on the language impairment and the damaged part of brain. Thus **Broca's aphasia** is characterized by a reduced amount of speech, slow pace of speaking and distorted articulation. **Wernicke's aphasia** is characterized by quite fluent, yet incomprehensible speech and difficulties in finding appropriate words. **Conduction aphasia** is connected with damage to arcuate fasciculus and it is connected with mispronouncing words, disrupted rhythm, large number of hesitations and pauses.

I. COGNITIVE LINGUISTICS:

Cognitive linguistics is still a very young discipline which had its beginnings in the 1970s, and whose quick development and extension of investigated issues dates to the mid-1980s. Since then the scope of interest of this branch of science started to include various areas such as **syntax**, **discourse**, **phonology** and **semantics**, all of which are looked upon as the representation of conceptual organization in **language**.

Probably the most developed idea that emerged from cognitive linguists' efforts is that of the cognitive **grammar**. The aim of cognitive grammar is to formulate a theory of meaning and grammar which would be cognitively probable and would fulfill the following requirements that the only structures allowed in the grammar are:

- Symbolic, semantic, or phonological structures usually occurring in linguistic expressions (Saussurean 'sign');
- Schemas for such structures (acquired by exposure to multiple examples of the pattern); and

- Categorization of relationships among the above mentioned elements.

Apart from that, cognitive linguistics is interested in issues such as processes by which and patterns in which conceptual content is arranged in language. Therefore, the structuring of concepts like scenes and events, space and time, force and causation, together with motion and location attract the cognitive **linguists**' interest. Moreover, the ideational and affective categories ascribed to cognitive agents such as expectation and affect, volition and intention, as well as attention and perspective are examined.

By and large, the cognitive linguists' intentions are to ascertain the integrated organization of conceptual structuring in language by approaching such issues as the semantic structure of lexical and morphological forms, together with syntactic patterns. Also interrelationships of conceptual structures, as in the gathering of conceptual categories into large structuring systems are investigated.

J. CORPUS LINGUISTICS:

Corpus linguistics is not another branch of science, but rather a term that denotes the methodologies and approaches to the analysis of languages. A corpus is a collection of either spoken or written texts in a given language (less often of two languages) consisting nowadays usually of more than a million words. Different types of corpora enable analyzing various kinds of discourses in order to find quantitative evidence on the existence of patterns in language or to verify some theories..

At first corpus studies focused on single words, their frequency and occurrence, yet with the development of technology and more precise search engines the possibilities increased dramatically. Now it is possible to search for a word and only a particular instances of a given word class, or entire patterns such as preposition + noun, or determiner + noun, or a word + specific word class following it. Such investigations make it easy, for example, for dictionary publishers to find collocations.

Corpus linguistics is also applied to translation studies where with the use of corpora of two languages it became apparent the meanings of words and their supposed equivalents might differ in use or collocates. Moreover, some grammar aspect strongly connected to lexis enable linguists to show differences in the use of certain grammar structures in translations, even if similar grammar structures are available in the source and target languages. In the case of English also differences between its British and American varieties can be easily analyzed thanks to the corpora.

Historical change of words' meanings and grammar is analyzed as a result of corpora development and although the number of old texts available in the electronic form is much smaller than the amount of contemporary texts the work is doable. Thus, the differences in grammar aspects concerning the passive voice were traced and it turns out that with the 19th century the passive voice in the English language started to be used more and more often.

When written and spoken corpora became available, linguists started analyzing them in order to check if there are any patterns of differences between speech and writing. It appears that apart from some quite obvious features such as false starts and hesitations which occur in speech, but not in writing, the use of large numbers of deictic expressions is also more frequent in oral discourses. It is probably because of extra linguistic signals that the spoken language is more vague. Additionally certain grammatical features apparent in speech might be considered ungrammatical in writing.

Unlike other scholars, linguists following the corpus linguistics methodology attempt to describe naturally occurring language supporting their views by large amounts of evidence found in corpora. Moreover, statistical operations are often involved in the work on corpora especially when frequencies of use of some linguistic aspects are measured. Large databases of naturally occurring language helped to make progress in the studies of phraseology, especially when it was

discovered that certain meanings of words correlate with the grammatical structures in which they are used.

