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Lecture 1 INTRODUCTION TO THE COURSE OF THEORETICAL PHONETICS

Plan

1. Phonetics as a branch of linguistics.
1. The work of the organs of speech.
2. Methods of investigating the sound matter of the language.
3. The importance of phonetics as a theoretical discipline.
4. Phonetics and its connection with social sciences.
5. Theories of teaching pronunciation in current TEFL / TESOL practices.

1. Phonetics as a Branch of Linguistics

Phonetics is concerned with the human noises by which the thought is actualised or given audible shape: the nature of these noises, their combinations, and their functions in relation to the meaning. Phonetics is subdivided into practical and theoretical. **Practical** or **normative** phonetics studies the substance, the material form of phonetic phenomena in relation to meaning. **Theoretical** phonetics is mainly concerned with the functioning of phonetic units in the language. Theoretical phonetics regards phonetic phenomena synchronically without any special attention paid to the historical development of English.

Phonetics is itself divided into two major components: **segmental** phonetics, which is concerned with individual sounds (i.e. "segments" of speech) and **suprasegmental** phonetics whose domain is the larger units of connected speech: syllables, words, phrases and texts. The way these elements of the phonetic structure of English function in the process of communication will be the main concern of this course. The description of the phonetic structure of English will be based on the so-called Received Pronunciation.

We all agree that we are to study the "norm" of English, as a whole, and the "norm" of English pronunciation in particular. There is no much agreement, however, as far as the term "norm" is concerned. This term is interpreted in different ways. Some scholars, for instance, associate "norm" with the so-called "neutral" style. According to this conception stylistically marked parameters do not belong to the norm. More suitable, however, seems to be the conception put forward by Y. Screebnev, who looks upon the norm as a complex of all functional styles. We shall give priority to the second point of view as it is clearly not possible to look upon the pronunciation norm as something ideal which does not, in fact, exist in objective speech. We shall look upon the norm as a complex unity of phonetic styles realized in the process of communication in accordance with varying extralinguistic and social factors.

Phonetics is primarily concerned with **expression level**. However, phonetics is obliged to take the **content level** into consideration too, because at any stage of the analysis, a considerable part of the phonetician's concern is with the effect which the expression unit he is examining and its different characteristics have on meaning. Only meaningful sound sequences are regarded as speech, and the science of phonetics, in principle at least, is concerned only with such sounds produced by a human vocal apparatus as are, or may be, carriers of organized information of language. Consequently, phonetics is important in the study of language. An understanding of it is a prerequisite to any adequate understanding of the structure or working of language. No kind of linguistic study can be made without constant consideration of the material on the expression level. Three traditional branches of the subject are generally recognized:

1. articulatory phonetics (артикуляторна фонетика) is the study of the way speech sounds are made ('articulated') by the vocal organs, i.e. it studies the way in which the air is set in motion, the movements of the speech organs and the coordination of these movements in the production of single sounds and trains of sounds;
1. acoustic phonetics (акустична фонетика) studies the physical properties of speech sound, as transmitted between the speaker's mouth and the listener's ear;
 2. auditory phonetics (аудитивна фонетика) studies the perceptual response to speech sounds, as mediated by ear, auditory nerve and brain, i.e. its interests lie more in the sensation of hearing, which is brain activity, than in the psychological working of the ear or the nervous activity between the ear and the brain. The means by which we discriminate sounds – quality, sensations of pitch, loudness, length, are relevant here..

The fourth branch – '**functional phonetics**' (функціональна фонетика) – is concerned with the range and function of sounds in specific languages. It is typically referred to as **phonology**. What is the main distinction between phonetics and phonology?

Phonetics is the study of how speech sounds are made, transmitted, and received, i.e. phonetics is the study of all possible speech sounds. The human vocal apparatus can produce a wide range of sounds; but only a small number of them are used in a language to construct all of its words and utterances.

Phonology is the study of those **segmental** (speech sound types) and prosodic (intonation) features which have a differential value in the language. It studies the way in which speakers systematically use a selection of units – **phonemes** or **intonemes** – in order to express meaning. It investigates the phonetic phenomena from the point of view of their use.

Within phonology, two branches of study are usually recognized: SEGMENTAL and SUPRA-SEGMENTAL. **Segmental phonology** analyses speech into *discrete segments*, such as *phonemes*; **supra-segmental** or **non-segmental phonology** analyses those features which extend over more than one segment, such as intonation contours.

The primary aim of phonology is to discover the principles that govern the way that sounds are organized in languages, to determine which phonemes are used and how they pattern – the **phonological structure** of a language. The properties of different sound systems are then compared, and hypotheses developed about the rules underlying the use of sounds in particular groups of languages, and in all the languages – *phonological universals*.

Phonology also solves:

1. the problem of the identification of the phonemes of a language;
1. the problem of the identification of the phoneme in a particular word, utterance. It establishes the system of phonemes and determines the frequency of occurrence in syllables, words, utterances. The distribution and grouping of phonemes and syllables in words are dealt with an area of phonology which is called **phonotactics**.

People engaged in the study of phonetics are known as *phoneticians* (фонетисти). People engaged in the study of phonology are known as *phonologists* (фонологи).

Phonology was originated in the 30s of the 20th century by a group of linguists belonging to the Prague school of linguistics – Vilem Matesius, Nickolai Trubetskoy, Roman Jakobson. The theoretical background of phonology is the phoneme theory whose foundations were first laid down by I.O. Baudouin de Courtenay (1845-1929) in the last quarter of the 19th century (between the years of 1868-1881). The most important work in phonology is *THE GROUNDWORK OF PHONOLOGY* [1939] by Nickolai Trubetskoy. He claimed that phonology should be separated from phonetics as it studies the functional aspect of phonic components of language. Phonetics is a biological science which investigates the sound-production aspect. Contemporary phoneticians hold the view that form and function cannot be separated and treat phonology as a linguistic branch of phonetics.

Before analysing the linguistic function of phonetic units we need to know how the **vocal mechanism** acts in **producing oral speech** and what methods are applied in investigating the material form of the language, that is its substance.

Phonic shaping of oral form of language is called **pronunciation**. (Звукове оформлення усної форми мови називається **вимовою**).

The concept **pronunciation** has several meanings in present-day phonetics.

In its narrow meaning it is restricted to the features manifested in the articulation of the **sounds** of a language.

Its wide interpretation implies **the entity of discourse features** relating to:

1. the SOUND SYSTEM of a language (the so-called *segmental phonemes* in the form of their actual speech manifestations – *allophones* or *variants*);
1. the SYLLABIC STRUCTURE of a language (syllable formation and syllable division);
2. WORD-STRESS/LEXICAL STRESS;
3. INTONATION as a complex unity of *pitch* (тональний), *force* (силовий) and *temporal* (темпоральний) components [Vassilyev 1970].

In discussing the **pronunciation** of English we can focus on one or both of two aspects:

1. on the one hand, we may want to describe WHAT SPEAKERS DO WHEN 'HEY ARE SPEAKING ENGLISH. This is the aspect of **SPEECH** (мовлення), an activity carried on by communicators who use English in communicating.
1. on the other hand, we may address the question, WHAT ARE THE CHARACTERISTICS OF ENGLISH WORDS AND SENTENCES (DISCOURSE) that are realized in speech? This is the aspect of LANGUAGE (мова).

Speech is not the same as language. **Speech** is an activity which is carried on numerous events; **language** is knowledge, a code which is known and shared by speakers who use their knowledge for transmitting and interpreting verbal messages in these events. When someone is speaking, anyone who is close enough can hear - the air waves set up in the air by the speaker reach the eardrums of the hearer. But only a person who knows the language can understand what is said.

Pronunciation is the primary medium through which we bring our **use of language** to the attention of other people [Stevick 1978:145]. It is a process of materializing of features relating to **the system of sounds/phonemes, the syllabic structure, prosody (word stress and intonation)** while **speech/oral verbal message** is constructed.

Human speech is the result of a highly complicated series of events. The formation of the concept takes place at a linguistic level, that is in the brain of the speaker; this stage may be called

psychological. The message formed within the brain is transmitted along the nervous system to the speech organs. Therefore we may say that the human brain controls the behaviour of the articulating organs which effects in producing a particular pattern of speech sounds. This second stage may be called **physiological**. The movements of the speech apparatus disturb the air stream thus producing sound waves. Consequently the third stage may be called **physical** or **acoustic**. Further, any communication requires a listener, as well as a speaker. So the last stages are the **reception** of the sound waves by the listener's hearing physiological apparatus, the **transmission** of the spoken message through the nervous system to the brain and the **linguistic interpretation** of the information conveyed.

Language is shaped into a spoken message by means of its **phonic structure/ sound matter** (звукової матерії) which is traditionally treated as a combination of four components:

1. **the segmental/phonemic component;**
1. the syllabic structure;
2. the accentual structure/word stress/lexical stress;
3. intonation.

Word stress and **intonation** can be treated together under the heading **suprasegmental** or **prosodic component** because these effects are superimposed on the segmental chain of sounds and carry the information which the sounds do not contain.

Now we will give a brief overview of each of the above given components.

The segmental/phonemic component. First of all, a spoken message/an utterance can be thought as a succession of the smallest, further indivisible **segments** which are easily singled out in the flow of speech as separate discrete elements. They are called **sounds of a language** or **speech sounds**. Definite sequences of speech sounds constitute the material forms of morphemes, words and utterances.