Corpus linguistics found application in many fields such as critical discourse analysis, stylistics, forensic linguistics, as well as translations and language teaching. In translations it is helpful since using parallel corpora enables better choice of equivalents and grammar structures that would reflect the desired meaning. Additionally studying corpora revealed that translators do not translate words in texts, but larger units – clauses, or sentences. Corpora studies have probably had even bigger influence on language teaching. First of all, they influenced the ways dictionaries are made, secondly learners' language has been studied to improve the teachers' knowledge of it, and the learners are nowadays encouraged to make use of corpora on their own, in order to increase their language awareness. Moreover, the results of studying information gathered from corpora influenced the design and content of language workbooks.

K. ETYMOLOGY:

Etymology is the branch of linguistics that studies the origin and development of words and other linguistic forms. The examples of the areas that are studied include the earliest origins of a word, how its meanings and connotations have changed, the meanings and origins of its component parts, whether or how it has spread to other languages, and how its meaning or use has been influenced by other words. The history of a word also is called its etymology.

Words' origins have long been the subject of interest to people who readily speculate about the history of words. Particularly interesting are the pairs of words that at the first glance do not show any relationship, but historically happen to have common antecedents, which is the case with, for instance, glamour and grammar, salary and sausage (Crystal, 1995).

Knowing the etymology of a word can provoke a speaker to use the old meaning of that word, which will result in so called etymological fallacy, a view based on the idea that the etymology of a word or phrase is its

actual meaning (Crystal 1995). Commonly used example of this phenomenon is the adjective "dilapidated". Some argue that it can relate only to collapsing structures made of stone since its Latin root lapis means "stone" and a verb dilapidare means "to throw away, to scatter, as if scattering stones". Nowadays, however, the lexeme "dilapidated" has nothing to do with stones and is used to mean "broken down, fallen into decay or disrepair". Moreover, it can be related to any object, whatever it is made of.

A very important notion that ought to be taken into consideration during the examination of the etymology of a lexeme is semantic change, which deals with the development of sense. There are four main types of semantic change, namely extension, narrowing, amelioration and pejoration, all of which are discussed below:

1. **Extension** or broadening relates to the widening of a lexeme's meaning, e.g. virtue could only be applied to men, though today it may well be used with relation to women.

2. **Narrowing** relates to the reduction of a lexeme's meanings, e.g. girl once meant "a young child" and today it relates only to a young unmarried woman.
3. **Amelioration** takes place when a lexeme loses its negative sense and/or acquires a positive one, e.g. wicked used to mean "evil" but now it is used to mean "brilliant".
4. **Pejoration** occurs when a lexeme loses its positive sense and/or acquires negative one, e.g. gay with its meaning "happy" now is used in relation to homosexuals.

Another interesting phenomenon within the domain of etymology is the so called folk or popular etymology, in which a term stands for erroneous understanding of the origin of the old lexeme, which results in the creation of a new lexeme (Crystal 1995). Hence, sparrow-grass has become a popular name for asparagus despite the fact that the latter word cannot anyhow be connected with sparrows. Some other examples include crayfish from French crevis or shame-faced from shamefast meaning "bound firmly by shame".

The history of names seems to be the most popular branch of etymology. Under the umbrella of onomastics (a term used to describe the study of names), there come two branches of research area, anthroponomastics which deals with personal names and toponomastics which is devoted to the study of the names of places. People give names to different things and such procedure serves as a means of identifying entities or for marketing purposes (e.g. brand names like Nourkin) or to preserve tradition. Both disciplines are also, to a certain extent, connected with social and psychological sciences since they lay ground for the explanation of why particular names turn out to be successful while others are not, or they explain the transitory nature of some names. But most importantly, the names for places are a source of knowledge about the history of a nation, its traditions and values (Crystal 1995).

L. STYLISTICS:

Stylistics can be described as the study of style of language usage in different contexts, either linguistic, or situational. Yet, it seems that due to the complex history

and variety of investigated issues of this study it is difficult to state precisely what stylistics is, and to mark clear boundaries between it and other branches of linguistics which deal with text analysis.

As far as the definition of stylistics is concerned different scholars define the branch of study in different ways. Wales defines stylistics simply as " the study of style" (1989:437), while Widdowson provides a more informative definition as "the study of literary discourse from a linguistic orientation" and takes "a view that what distinguishes stylistics from literary criticism on the one hand and linguistics on the other is that it is essentially a means of linking the two" (1975:3). Leech holds a similar view. He defines stylistics as the "study of the use of language in literature" (1969:1) and considers stylistics a "meeting-ground of linguistics and literary study"(1969:2). From what Widdowson and Leech say, we can see that stylistics is an area of study that straddles two disciplines: literary criticism and linguistics. It takes literary discourse (text) as its object of study and uses linguistics as a means to that end.

Stylistic analysis is generally concerned with the uniqueness of a text; that is, what it is that is peculiar to the uses of language in a literary text for delivering the message. This naturally involves comparisons of the language of the text with that used in conventional types of discourse. Stylisticians may also wish to characterize the style of a literary text by Systematically comparing the language uses in that text with those in another. Halliday points out, "The text may be seen as 'this' in contrast with 'that', with another poem or another novel; stylistics studies are essentially comparative in nature…"(1971:341). On this points, Widdowson is of the same opinion as Halliday. He says : "All literary appreciation is comparative, as indeed is a recognition of styles in general" (1975:84). Thus, we may conclude that stylistic analysis is an activity that is highly comparative in nature.

Stylistics examines oral and written texts in order to determine crucial characteristic linguistic properties, structures and patterns influencing perception of the texts.

Thus, it can be said that this branch of linguistics is related to discourse analysis, in particular critical discourse analysis, and pragmatics. Owing to the fact that at the beginning of the development of this study the major part of the stylistic investigation was concerned with the analysis of literary texts it is sometimes called *literary linguistics*, or *literary stylistics*. Nowadays, however, linguists study various kinds of texts, such as manuals, recipes, as well as novels and advertisements. It is vital to add here that none of the text types is discriminated and thought to be more important than others. In addition to that, in the recent years so called 'media-discourses' such as films, news reports, song lyrics and political speeches have all been within the scope of interest of stylistics.

Each text scrutinized by stylistics can be viewed from different angles and as fulfilling at least a few functions. Thus, it is said that texts have interpersonal function, ideational function and textual function. When describing a function several issues are taken into consideration. Therefore, interpersonal function is all

about the relationship that the text is establishing with its recipients, the use of either personal or impersonal pronouns is analyzed, as well as the use of speech acts, together with the tone and mood of the statement. When describing the ideational function linguists are concerned with the means of representing the reality by the text, the way the participants are represented, as well as the arrangement of information in clauses and sentences. The textual function is the reference of sentences forwards and backwards which makes the text cohesive and coherent, but also other discursive devices such as ellipsis, repetition, anaphora are studied. In addition, the effectiveness of chosen stylistic properties of the texts are analyzed in order to determine their suitability to the perceived function, or contribution to overall interpretation.

Linguists dealing with a sub-branch of stylistics called pedagogical stylistics support the view that this field of study helps learners to develop better foreign language competence. What is more, it is thought that being acquainted with stylistics makes students more

aware of certain features of language and helps them implement the knowledge in their language production on all levels: phonological, grammatical, lexical and discursive. Also empirical findings support the view that stylistics helps students improve their reading and writing skills.

IV. HISTORY OF LINGUISTICS

Speculation about language goes back thousands of years. Ancient Greek philosophers speculated on the origins of language and the relationship between objects and their names. They also discussed the rules that govern language, or grammar, and by the 3rd century B.C. they had begun grouping words into parts of speech and devising names for different forms of verbs and nouns.

In India religion provided the motivation for the study of language nearly 2500 years ago. Hindu priests noted that the language they spoke had changed since the compilation of their ancient sacred texts, the Vedas, starting about 1000 B.C. They believed that for certain religious ceremonies based upon the Vedas to succeed,

they needed to reproduce the language of the Vedas precisely. Panini, an Indian grammarian who lived about 400 B.C., produced the earliest work describing the rules of Sanskrit, the ancient language of India.