Sounds function as **phonemes**, i.e. linguistically distinctive, relevant units capable of differentiating the meanings of morphemes, words, sentences. Phonemes are abstract representations of those speech sounds which can differentiate the meaning – i.e. 'sounds in the mind' (the term suggested by Peter Roach). Each language has its own set of phonemes – the ABC (alphabet) of speech sounds. Realizations of a definite phoneme in definite positions in words are called **allophones/variants**, i.e. 'sounds in the mouth' (the term suggested by Peter Roach).

The sounds of the language constitute its **segmental/phonemic** (сегментний/фонемний) component - the first and basic component of the phonic substance of language.

The segmental/phonemic component has a *systemic character* [Vassilyev 1970:30]. It is manifested in the following ways:

1. It can be reflected in various classifications of its phonemes in which the latter are divided first into two fundamental sound types - **vowels** (V) and **consonants** (C) with further subdivision of each type.
1. Each segmental phoneme of a language has a definite number of **allophones** which occur in definite positions in words. The occurrence of the allophones of a phoneme in different positions in a word is called their *distribution*. Typical combinations or sequences of sounds are governed by certain regulations and occur in definite positions.
2. The articulations of allophones within words and at the junctions of the words in the flow of speech merge and interpenetrate each other. Thus there are specific rules for joining the sounds together in every language. These rules affect articulatory V+C, C+C, and V+V transitions.

So the **segmental component** of language phonic structure can be studied and described as:

1. a **system of phonemes;**
1. certain **patterns of allophones** and their distribution;
2. a set of methods of joining speech sounds/allophones together in words and at their junctions – **coarticulatory/adjustment phenomena**.

The syllabic structure. A unit of spoken message larger than a single sound and smaller than a word is a **syllable**.

Articulatorily a word may be pronounced "syllable at a time", e.g. *un-der-'stand*; so the syllable is the smallest further indivisible unit of speech production.

Auditorily the syllable is the smallest unit of perception: the listener identifies the whole of the syllable and only after that the sounds contained. The notion of syllable is very real to native speakers, and is used in everyday conversation.

Thus the second component of the phonic structure of language is the **syllabic structure** of its words both in citation forms and in utterances. The syllabic structure of words has two inseparable aspects :

1. **syllable formation** (складоутворення);
2. **syllable division/separation** (складоподіл).

Both aspects are sometimes covered by the term **syllabification**. The study and description of how syllables are formed and separated is part of the description of phonic substance of language.

Word/lexical stress. The amount of effort or energy expended in producing a syllable is called STRESS. For the hearer, stress is manifested as perceptual PROMINENCE, or strength. In other words, a stressed syllable seems more prominent or stronger than the other syllables in a word: it stands out [Pennington 1996:129].

Speaker's perspective on stress Amount of effort expended	Listener's perspective on stress Degree of perceptual prominence
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Stress is a cover term for three main features, any of which may result when extra effort is expended in producing a syllable and any of which may give an impression of perceptual prominence. These are: **duration**, or length; **intensity**, or loudness; and **pitch**, or fundamental frequency. The English stressed syllable – especially its vocalic nucleus – tends to have a greater degree of length, loudness and pitch associated with it than the unstressed syllable.

Traditionally, the word '**stress**' denotes prominence referring to the syllables in words as items of vocabulary, i.e. pronounced in isolation, but not in phrases and sentences – **word stress/lexical stress** which constitutes the third component of phonic structure of language.

The problem of **word stress** has three aspects: - the physical nature of word stress;

- the position of the word stress in disyllabic and polysyllabic words; - the degrees of word stress.

Languages differ in all these aspects of **word/lexical stress**.

Supra-segmental/prosodic features/intonation. Words in speech are not used in isolation but in phrases and sentences where they are organized according to grammar rules, get different degrees of **prominence**, each syllable of a word is pronounced with a different degree of **pitch** and **loudness** of the voice, and **tempo/speed** of utterance. Variations in pitch, prominence/stress, and tempo are considered to be **supra-segmental** or **prosodic**. They are traditionally termed **intonation**.

The most important **intonation/supra-segmental effects** in a language are provided by:

- 1. the linguistic use of pitch, or speech melody** (мелодика мовлення). Different levels of pitch (**tones**) are used in particular sequences (**contours**) to express a wide range of meanings. For example, all languages seem to differentiate between a falling and a rising pitch pattern. This distinction is used to express a contrast between '*stating*' and '*questioning*';
- 1. the linguistic use of utterance-level /sentence stress** (фразовий наголос). It is the amount of perceptual prominence given to particular words or syllables in an utterance/sentence because of the particular meaning the speaker wishes to convey in a particular situation. That perceptual prominence is principally achieved by pitch change accompanied by greater loudness, duration and more clearly defined vowel qualities. It is also termed **accent** by some phoneticians. The speakers choose to **accent** certain words (or to **de-accent** others) in an utterance and this accentuation (or de-accentuation) is defined by the meaning of the utterance.
- 2. the linguistic use of speech tempo** (темп мовлення). It is possible to speed up or slow down the **rate** with which syllables, words, and sentences are produced to convey several kinds of meaning. In many languages, a sentence spoken with extra speed conveys urgency. Rapidly pronounced, clipped syllables may convey irritation; slowly uttered ones – greater personal involvement, etc.

Pitch, loudness/prominence and tempo together create the **rhythm** of a language, loudness is the basis of rhythmical effects in English [Crystal 1997]. In other languages, such as oriental ones, pitch height (high vs. low) is a central feature of rhythm.

Languages also vary in the way in which rhythmical contrasts are made. **English rhythm** is believed to preserve roughly equal intervals of time between stressed syllables respective of the number of unstressed syllables that come between them [Roach 2000:41]. This is defined as a '**stress-timed/based**' (or **isochronous**) rhythm [Crystal 1997] or a **stress/based rhythm** [Laver 1995]. According to Peter Roach, if the following sentence were said with isochronous stresses, the four syllables *Both of them are* would take the time amount of time as *new* and *here*: *Both of them are new here* [ibid. : 41]. However, experimental research suggests that isochrony (i.e. the property of being equally spaced at in time) is rarely found in natural speech. It is more likely that the brain judges sequences of stresses to be more nearly isochronous than they really are. Still traditionally regarded as stress-timed language, English reveals an important feature: there is a tendency for unstressed syllables to become weak, and to contain short, centralized/reduced vowels. In this respect, it differs from Ukrainian or Russian as well as other languages (Spanish, French, and Japanese, etc.) which are described as '**syllable-timed**'.

Such languages depend on the principle that all syllables are of equal values and they follow each other in a steady flow without a strong contrast of stress (a '*machine-run*' effect). Unstressed vowels tend to retain the quality and quantity found in their stressed counterparts. The above mentioned distinctions of the nature of English rhythm should be taken into account by EFL learners.

In sum, a detailed description of phonic/sound substance of a language will consist of the study of

1. its **segmental subsystem**,
1. the combinatory possibilities of the sounds – **syllable structure** and
2. **the prosody of the language (the supra-segmental subsystem)**, i.e. how features of pitch, loudness and tempo work to produce stress/accent, intonation and rhythm.

2. The Work of the Organs of Speech

In accordance with their linguistic function the organs of speech may be grouped as follows:

The respiratory or power mechanism furnishes the flow of air which is the first requisite for the production of speech sounds. This mechanism is formed by the lungs, the wind-pipe and the bronchi. The air-stream expelled from the lungs provides the most usual source of energy which is regulated by the power mechanism. Regulating the force of the air-wave the lungs produce variations in the intensity of speech sounds. Syllabic pulses and dynamic stress, both typical of English, are directly related to the behaviour of the muscles which activate this mechanism.

From the lungs through the wind-pipe the air-stream passes to the upper stages of the vocal tract. First of all it passes to the **larynx** containing the **vocal cords**. The function of the vocal cords consists in their role as a **vibrator** set in motion by the air-stream sent by the lungs. At least two actions of the vocal cords as a vibrator should be mentioned.

The opening between the vocal cords is known as the **glottis**. When the glottis is tightly closed and the air is sent up below it the so-called glottal stop is produced. It often occurs in English when it reinforces or even replaces [p], [t], or [k] or even when it precedes the energetic articulation of vowel sounds. The most important speech function of the vocal cords is their role in the production of **voice**. The effect of voice is achieved when the vocal cords are brought together and vibrate when subjected to the pressure of air passing from the lungs. This vibration is caused by compressed air forcing an opening of the glottis and the following reduced air-pressure permitting the vocal cords to come together again.

The height of the speaking voice depends on the frequency of the vibrations. The more frequently the vocal cords vibrate the higher the pitch is. The typical speaking voice of a woman is higher than that of a man because the vocal cords of a woman vibrate more frequently. We are able to vary the rate of the vibration thus producing modifications of the **pitch** component of intonation. More than that, we are able to modify the size of the puff of air which escapes at each vibration of the vocal cords, that is we can alter the **amplitude** of the vibration which causes changes of the **loudness** of the sound heard by the listener.

From the larynx the air-stream passes to **supraglottal cavities**, that is to the **pharynx**, the **mouth** and the **nasal** cavities. The shapes of these cavities modify the note produced in the larynx thus giving rise to particular speech sounds.

3. Methods of Investigating the Sound Matter of the Language

Let us consider the **methods** applied in investigating the sound matter of the language.

It is useful to distinguish between phonetic studies carried out without other instruments of analysis than the human senses and such as are based upon the witness of registering or computing machines and technical analysing or synthesizing devices. The use of such a device as the tape-recorder does not of course imply in itself any instrumental analysis of the speech recorded, but simply serves the purpose of facilitating the speech analysis and conserving a replica of the speech the informants use.

If controlled phonetic experiments employ the use of measuring devices and instrumental techniques, this sub-field of phonetics is called **instrumental phonetics**. Instrumental methods deriving from physiology and physics were introduced into phonetics in the second half of the 19th century in order to supplement and indeed to rectify the impressions deriving from the human senses, especially the auditory impressions, since these are affected by the limitations of the perceptual mechanism, and in general are rather subjective.

The use of instruments is valuable in ascertaining the nature of the limitations and characteristics of the human sensory apparatus by providing finer and more detailed analysis against which sensory analysis can be assessed. In a general way, the introduction of machines for measurements and for instrumental analysis into phonetics has resulted in their use for detailed study of many of the phenomena which are present in the sound wave or in the articulatory process at any given moment, and in the changes of these phenomena from moment to moment. This is strictly an instrumental method of study. This type of investigation together with sensory analysis is widely used in **experimental phonetics**.

The results available from instrumental analysis supplement those available from sensory analysis. Practically today there are no areas of phonetics in which useful work can and is being done without combining these two ways of phonetic investigation. The **"subjective"** methods of analysis by

sensory impression and the "**objective**" methods of analysis by instruments are complementary and not opposite to one another. Both "objective" and "subjective" methods are widely and justifiably used in modern phonetics.

Articulatory phonetics borders with anatomy and physiology and the tools for investigating just what the speech organs do are tools which are used in these fields: direct observation, wherever it is possible, e.g. lip movement, some tongue movement; combined with x-ray photography or x-ray cinematography; observation through mirrors as in the laryngoscopic investigation of vocal cord movement; palatography – recording patterns of contact between the tongue and the palate; glottography – studying the vibrations of the vocal cords, etc.

Acoustic phonetics comes close to studying physics and the tools used in this field enable the investigator to measure and analyse the movement of the air in the terms of acoustics. This generally means introducing a microphone into the speech chain, converting the air movement into corresponding electrical activity and analysing the result in terms of frequency of vibration and amplitude of vibration in relation to time. The use of such technical devices as spectrograph, intonograph and other sound analysing and sound synthesizing machines is generally combined with the method of direct observation.

The methods applied in **auditory phonetics** are those of experimental psychology.

The above mentioned instrumental techniques are used in experimental phonetics, but not all instrumental studies are experimental: when a theory or hypothesis is being tested under controlled conditions the research is experimental, but if one simply makes a collection of measurements using devices the research is instrumental.

As was stated above, phoneticians cannot act only as describers and classifiers of the material form of phonetic units. They are also interested in the way in which sound phenomena function in a particular language, how they are utilized in that language and what part they play in manifesting the meaningful distinctions of the language.

4. The Importance of Phonetics as a Theoretical Discipline

In linguistics, function is usually understood to mean discriminatory function, that is, the role of the various elements of the language in the distinguishing of one sequence of sounds, such as a word or a sequence of words, from another of different meaning. Though we consider the discriminatory function to be the main linguistic function of any phonetic unit we cannot ignore the other function of phonetic units, that is, their role in the formation of syllables, words, phrases and even texts. This functional or social aspect of phonetic phenomena was first introduced in the works by I.A. Baudouin-de-Courtenay. Later on N.S. Trubetsky declared phonology to be a linguistic science limiting articulatory and acoustic phonetics to anatomy, physiology and acoustics only. This conception is shared by many foreign linguists who investigate the material form and the function of oral speech units separately. Ukrainian and Russian linguists proceed from the truly materialistic view that language being the man's medium of thought can exist only in the material form of speech sounds. That is why they consider phonology a branch of phonetics that investigates its most important social aspect.

Apart from its key position in any kind of scientific analysis of language phonetics plays an important part in various applications of linguistics. A few may be mentioned here.

Though language is the most important method we have of communicating, it is manifestly not the only method. We can communicate by gestures, facial expressions, or touch, for instance, and these are not language. The study of the complex of various communication techniques is definitely relevant to teaching a foreign language.

Through study of the nature of language, especially of spoken language, valuable insights are gained into human psychology and into the functioning of man in society. That is why we dare say that phonetics has considerable **social value**.

As regards the learning of specific foreign languages, there has never been a time in the world when the ability of growing numbers of people to speak one another's language really well has been of such significance as now. Some training in linguistics and phonetics in general, and in the pronunciation of particular language is coming more and more to be considered equipment for a teacher of foreign languages in school or special faculties making him more efficient in his routine work on the spoken language, as well as in the variety of other things, such as coping with audio-visual aids like tape-recorders and language laboratories or in knowing what to do about any of his pupils who have defective speech.

A knowledge of the structure of sound systems, and of the articulatory and acoustic properties of the production of speech is indispensable in the teaching of foreign languages. The teacher has to know the starting point, which is the sound system of the pupil's mother tongue, as well as the aim of his teaching, which is a mastery of the pronunciation of the language to be learnt. He must be able to point out the differences between these two, and to arrange adequate training exercises. Ear training and articulatory training are both equally important in modern language teaching. The introduction of

technical equipment — disks, tape-recorders, language laboratories, etc. — has brought about a revolution in the teaching of the pronunciation of foreign languages.

In our technological age phonetics has become important in a number of technological fields connected with communication. On the research side much present-day work in phonetics entails the use of apparatus, and is concerned with the basic characteristics of human speech. Much basic research is to be done with the phonetician working alongside the psychologist on auditory perception as such and on the perception of speech in particular. The phonetician is further needed to work in conjunction with the mathematician and the communications engineer in devising and perfecting machines that will understand, that is respond to human speech, for the simpler programming of computers, machines that will produce with a high degree of intelligibility recognizable human speech synthetically, machines that will reliably distinguish and identify individual speakers, machines for reproducing human speech in audible or visible forms. For instance, in the experimental stage are devices for "reading" the printed page, that is for converting the printed symbols or letters into synthetic speech. A little further away as yet, but apparently well within the bounds of possibility is the automatic or phonetic typewriter, which will convert speech directly into printed words on paper. Because of the obvious practical importance of advances in these fields it is certain that further collaboration will develop between phonetics and sound engineering, to the mutual benefit of each.

For those who work in speech therapy, which handles pathological conditions of speech, phonetics forms an essential part of the professional training syllabus. Phonetics also enters into the training of teachers of the deaf and dumb people and can be of relevance to a number of medical and dental problems.

An understanding of phonetics has proved extremely useful in such varied spheres as the following: investigations in the historical aspects of languages, and in the field of dialectology; designing or improving systems of writing or spelling (orthographies for unwritten languages, shorthand, spelling reform), in questions involving the spelling or pronunciation of personal or place names or of words borrowed from other languages.

5. Phonetics and its Connection with Social Sciences

Our further point should be made in connection with the relationship between phonetics and **social sciences**.

Sociophonetics studies the ways in which pronunciation interacts with society. It is the study of the way in which phonetic structures change in response to different social functions and the deviations of what these functions are. Society here is used in its broadest sense, to cover a spectrum of phenomena to do with nationality, more restricted regional and social groups, and the specific interactions of individuals within them. Here there are innumerable facts to be discovered, even about a language as well investigated as English, concerning, for instance, the nature, of the different kinds of English pronunciation we use in different situations — when we are talking to equals, superiors or subordinates; when we are "on the job", when we are old or young; male or female; when we are trying to persuade, inform, agree or disagree and so on. We may hope that very soon sociophonetics may supply elementary information about: "who can say, what, how, using what phonetic means, to whom, when, and why?" In teaching phonetics we would consider the study of sociolinguistics to be an essential part of the explanation in the functional area of phonetic units.

Psycholinguistics as a distinct area of interest developed in the early sixties, and in its early form covered the psychological implications of an extremely broad area, from acoustic phonetics to language pathology. Nowadays no one would want to deny the existence of strong mutual bonds of interest operating between linguistics, phonetics in our case and psychology. The acquisition of language by children, the extent to which language mediates or structures thinking; the extent to which language is influenced and itself influences such things as memory, attention, recall and constraints on perception; and the extent to which language has a certain role to play in the understanding of human development; the problems of speech production are broad illustrations of such bounds.

The field of phonetics is thus becoming wider and tending to extend over the limits originally set by its purely linguistic applications. On the other hand, the growing interest in phonetics is doubtless partly due to increasing recognition of the central position of language in every line of social activity. It is important, however, that the phonetician should remain a linguist and look upon his science as a study of the spoken form of language. It is its application to linguistic phenomena that makes phonetics a social science in the proper sense of the word, notwithstanding its increasing need of technical methods, and in spite of its practical applications.