The Romans used Greek grammars as models for their own, adding commentary on Latin style and usage. Statesman and orator Marcus Tullius Cicero wrote on rhetoric and style in the 1st century B.C. Later grammarians Aelius Donatus (4th century A.D.) and Priscian (6th century A.D.) produced detailed Latin grammars. Roman works served as textbooks and standards for the study of language for more than 1000 years.

It was not until the end of the 18th century that language was researched and studied in a scientific way. During the 17th and 18th centuries, modern languages, such as French and English, replaced Latin as the means of universal communication in the West. This occurrence, along with developments in printing, meant that many more texts became available. At about this time, the study

of phonetics, or the sounds of a language, began. Such investigations led to comparisons of sounds in different languages; in the late 18th century the observation of correspondences among Sanskrit, Latin, and Greek gave birth to the field of Indo-European linguistics.

During the 19th century, European linguists focused on philology, or the historical analysis and comparison of languages. They studied written texts and looked for changes over time or for relationships between one language and another.

A. THE 20th CENTURY:

In the early 20th century, linguistics expanded to include the study of unwritten languages. In the United States linguists and anthropologists began to study the rapidly disappearing spoken languages of Native North Americans. Because many of these languages were unwritten, researchers could not use historical analysis in their studies. In their pioneering research on these languages, anthropologists Franz Boas and Edward Sapir developed the techniques of descriptive linguistics and

theorized on the ways in which language shapes our perceptions of the world.

An important outgrowth of descriptive linguistics is a theory known as structuralism, which assumes that language is a system with a highly organized structure. Structuralism began with publication of the work of Swiss linguist Ferdinand de Saussure in *Cours de linguistique générale* (1916; *Course in General Linguistics,* 1959). This work, compiled by Saussure's students after his death, is considered the foundation of the modern field of linguistics. Saussure made a distinction between actual speech, or spoken language, and the knowledge underlying speech that speakers share about what is grammatical. Speech, he said, represents instances of grammar, and the linguist's task is to find the underlying rules of a particular language from examples found in speech. To the structuralist, grammar is a set of relationships that account for speech, rather than a set of instances of speech, as it is to the descriptivist.

Once linguists began to study language as a set of abstract rules that somehow account for speech, other

scholars began to take an interest in the field. They drew analogies between language and other forms of human behavior, based on the belief that a shared structure underlies many aspects of a culture. Anthropologists, for example, became interested in a structuralist approach to the interpretation of kinship systems and analysis of myth and religion. American linguist Leonard Bloomfield promoted structuralism in the United States.

Saussure's ideas also influenced European linguistics, most notably in France and Czechoslovakia (now the Czech Republic). In 1926 Czech linguist Vilem Mathesius founded the Linguistic Circle of Prague, a group that expanded the focus of the field to include the context of language use. The Prague circle developed the field of phonology, or the study of sounds, and demonstrated that universal features of sounds in the languages of the world interrelate in a systematic way. Linguistic analysis, they said, should focus on the distinctiveness of sounds rather than on the ways they combine. Where descriptivists tried to locate and describe individual phonemes, such as /b/ and /p/, the Prague

linguists stressed the features of these phonemes and their interrelationships in different languages. In English, for example, the voice distinguishes between the similar sounds of /b/ and /p/, but these are not distinct phonemes in a number of other languages. An Arabic speaker might pronounce the cities Pompei and Bombay the same way.

As linguistics developed in the 20th century, the notion became prevalent that language is more than speech—specifically, that it is an abstract system of interrelationships shared by members of a speech community. Structural linguistics led linguists to look at the rules and the patterns of behavior shared by such communities. Whereas structural linguists saw the basis of language in the social structure, other linguists looked at language as a mental process.

The 1957 publication of *Syntactic Structures* by American linguist Noam Chomsky initiated what many view as a scientific revolution in linguistics. Chomsky sought a theory that would account for both linguistic structure and for the creativity of language—the fact that

we can create entirely original sentences and understand sentences never before uttered. He proposed that all people have an innate ability to acquire language. The task of the linguist, he claimed, is to describe this universal human ability, known as language competence, with a grammar from which the grammars of all languages could be derived. The linguist would develop this grammar by looking at the rules children use in hearing and speaking their first language. He termed the resulting model, or grammar, a transformational-generative grammar, referring to the transformations (or rules) that generate (or account for) language. Certain rules, Chomsky asserted, are shared by all languages and form part of a universal grammar, while others are language specific and associated with particular speech communities. Since the 1960s much of the development in the field of linguistics has been a reaction to or against Chomsky's theories.