6. Theories of Teaching Pronunciation in Current TEFL / TESOL Practices

Pronunciation in the past occupied a central position in theories of oral language proficiency. But it was largely identified with accurate pronunciation of isolated sounds or words. The most

neglected aspect of the teaching of pronunciation was the relationship between phoneme articulation and other features of connected speech. Traditional classroom techniques included the use of a phonetic alphabet (transcription), transcription practice, recognition/discrimination tasks, focused production tasks, tongue twisters, games, and the like.

When **the Communicative Approach** to language teaching began to take over in the **mid-late - 1970s**, most of the above-mentioned techniques and materials for teaching pronunciation at the segmental level were rejected on the grounds as being incompatible with teaching language as communication. **Pronunciation has come to be regarded as of limited importance in a communicatively-oriented curriculum.** Most of the efforts were directed to teaching supra-segmental features of the language - *rhythm, stress and intonation*, because they have the greatest impact on the comprehensibility of the learner's English [Celce-Murcia et al 1996:10].

Today pronunciation instruction is moving away from the segmental/supra-segmental debate and toward a more balanced view [Morley 1994]. This view recognizes that both an inability to distinguish sounds that carry a high functional load, e.g. *list— least*, and an inability to distinguish supra-segmental features (such as intonation and stress differences) can have a negative impact on the oral communication - and the listening comprehension abilities - of normative speakers of English.

Today's pronunciation curriculum thus seeks to identify the most important aspects of both the segmentals and supra-segmentals, and integrate them appropriately in the teaching process that meet the needs of any given group of learners [Pennington, Richards 1986; Gilbert 1994; Pennington 1996].

The ability to produce English with an English-like pattern of stress and rhythm involves stress-timing (the placement of stress on selected syllables), which in turn requires speakers to take shortcuts in how they pronounce words. Natural-sounding pronunciation in conversational English is achieved through blends and omissions of sounds to accommodate its stress-timed rhythmic pattern [Clark, Clark 1977]. Syllables or words which are articulated precisely are those high in information content, while those which are weakened, shortened, or dropped are predictable and can be guessed from context [Giegerich 1992].

In every language, characteristic intonation contours carry both referential and affective meaning. In their referential function, intonation contours provide an interpretation for a sentence by indicating which part of the information is viewed as *new* versus *known*, *salient* versus *less salient*, or *topic* versus *comment*. Intonation and stress are highly context-dependent, so that the patterns of stress and pitch that characterize isolated words or phrases are typically modified when these words or phrases occur in the context of longer utterances.

In sum, the acquisition of pronunciation of a foreign language involves learning how to produce a wide range of complex and subtle distinctions which relate sound to meaning at several different levels. Articulatory, interactional, and cognitive processes are equally involved.

Prospective EFL teachers could be recommended the following sources of reference for teaching contemporary English pronunciation:

1. Gimson A.C. Gimson's Pronunciation of English [Gimson 2001] which presents comprehensive and accessible standard description of spoken English.

1. Celce-Murcia M., Brinton D., Goodwin J. Teaching Pronunciation: A Reference for Teachers of English to Speakers of Other Languages. [Celce-Murcia et al 1996] – this book gives a valuable linguistic and didactic model for teaching North American pronunciation.

2. Pennington M. Phonology in English Language Teaching: An International Approach [Pennington 1996] - this is a comprehensive manual on the theory of English pronunciation.

3. Jenkins, Jennifer. The Phonology of English as an International language [Jenkins 2000] – the author gives an international perspective on teaching the English pronunciation, she advocates intelligibility as the key concept in the field of English as an international language.

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15. DeVito, Joseph. The Communication handbook: a dictionary. – New York: Harper and Row Publishers, 1986. – 337 p.

Questions

1. What is pronunciation?
1. What problems can we focus on when discussing the English pronunciation?
2. Say why speech is not the same as language.
3. Define the meanings of pronunciation.
4. How is language shaped into a spoken message?
5. What can a spoken message be thought of, first of all?
6. What are speech sounds? What are phonemes?
7. What do the sounds of a language constitute?
8. Name three systemic characteristics of the segmental component.
9. How can the phonemic component be studied and described?
10. What is a syllable?
11. How can the syllable be defined articulatorily and auditorily?
12. What is the second component of the phonic structure of language and what aspects does it have?
13. What is stress?
14. What three features does stress have?
15. What does the vocalic element of an English stressed syllable tend to have?
16. What constitutes the third component of the phonic structure of language?
17. What aspects does word stress have?
18. How are words in speech organized?
19. What features are superimposed on the segmental chain of sounds?
20. What are the most important supra-segmental effects in a language provided by?
21. What is utterance/sentence stress?
22. Give all the meanings of the word accent.
23. What is rhythm?
24. Explain stress-timed and syllable-timed rhythm.
25. What will a detailed description of phonic/sound substance of language consist of?

Practical task

Make a glossary of the main notions and give their definitions.

Test

Answer the following questions using one-word/phrase answers:

№	Question	Answer
1	People engaged in the study of phonetics are called ...	
2	People engaged in the study of phonology are called ...	
3	Variations in pitch, prominence, and tempo are called ...	

4	The basic component of the phonic substance of language is called ...	
5	A unit of spoken message larger than a single sound and smaller than a word is called ...	
6	Pronunciation features in a foreign language influenced by the mother tongue are called ...	
7	How many aspects does the problem of word stress have?	
8	How many components does the phonic substance of language consist of?	
9	The amount of perceptual prominence given to particular words/ syllables in an utterance is called ...	
10	What features are superimposed on the segmental chain of sounds?	
11	Is the statement true or false: <i>English makes use of stressed syllables separated by equal number of unstressed syllables?</i>	
12	Give the name of the founder of phonology.	
13	A sequence of words spoken in a single breath, a stretch of speech which has describable melody is called ...	
14	Knowledge, a code which is known and shared by speakers who use their knowledge for transmitting and interpreting verbal messages in these events is called ...	
15	An activity which is carried on numerous events is called ...	
16	Phonetics whose domain is the larger units of connected speech: syllables, words, phrases and texts is called ...	
17	The part of phonetics which is concerned with individual sounds is called ...	
18	The part of phonetics which is mainly concerned with the functioning of phonetic units in the language is called ...	
19	The science that studies the ways in which pronunciation interacts with society is called ...	
20	The science that investigates a wide range of phenomena from acoustic phonetics to language pathology is called ...	

Lecture 2 PROBLEMS OF PHONOSTYLISTICS

Plan

1. Phonetic peculiarities of style.
1. Style-forming and style-modifying factors.
2. Classifying phonetic styles.

1. Phonetic Peculiarities of Style

Pronunciation is by no means homogeneous. It varies under the influence of numerous factors. These factors lie quite outside any possibility of signalling linguistic meaning so it is appropriate to refer to these factors as **extralinguistic**. Information about stylistic variations in learning, understanding and producing language is directly useful for the design, execution and evaluation of teaching phonetics. The branch of phonetics most usually applied for such information is **phonostylistics**.

Much of what people say depends directly or indirectly on the situation they are in. On the one hand, variations of language in different situations it is used in are various and numerous but, on the other hand, all these varieties have much in common as they are realizations of the same system. That means that there are regular patterns of variation in language, or, in other words, language means which constitute any utterance are characterized by a certain pattern of selection and arrangement.

The principles of this selection and arrangement, the ways of combining the elements form what is called the **style**. Style in tebrates language means constructing the utterance, and at the same time differentiates one utterance from another.

The branch of linguistics that is primarily concerned with the problems of functional styles is called **functional stylistics**. Stylistics is usually regarded as a specific division of linguistics, as a sister science, concerned not with the elements of the language as such but with their expressive

potential. **A functional style** can be defined as a functional set of formal patterns into which language means are arranged in order to transmit information. A considerable number of attempts have been made in recent years to work out a classification of functional styles. But in spite of this fact, there is no universal classification that is admitted by all analysts.

Language as a means of communication is known to have several functions. In the well-known conception suggested by academician V.V. Vinogradov, three functions are distinguished, that is the function of communication (colloquial style), the function of informing (business, official and scientific styles) and the emotive function (publicistic style and the belles-lettres style).

Certain nonlinguistic features can be correlated with variations in language use. The latter can be studied on three levels: phonetic, lexical and grammatical. The first level is the area of **phonostylistics**. Phonostylistics studies the way phonetic means are used in this or that particular situation which exercises the conditioning influence of a set of factors which are referred to as extralinguistic. The aim of phonostylistics is to analyse all possible kinds of spoken utterances with the main purpose of identifying the phonetic features, both segmental and suprasegmental, which are restricted to certain kinds of contexts, to explain why such features have been used and to classify them into categories based upon a view of their function.

2. Style-Forming and Style-Modifying Factors

Before describing phonetic style-forming factors it is obviously necessary to try to explain what is meant by **extralinguistic situation**. It can be defined by three components, that is **purpose, participants, setting**. These components distinguish situation as the context within which interaction (communication) occurs. Thus **a speech situation** can be defined by the co-occurrence of two or more interlocutors related to each other in a particular way, having a particular aim of communicating about a particular topic in a particular setting.

Purpose can be defined as the motor which sets the chassis of setting and participants going, it is interlinked with the other two components in a very intricate way. The purpose directs the activities of the participants throughout a situation to complete a task. Such purposes can be viewed in terms of **general activity types** and in terms of the **activity type plus specific subject matter**.

There appear to be a considerable number of quite general types of activities, for example: working, teaching, learning, conducting a meeting, chatting, playing a game, etc. Such activity types are socially recognized as units of interaction that are identifiable.

It should be noted that activity type alone does not give an adequate account of the purpose in a situation. It only specifies the range of possible purposes that participants will orient toward in the activity but not which specific one will be involved. The notion of purpose requires the specification of contents at a more detailed level than that of activity type. This we shall call "**subject matter**" or "**topic**".

Another component of situation is **participants**. Speech varies with participants in numerous ways. It is a marker of various characteristics of the individual speakers as well as of relationships between participants. Characteristics of individuals may be divided into those which appear to characterize the individual as an individual and those which characterize the individual as a member of a significant social grouping. The taking on of roles and role relations is commonly confounded with settings and purposes. When Dr. Smith, for instance, talks like a doctor and not like a father or someone's friend it is likely to be when he is in a surgery or a hospital and is inquiring about the health of a patient or discussing new drugs with a colleague. Such confounding may well be more true of occupational roles than of non-occupational roles such as strangers or friends, adults or older and younger children, etc.

Usually **age** of participants is also an important category for social interaction. Among other things age is associated with the role structure in the family and in social groups, with the assignment of authority and status, and with the attribution of different levels of competence. The speech behaviour of a person not only conveys information about his or her own age but also about the listener or the receiver of the verbal message. Thus, old people speak and are spoken to in a different way from young people. For instance, an elderly person usually speaks in a high-pitched voice, people generally use higher pitch-levels speaking to younger children.

There is another factor, which is included into the "participants" component of a speech situation. That is the **sex** of the speaker. Sex differences in pronunciation are much more numerous than differences in grammatical form. For instance, there is a consistent tendency for women to produce more standard or rhetorically correct pronunciation which is generally opposed to the omission of certain speech sounds. Girls and women pronounce the standard realization of the verb ending in *-ing* (*reading, visiting, interesting*) more frequently than boys and men who realize *-in* (*readin, visitin, interestin*) more often; female speakers use a more "polite" pattern of assertive intonation (*Yes. Yes, I know.*) while male speakers use a more deliberate pattern (*Yes. Yes. I know.*); women tend to

use certain intonation patterns that men usually do not (notably "surprise" pattern of high fall-rises and others).

The emotional state of the speaker at the moment of speech production is likely to reveal pronunciation markers which would be a fascinating problem of research.

The last component we have to consider is called **setting**, or **scene**. It is defined by several features. The first of them is a physical orientation of participants. This is to some extent determined by the activity they are engaged in; thus in a lecture the speaker stands at some distance from and facing the addressees whereas in a private chat they are situated vis-à-vis each other. It is quite obvious now that speech over an intercom and speech in face-to-face communication is obviously phonologically distinguishable in a number of ways.

Scenes may be arranged along dimensions: public – private, impersonal – personal, polite – casual, high-cultured – low-cultured, and many other value scales. In large part these diverse scales seem to be subsumed under one bipolar dimension of formal – informal. The kind of language appropriate to scenes on the formal or "high" end of the scale is then differentiated from that appropriate to those on the informal or "low" end. From the acquaintance with English and Ukrainian we can speculate that such differentiation follows universal principles, so that "high" forms of language share certain properties, such as elaboration of syntax and lexicon, phonological precision and rhythmicality, whereas "low" forms share properties including ellipsis, repetition, speed and slurring. If this is so we may expect pronunciation features to be markers of the scene or at least of its position in the formal – informal dimension.

We can single out, a number of factors which result in phonostylistic varieties. They are:

1. the purpose, or the aim of the utterance;
1. the speaker's attitude;
2. the form of communication;
3. the degree of formality;
4. the degree of spontaneity (or the degree of preparedness or the reference of the oral text to a written one).

It should be mentioned right here that the purpose or the aim of the utterance may be called a **phonetic style-forming** factor. All other factors cause modifications within this or that style and that is why may be referred to as **style-modifying** factors. All these factors are interdependent and interconnected. They are singled out with the purpose of describing phonetic phenomena so that to give a good idea of how the system works.

The first factor we should consider is the **purpose of the utterance** and the **subject matter**. As the subject matter in large part determines the lexical items, it is the aim of the utterance that affects pronunciation. So in this respect the aim could be spoken of as the strategy of the language user and so it may be called a style-forming factor. On the phonetic level there are variations related to describe what language is being used for in the situation: is the speaker trying to persuade? to exhort? to discipline? Is he teaching, advertising, amusing, controlling, etc.? Each of the above-mentioned variants makes the speaker select a number of functional phonetic means with the purpose of making the realization of the aim more effective. In terms of phonostylistics we may analyse various phonetic ways of reflecting the speaker's purposive role in the situation in which the text occurred.

Another extralinguistic factor most often referred to is the **speaker's attitude** to the situation or to what he is saying or hearing. It is common knowledge that a communicative situation is part of a human being's everyday life situation. So it is natural for a language user to consider the situation from his point of view, revealing his personal interest and participation in what he is saying. The thing he is talking about may satisfy him or not, may please him or not, may elicit his positive or negative response, his emotions. This factor forms a complex bundle with another characteristic feature of oral speech, namely, the speaker's being always concrete, no matter whether communication takes place in public or private atmosphere. This factor can well be said to greatly differ oral form of language realization from its written form. Its most common linguistic realization is in intonation varieties which can be numerous like varieties of attitudes and emotions an individual can express in various life situations. Concluding we might say that subjective colouring of oral speech is one of its most integral characteristics.

Considering the **form of communication** we should say that nature of participation in the language event results in two possible varieties: a **monologue** and a **dialogue**.

Monologuing is the speaking by one individual in such a way as to exclude the possibility of interruption by others. Dialoguing (conversing) is speaking in such a way as to invite the participation of others. It is quite possible for one person to communicate with another and to be the only speaker. Similarly two people can monologue at each other. Monologues are usually more extended. They are also characterized by more phonetic, lexical and grammatical cohesion. This means that monologues usually have more apparent continuity and self-containedness than conversation. Phonetic organization of either of the two varieties cannot be analogical since each kind is characterized by specific usage of language means of all the three levels.

If we look upon a dialogue and a monologue from psycholinguistic point of view it turns out that the latter is a more complex unit. It can be proved by the fact that people who find themselves abroad learn dialoguing quite easily, while monologuing requires special training even in the native language. There are a lot of people who use their native language while dialoguing quite adequately but who fail to produce an extended utterance in case they are supposed to.

Among the social factors determining the usage of stylistic means it is the **formality of situation**.

It is obvious that the process of speaking is very often a recognition of social roles and relationship. The interaction of individuals depends upon their learning and accepting the roles of social behaviour. A certain individual may possess a certain rank in an organization which entitles him to be addressed in a certain fashion by his subordinates, in another way by his equals and in a third way by his superiors.

Considering a communicative situation from the point of view of sociolinguistics we would have to admit that the dichotomy formal – informal (official – unofficial) can be understood here as the absence or presence of socially realized necessity to follow certain rules while generating an utterance. Informal communication does not make the speaker use obligatory forms, it allows to use them.

The influence of this factor upon the phonetic form of speech is revealed by variations of rate of articulation. In a formal situation the language user tends to make his speech distinct, thorough and precise. His conscious attention to the form of production makes him choose the full style of pronunciation. The notion of the appropriateness of speaking slow enough is presumably part of the cultural code which insists that it is rude to talk fast and less explicit in such situation. In an informal situation he would prefer less explicit and more rapid form because this form would be more appropriate and would function efficiently as a mode of communication. It would be a vast oversimplification to assume that there are only two varieties of pronunciation. There are, certainly, many more of them. Indeed there is an infinite number and they have no definable boundaries, each merges imperceptibly into the next.

Another factor determines the distinction of **public** and **non-public** oral texts. Speech is qualified as public when a speaker is listened to by a group of people. Non-public communication occurs in face-to-face situations. Still, there are no direct correlations between the formality of situation and public – non-public character of presentation.

Linguistic realization of the formality on both segmental and suprasegmental levels is very important for a student of another language. He brings to his learning task all the habits and knowledge of his mother tongue and his culture. Learning a foreign language involves suspending these and acquiring others. The student, however, will often continue to interpret situations as he would in his own culture. In other words his grasp of formality of situation is incomplete. He may often have a formal way and perhaps a relatively informal one but he may not know the gradation in between the extremes. The result may be an un-appropriate usage of intonation structure with the wrong meaning. For example, in Ukrainian the leave-taking *До побачення* can be pronounced both with low rising and low falling tone, which sounds neutral, while in English *Good-bye* pronounced with a low falling tone sounds fairly rude, while rising tone makes it neutral.

Analysing extralinguistic factors we should add some more to the above-mentioned ones. They are: the **speaker's individuality, temporal provenance, social provenance, range of intelligibility, sex and age** of the speaker. The first thing to know about them is that they are **incidental, concomitant** features. They are characteristic of a language user and can not vary, with very little exception, like all the above-mentioned ones. So they are not deliberately chosen by the speaker at the time of text production, though they may very well serve as his identifying features, thus from this point of view they may be considered informative.