B. RECENT DEVELOPMENTS:

At the end of the 20th century, linguists used the term *grammar* primarily to refer to a subconscious

linguistic system that enables people to produce and comprehend an unlimited number of utterances. Grammar thus accounts for our linguistic competence. Observations about the actual language we use, or language performance, are used to theorize about this invisible mechanism known as grammar.

The orientation toward the scientific study of language led by Chomsky has had an impact on non-generative linguists as well. Comparative and historically oriented linguists are looking for the various ways linguistic universals show up in individual languages. Psycholinguists, interested in language acquisition, are investigating the notion that an ideal speaker-hearer is the origin of the acquisition process. Sociolinguists are examining the rules that underlie the choice of language variants, or codes, and allow for switching from one code to another. Some linguists are studying language performance—the way people use language—to see how it reveals a cognitive ability shared by all human beings. Others seek to understand animal communication within such a framework. What mental processes enable

chimpanzees to make signs and communicate with one another and how do these processes differ from those of humans?

REVISION

I. Indicate whether the following statements are TRUE or FALSE and correct the false ones.

1. Several of the subfields of linguistics are concerned with the major components of language.
2. Synchronic linguistics studies the way a language changes over time.
3. There are clear-cut boundaries between phonetics and phonology.
4. Etymology is the study and analysis of the origins and relatedness of different languages.
5. Structuralists are primarily concerned with phonology, morphology, and syntax.
6. Auditory phonetics deals with how speech sounds are produced by use of the organs of speech.
7. Phonology studies the production, perception and physical properties of speech sounds.
8. Sociolinguistics uses linguistic approaches to analyze culture.
9. Morphology is concerned with the study of the structure of a sentence and ordering of its elements.

10. Infixation means an addition at the end of the word.
11. Pragmatics studies the way in which sentences relate in larger linguistic units, such as conversational exchanges or written texts.
12. Sociolinguistics studies the interaction between language and the contexts in which it is used.
13. Linguistic context differs from physical context.
14. Neurolinguistics deals with the biological basis of the relationship of the human language and the brain.
15. Anthroponomastics deals with the study of the names of places.
16. Psycholinguistics investigates how people process language and how language use is related to underlying mental processes.
17. Chomskyan generative grammar is an example of theoretical linguistics.
18. Narrowing is a process whereby a lexeme loses its negative sense and/or acquires a positive one.
19. The widening of a lexeme's meaning is known as extension.

20. Auditory phonetics analyses speech sounds from the point of view of the speaker.
21. Philosophers of language search for the grammatical principles and tendencies that all human languages share.
22. Linguistic context is sometimes called co-text.
23. Corpus linguistics can be applied to translation studies**.**
24. Physical context is the set of words that surround the lexical item in question in the same phrase, or sentence**.**
25. The study of doctor-patient communication is an example of ethnographic research**.**

II. Write short notes on:

1. Morphology vs. syntax.
2. Sociolinguistics vs. pragmatics.
3. Phonetics vs. phonology.
4. Synchronic linguistics vs. diachronic linguistics.
5. Theoretical linguistics vs. applied linguistics.
6. Articulatory phonetics vs. auditory phonetics.
7. Etymology vs. comparative linguistics.
8. Psycholinguistics vs. neurolinguistics.
9. The four types of semantic change.
10. The principle of minimal attachment and the principle of late closure (Give examples).
11. Linguistic context and physical context.
12. Amelioration and pejoration (Give an example).

III. Answer the following questions:

1. Linguistics is a 'foundation' discipline. Discuss this statement showing how linguistics links with other sciences.
2. Several of the subfields of linguistics are concerned with the major components of language. Discuss.

3. There are three schools in formal linguistics. Discuss TWO of them.

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