One of the most important style-modifying factors is **the degree of spontaneity**. So if we examine the situations in which people speak rather than write from the point of view of psychology we can distinguish between those in which they are speaking spontaneously as opposed to those in which they are speaking non-spontaneously as the actor and the lecturer are most often doing. The types of speech situations which lead to spontaneous speech include classroom teaching, television and radio interviews, sporting commentaries on radio and television of an event actually taking place, conversation between experts in a particular field of everyday conversations. We should realize, of course, that between two poles of spontaneity there are a number of more delicate distinctions. For example, the sporting commentator has studied notes and has described this sort of thing before; the people whose professions are highly verbal ones such as the journalist, the politician, the teacher, the lawyer and the stage entertainer become accustomed to producing spontaneous texts and are very often called upon to speak spontaneously about the same area of experience. This means that although they have no written text in front of them there are elements of preparation and repetition in their speaking performances which give them some of the characteristics of written modes. These characteristics are most clearly identified at the phonetic level of analysis.

If an utterance is qualified as fully spontaneous from linguistic point of view it means that its verbal realization is taking place at the moment of speaking, though, of course, it could be thought over in advance. There are situations where this kind of speech activity is not possible. The reason that

accounts for that results from three things: a) the utterance is too long to be remembered because, as we know, there are memory constraints; these are utterances produced in the form of lectures, reports, etc.; b) the time of the speaker is limited, so the message has to be conveyed without any hesitation; for example, news over the radio and TV; c) the speaker is realizing somebody else's utterance, for example, reading a piece of prose, quoting, etc. In the above-mentioned cases the utterance or rather its verbal realization is prepared in advance, i.e. written on a sheet of paper. This script version is used at the moment of production – it is read. This type of presentation is qualified as fully prepared. The speaker may use the written variant just to help himself remember the logic succession of the uttered contents. In this case the speech is also fully prepared. In either of the above-mentioned cases a written text was made with the purpose of being produced orally. This kind of written text should be distinguished from literary written texts which are not to be read aloud though such possibility is not completely excluded. The latter differs from the former in fairly specific organization of lexical and grammatical means which is one of its most important characteristics.

Now if we look upon the degree of spontaneity as a style-modifying factor we should admit that it has a decisive influence on the phonetic organization of an oral text. This is where phonetics overlaps with psycholinguistics.

The point is that speaking and reading being processes of communication and varieties of speech activity are two different psychic processes, i.e. the sounding utterance is generated in quite different ways. When a written text is being read aloud, a reader has got a verbal realization before his eyes, the script which has been prepared in advance either by himself or by an other person. So he need not think of what to say or rather of how to put the ideas into words. Oral realization should be made according to pronunciation rules of a particular language. Besides, if he is to read with comprehension the graphic symbols of the language he must learn to supply those portions of the signals which are not in the graphic representation themselves. He must supply the significant stresses, pauses and tone sequences. As a result the usage of phonetic means is characterized by a very high degree of regularity. Melodic, temporal, rhythmic organization of the text is even; pauses are made at syntactical junctures within and between the sentences. The text sounds loud and distinct (both sounds and intonation are meant).

While spontaneous speech is taking place (when no notes are used) the process of psychic activity consists of two equally important items, i.e. a) the process of searching (remembering) information and the ways of expressing it verbally and b) the process of giving (transmitting) information. The speaker has got an intention to express some ideas and he should choose an adequate linguistic form to express these ideas and in this way to generate the utterance.

Analysing most important characteristics of a spoken spontaneous text we should first of all mention a phenomenon called **hesitation**. The point is that while generating a text a speaker has no time or rather not enough time to make sure of the correct form of the expression he has chosen, because he is simultaneously planning what he is going to say next and also monitoring what he is saying. The wording is taking place simultaneously with pronouncing. Consequently, the speaker hesitates. He hesitates to remember a further piece of information, to choose a correct word, a correct grammar structure and so on. This hesitation phenomenon breaks the regularity and evenness of phonetic form. There appear micropauses, pauses of different length and quality which seldom occur at the syntactic juncture; lengthening of sounds within the words and in the word final position. A spontaneous text is characterized by a number of relevant features both on segmental and suprasegmental levels: various kinds of assimilation, reduction, elision which manifest simplification of sound sequences; uneven rhythm, fragments melody contour, abundance of pauses, varying loudness (from very loud to very low), narrow range of voice, varying tempo (from very fast to very slow).

Another characteristic is the **delimitation**. In reading pauses occur at the syntactic junctures, so an intonation group coincides with what is called a "syntagm(a)". In a spontaneous text hesitating often prevents the speaker from realizing a full syntagm(a). There may appear a hesitation pause which breaks it, so an intonation group does not coincide with a syntagm(a). Pauses at the end of the phrase are often optional, because the speaker does not realize the rules of phrasing, i.e. of making pauses at the moment of speaking.

The speaker's attitude to the communicative situation, to what he is saying, the relationships of the partners are revealed by *tembre*. *Tembre* combined with non-verbal system of communication, kinetic system, is a marker of some specific attitude, or emotion which would be a permanent characteristic of a language user in a given communicative act.

Delimitation is another characteristic which is commonly referred to as a style-differentiating feature on the perceptive level.

There are different patterns of phonetic delimitation of an oral, text. The terms most often referred to denote fragments of speech continuum into which the whole text is naturally divided are as follows: a phonopassage (in monologues), a semantic block (in dialogues), a phrase, an intonation group.

A third characteristic which is usually referred to the set of style-differentiating ones is the **accentuation of semantic centres**. By semantic centres we mean parts of the utterance that have a considerable value in realization of functional utterance perspective, i.e. in expressing the main

contents of the utterance. For example, in spontaneous speech the contrast between accented and non-accented segments of an utterance is greater than in reading, due to the fact that in speech the unaccented elements are pronounced at a lower pitch.

In describing phonetic style-differentiating characteristics (both on segmental and suprasegmental level) we would have to deal with pitch direction, pitch range, pitch level, loudness, tempo (which includes both pauses and speech rate), rhythm and some others, the meaning of which will become clear as the book proceeds.

Talking about style-differentiating means of phonetic level we should remember that their usage is no aim in itself. Phonetic means of the language in interacting with lexis and grammar optimize the process of realization of ideas by verbal means.

While classifying various speech realizations from phonostylistic point of view an analyst should single out criteria that are different from the ones used as a basis for distinguishing functional styles of language.

3. Classifying Phonetic Styles

Among the well-known classifications of phonetic styles we would like to mention the following two. One of them belongs to S.M. Gaiduchic. He distinguishes five phonetic styles: solemn (урочистий), scientific business (науково-діловий), official business (офіційно-діловий), everyday (побутовий), and familiar (невимушений). As we may see the above-mentioned phonetic styles on the whole correlate with functional styles of the language. They are differentiated on the basis of spheres of discourse. The other way of classifying phonetic styles is suggested by J.A. Dubovsky who discriminates the following five styles: informal ordinary, formal neutral, formal official, informal familiar, and declamatory. The division is based on different degrees of formality or rather familiarity between the speaker and the listener. Within each style subdivisions are observed.

M.A. Sokolova's approach is slightly different. She distinguishes between segmental and suprasegmental level of analysis because some of them (the aim of the utterance, for example) result in variations of mainly suprasegmental level, while others (the formality of situation, for example) reveal segmental varieties.

It might be generally assumed that there are five intonational styles singled out mainly according to the purpose of communication and to which we could refer all the main varieties of the texts generated in everyday communication of a modern man. They are as follows:

1. Informational style.
1. Academic style (Scientific).
2. Publicistic style (Oratorical).
3. Declamatory style (Artistic).
4. Conversational style (Familiar).

But differentiation of intonation according to the purpose of communication only is definitely not enough. As was mentioned above, there are other factors that affect intonation in various extralinguistic situations.

We could add that any style with very little exception is seldom realized in its pure form. Each generated text is likely to include phonetic characteristics of different styles. In such cases we talk about overlapping (fusion) of styles.

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Questions

1. Define phonostylistics.
1. Define style.
2. What is functional stylistics?
3. Give the definition of functional style.
4. Enumerate the functions of language.

5. What is the subject matter and aim of phonostylistics?
6. Define extralinguistic situation.
7. What is a speech situation?
8. What is purpose in linguistics?
9. Enumerate the components of a situation.
10. How is age connected with the speech behaviour of people and what is its connection with phonetics?
11. Are there any differences in pronunciation depending on the gender of the person?
12. How does the setting affect a person's pronunciation?
13. What is a phonetic style-forming factor?
14. What is a phonetic style-modifying factor?
15. How does the speaker's attitude affect communication?
16. Enumerate the forms of communication.
17. What is the difference between public and non-public communication.
18. How does spontaneous speech differ from non-spontaneous?
19. Characterize hesitation, delimitation, and accentuation.
20. Classify phonetic styles.

Practical task

Make a glossary of the main notions and give their definitions.

Test

Answer the following questions using one-word / phrase answers:

№	Question	Answer
1	Factors lying outside any possibility of signalling linguistic meaning are called ...	
2	Information about stylistic variations in learning, understanding and producing language is studied by ...	
3	The branch of linguistics that is primarily concerned with the problem of functional styles is called ...	
4	A functional set of formal patterns into which language means are arranged in order to transmit information is defined as ...	
5	The science that studies the way phonetic means are used in this or that particular situation, which exercises the conditioning influence of a set of extralinguistic factors, is called ...	
6	Extralinguistic situation can be defined by three components: ...	
7	The cooccurrence of two or more interlocutors related to each other in a particular way, having a particular aim of communicating about a particular topic in a particular setting is defined as ...	
8	What directs the activities of the participants throughout a situation to complete a task?	
9	Individuals taking part in a communicative event are called ...	
10	The component of something associated with the role structure in the family and in social groups, with the assignment of authority and status, and with the attribution of different levels of competence is called ...	
11	Is the following statement true or false: " <i>Gender differences in pronunciation are less numerous than differences in grammatical form</i> ".	
12	The component of situation defined among other features by the physical orientation of participants is called ...	
13	What phonetic factor is the purpose or the aim of the utterance?	
14	The language user's strategy can be called the speaker's ...	
15	If the language user considers the situation from his point of view, reveals his personal interest and participation in what he is saying, we speak about ...	
16	The two forms of communication are called ...	
17	Considering a communicative situation from the point of view of sociolinguistics we can speak of the dichotomy ...	

18	When a speaker is listened to by a group of people, speech is qualified as ... and is opposed to ...	
19	The actor's and the lecturer's speech as opposed to classroom teaching, television and radio interviews can be characterized as ...	
20	Parts of the utterance that express its main contents are called ...	

Lecture 3 GENERAL CHARACTERISTICS OF SPEECH SOUNDS ENGLISH CONSONANTS

Plan

1. Aspects of speech sounds.
1. General characteristics of phonemes.
2. Notation.
3. Main trends in phoneme theory.
4. Methods of phonological analysis.
5. The system of English phonemes. Consonants.
6. The general characteristics of consonants.
7. Modifications of consonants in connected speech.

1. Aspects of Speech Sounds

Speech sounds are 1) produced by man's organs of speech, 2) travel in sound waves, and 3) are perceived by man's hearing mechanism as 4) sounds of language functioning as units capable of differentiating meanings of the words.

It follows that speech sounds differ from each other in their physical/acoustic properties, in the way they are produced by the organs of speech and in their features which take part or do not take part in differentiating the meaning, i.e. it will be possible to distinguish the following four aspects: **1) articulatory 2) acoustic 3) auditory 4) functional** (linguistic, social) of speech sounds.

Neither of them can be separated in the actual process of communication (in the flow of speech). Each of them can be singled out for linguistic analysis.

The **articulatory/sound production** aspect: from the articulatory point of view every speech sound is a complex of definite coordinated and differentiated movements and Positions of speech organs. The movements and positions necessary for the production of a speech sound constitute its **articulation**.

The **acoustic** aspect: every speech sound is a complex of acoustic effects and has its Physical properties - it is a physical phenomenon, a kind of moving matter and energy. The Physical (acoustic) properties of speech sounds consist of: 1) *frequency*, 2) *spectrum*, 3) *intensity*, 4) *duration*.

The **auditory/sound-perception** aspect involves the mechanism of hearing. It is a kind of psychological mechanism which (i) reacts to the physical properties of speech sounds, (ii) selecting from a great amount of information only the one which is linguistically relevant

The **functional/linguistic/social** aspect is called so because of the role the sounds of language play in its functioning as medium of human communication.

2. General Characteristics of Phonemes

When we talk about the sounds of a language, the term "sound" can be interpreted in two rather different ways. A linguist uses two separate terms: "**phoneme**" is used to mean "sound" in its contrastive sense, e.g.: *tie* — *die*, *seat* — *seed* and "**allophone**" is used for sounds which are variants of a phoneme. They usually occur in different positions in the word (i.e. in different environments) and hence cannot contrast with each other, nor be used to make meaningful distinctions.

V.A.Vassilyev defined the phoneme like this:

The segmental phoneme is the smallest (i.e. further indivisible into smaller consecutive segments) language unit (sound type) that exists in the speech of all the members of a given language community as such speech sounds which are capable of distinguishing one word of the same language or one grammatical form of a word from another grammatical form of the same word" (Vassilyev 1970: 136).

The only drawback of this definition is that it is too long and complicated for practical use. The concise form of it could be:

The phoneme is a minimal abstract linguistic unit realized in speech in the form of speech sounds opposable to other phonemes of the same language to distinguish the meaning of morphemes and words [Теоретическая фонетика 1996: 40].

Let us consider the phoneme from the point of view of its three aspects. Firstly, the phoneme is a **functional unit**. Function is usually understood to mean discriminatory function, that is, the role of the various components of the phonetic system of the language in distinguishing one morpheme from another, one word from another or also one utterance from another.

The opposition of phonemes in the same phonetic environment differentiates the meaning of morphemes and words, e.g. *said – says, sleeper – sleepy, bath – path, light – like*.

Sometimes the opposition of phonemes serves to distinguish the meaning of the whole phrases, e.g. *He was heard badly – He was hurt badly*. Thus we may say that the phoneme can fulfil the **distinctive** function.

Secondly, the phoneme is **material, real** and **objective**. That means that it is realized in speech of all English-speaking people in the form of speech sounds, its allophones. The sets of speech sounds, that is the allophones belonging to the same phoneme are not identical in their articulatory content though there remains some phonetic similarity between them.

As a first example, let us consider the English phoneme [d], which when not affected by the articulation of the preceding or following sounds is a plosive, fore-lingual apical, alveolar, lenis stop. This is how it sounds in isolation or in such words as *door, darn, down*, etc., when it retains its typical articulatory characteristics. In this case the consonant [d] is called the **principal** allophone. At the same time there are quite predictable changes in the articulation of allophones that occur under the influence of the neighbouring sounds in different phonetic situations. Such allophones are called **subsidiary**.

[d] is slightly palatalized before front vowels and the sonorant [j], e.g. *deal, day, did, did you*.

[d] is pronounced without any plosion before another stop, e.g. *bedtime, bad pain, good dog*; it is pronounced with the nasal plosion before the nasal sonorants [n] and [m], e.g. *sudden, admit, could not, could meet*; the plosion is lateral before the lateral sonorant [l], e.g. *middle, badly, bad light*.

Followed by [r] the consonant [d] becomes post-alveolar, e.g. *dry, dream*; followed by the interdental [θ], [ð] it becomes dental, e.g. *breadth, lead the way, good thing*.

When [d] is followed by the labial [w] it becomes labialized, e.g. *dweller*.

In the initial position [d] is partially devoiced, e.g. *dog, dean*; in the intervocalic position or when followed by a sonorant it is fully voiced, e.g. *order, leader, driver*; in the word-final position it is voiceless, e.g. *road, raised old*.

Allophones are arranged into functionally similar groups, that is groups of sounds in which the members of each group are not opposed to one another, but are opposable to members of any other group to distinguish meanings in otherwise similar sequences. But the phones which are realized in speech do not correspond exactly to the allophone predicted by this or that phonetic environment. They are modified by phonostylistic, dialectal and individual factors. In fact, no speech sounds are absolutely alike.

Thirdly, allophones of the same phoneme, no matter how different their articulation may be, function as the same linguistic unit. The native speaker is quite readily aware of the phonemes of his language but much less aware of the allophones: it is possible, in fact, that he will not hear the difference between two allophones like the alveolar and dental consonants [d] in the words *bread* and *breadth* even when a distinction is pointed out; a certain amount of ear-training may be needed. The reason is that the phonemes differentiate words like *tie* and *die* from each other. Allophones, on the other hand, have no such function.

At the same time native speakers realize, quite subconsciously of course, that allophones of each phoneme possess a bundle of distinctive features, that makes this phoneme functionally different from all other phonemes of the language concerned. This functionally relevant bundle of articulatory features is called the **invariant** of the phoneme. Neither of the articulatory features that form the invariant of the phoneme can be changed without affecting the meaning. All the allophones of the phoneme [d], for instance, are occlusive, forelingual, lenis. If occlusive articulation is changed for constrictive one [d] will be replaced by [z], cf. *breed – breeze, deal – zeal*; [d] will be replaced by [g] if the forelingual articulation is replaced by the backlingual one, cf. *dear – gear, day – gay*. The lenis articulation of [d] cannot be substituted by the fortis one because it will also bring about changes in meaning, cf. *dry – try, ladder – latter, bid – bit*.

The articulatory features which form the invariant of the phoneme are called **distinctive** or **relevant**. To extract a relevant feature of the phoneme we have to oppose it to some other phoneme in the same phonetic context. If the opposed sounds differ in one articulatory feature and this difference brings about changes in the meaning of the words the contrasting features are called relevant. For example, the words *port* and *court* differ in one consonant only, that is the word *port* has the initial consonant [p], and the word *court* begins with [k]. Both sounds are occlusive and fortis, the only difference being that [p] is labial and [k] is backlingual. Therefore it is possible to say that labial and backlingual articulations are relevant in the system of English consonants.

The articulatory features which do not serve to distinguish meaning are called **nondistinctive, irrelevant** or **redundant**; for instance, it is impossible in English to oppose an aspirated [p] to a non-

aspirated one in the same phonetic context to distinguish meanings. That is why aspiration is a non-distinctive feature of English consonants.

If an allophone of some phoneme is replaced by an allophone of a different phoneme the mistake is called **phonological**, because the meaning of the word is inevitably affected, e.g.: *beat – bit*.

If an allophone of the phoneme is replaced by another allophone of the same phoneme the mistake is called **phonetic**. It happens when the invariant of the phoneme is not modified and consequently the meaning of the word is not affected, e.g.:

When the vowel [i:] is fully long in such a word as *sheep*, for instance, the quality of it remaining the same, the meaning of the word does not change.

Thirdly, the phoneme is abstract or generalized and that is reflected in its definition as a language unit. It is an abstraction because we make it abstract from concrete realizations for classificatory purposes.

3. Notation

The abstract and material aspects of the phoneme have given rise to the appearance of transcription. **Transcription** is a set of symbols representing speech sounds. The symbolization of sounds naturally differs according to whether the aim is to indicate the phoneme, i.e. a functional unit as a whole, or to reflect the modifications of its allophones as well.

The International Phonetic Association (IPA) has given accepted values to an inventory of symbols, mainly alphabetic but with additions. The first type of notation, the **broad** or **phonemic** transcription, provides special symbols for all the phonemes of a language. The second type, the **narrow** or **allophonic** transcription, suggests special symbols including some information about articulatory activity of particular allophonic features. The broad transcription is mainly used for practical expedience, the narrow type serves the purposes of research work. We shall discuss two kinds of broad transcription which are used for practical purposes in our country. The first type was introduced by D. Jones. He realized the difference in quality as well as in quantity between the vowel sounds in the words *sit* and *seat*, *pot* and *port*, *pull* and *pool*, the neutral vowel and the vowel in the word *earn*.

According to D. Jones' notation English vowels are denoted like this: [i] – [i:], [e] – [æ], [ʌ] – [a:], [ɔ] – [ɔ:], [u] – [u:], [ə] – [ɜ:]. This way of notation disguises the qualitative difference between the vowels [ɪ] and [i:], [ɔ] and [ɔ:], [u] and [u:], [ə] and [ɜ:] though nowadays most phoneticians agree that vowel length is not a distinctive feature of the vowel, but is rather dependent upon the phonetic context, that is it is definitely redundant. For example, in such word pairs as *hit – heat*, *cock – cork*, *pull – pool* the opposed vowels are approximately of the same length, the only difference between them lies in their quality which is therefore relevant.

The other type of broad transcription, first used by V.A. Vassilyev, causes no phonological misunderstanding providing special symbols for all vowel phonemes: [i], [i:], [e],

[æ], [a:], [ʌ], [ɒ], [ɔ:], [u], [u:], [ə], [ɜ:].

The narrow or phonetic transcription incorporates as much more phonetic information as the phonetician desires, or as he can distinguish. It provides special symbols to denote not only the phoneme as a language unit but also its allophonic modifications. The symbol [h] for instance indicates aspirated articulation, cf. [k^heɪt] – [skeɪt].

4. Main Trends in Phoneme Theory

Views of the phoneme seem to fall into four main classes. The **"mentalistic"** or **"psychological"** view regards the phoneme as an ideal "mental image" or a target at which the speaker aims. He deviates from this ideal sound partly because an identical repetition of a sound is next to impossible and partly because of the influence exerted by neighbouring sounds. According to this conception allophones of the phoneme are varying materializations of it. This view was originated by the founder of the phoneme theory, the Russian linguist I.A. Baudouin de Courtenay and something like it appears to have been adopted by E.D. Sapir, Alf. Sommerfelt, M. Tatham.

The so-called **"functional"** view regards the phoneme as the minimal sound unit by which meanings may be differentiated without much regard to actually pronounced speech sounds. Meaning differentiation is taken to be a defining characteristic of phonemes. Thus the absence of palatalization in [l] and palatalization of the dark [ɫ] in English do not differentiate meanings, and therefore [l] and [ɫ] cannot be assigned to different phonemes but both form allophones of the phoneme [l]. This view is shared by many foreign linguists: see in particular the works of N. Trubetskoy, L. Bloomfield, R. Jakobson, M. Halle.

The functional view of the phoneme gave rise to a branch of linguistics called **"phonology"** or **"phonemics"** which is concerned with relationships between contrasting sounds in a language. Its

special interest lies in establishing the system of distinctive features of the language concerned. Phonetics is limited in this case with the precise description of acoustic and physiological aspects of physical sounds without any concern to their linguistic function.

A stronger form of the "functional" approach is advocated in the so-called "**abstract**" view of the phoneme, which regards phonemes as essentially independent of the acoustic and physiological properties associated with them, that is of speech sounds. This view of the phoneme was pioneered by L. Hjelmslev and his associates in the Copenhagen Linguistic Circle, H.J. Uldall and K. Togby.

The views of the phoneme discussed above can be qualified as **idealistic** since all of them regard the phoneme as an abstract conception existing in the mind but not in the reality, that is in human speech, speech sounds being only phonetic manifestations of these conceptions.

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

1. The various members of the "family" must show phonetic similarity to one another, in other words be related in character.
1. No member of the "family" may occur in the same phonetic context as any other.

The extreme form of the "physical" conception, as propounded by D. Jones and shared by B. Bloch and G. Trager, excludes all reference to non-articulatory criteria in the grouping of sounds into phonemes.

5. Methods of Phonological Analysis

The aim of the phonological analysis is, firstly, to determine which differences of sounds are phonemic (i.e. relevant for the differentiation of the phonemes) and which are non-phonemic and, secondly, to find the inventory of the phonemes of this or that language.

A number of principles have been established for ascertaining the phonemic structure of a language. For an unknown language the procedure of identifying the phonemes of a language as the smallest language units has several stages. The first step is to determine the minimum recurrent segments (segmentation of speech continuum) and to record them graphically by means of allophonic transcription. To do this an analyst gathers a number of sound sequences with different meanings and compares them. For example, the comparison of [stik] and [stæk] reveals the segments (sounds) [i] and [æ], comparison of [stik] and [spik] reveals the segments [st] and [sp] and the further comparison of these two with [tlk] and [taek], [sik] and [sæk] splits these segments into smaller segments [s], [t], [p]. If we try to divide them further there is no comparison that allows us to divide [s] or [t] or [p] into two, and we have therefore arrived at the minimal segments. From what we have shown it follows that it is possible to single out the minimal segments opposing them to one another in the same phonetic context or, in other words, in sequences which differ in one element only.

The next step in the procedure is the arranging of sounds into functionally similar groups. We do not know yet what sounds are contrastive in this language and what sounds are merely allophones of one and the same phoneme. There are two most widely used methods of finding it out. They are the distributional method and the semantic method. **The distributional method** is mainly used by phoneticians of "structuralist" persuasions. These phoneticians consider it to group all the sounds pronounced by native speakers into phonemes according to the two laws of phonemic and allophonic distribution. These laws were discovered long ago and are as follows.

1. Allophones of different phonemes occur in the same phonetic context.
1. Allophones of the same phoneme never occur in the same phonetic context.

The fact is that the sounds of a language combine according to a certain pattern characteristic of this language. Phonemic opposability depends on the way the phonemes are distributed in their occurrence. That means that in any language certain sounds do not occur in certain positions.

If more or less different sounds occur in the same phonetic context they should be allophones of different phonemes. In this case their distribution is **contrastive**.

If more or less similar speech sounds occur in different positions and never occur in the same phonetic context they are allophones of one and the same phoneme. In this case their distribution is **complementary**.

Still there are cases when two sounds are in complementary distribution but are not referred to the same phoneme. This is the case with the English [h] and [n]. [h] occurs only initially or before a vowel while [n] occurs only medially or finally after a vowel and never occurs initially. In such case the method of distribution is modified by addition of the criterion of phonetic similarity/dissimilarity. The decisions are not made purely on distributional grounds. Articulatory features are taken into account as well.

So far we have considered cases when the distribution of sounds was either contrastive or complementary. There is, however, a third possibility, namely, that the sounds both occur in a language but the speakers are inconsistent in the way they use them. In such cases we must take them as free **variants** of a single phoneme. We could explain it on the basis of "dialect" or on the basis of sociolinguistics. It could be that one variant is a "prestige" form which the speaker uses when he is

constantly "monitoring" what he says while the other variant of pronunciation is found in casual or less formal speech.

The semantic method. It is applied for phonological analysis of both unknown languages and languages already described. In case of the latter it is used to determine the phonemic status of sounds which are not easily identified from phonological point of view. The method is based on a phonemic rule that phonemes can distinguish words and morphemes when opposed to one another. The semantic method of identifying the phonemes of a language attaches great significance to meaning. It consists in systematic substitution of the sound for another in order to ascertain in which cases where the phonetic context remains the same such substitution leads to a change of meaning. It is with the help of an informant that the change of meaning is stated. This procedure is called the **commutation test**. It consists in finding **minimal pairs** of words and their grammatical forms. For example, an analyst arrives at the sequence [pin]. He substitutes the sound [p] for the sound [b] or [s], [d], [w]. The substitution leads to the change of meaning, cf.: *pin, bin, sin, din, win*. This would be a strong evidence that [p], [b], [s], [d], [w] can be regarded as allophones of different phonemes.

To establish the phonemic structure of a language it is necessary to establish the whole **system of oppositions**. All the sounds should be opposed in word-initial, word-medial and word-final positions. There are three kinds of oppositions. If members of the opposition differ in one feature the opposition is said to be single, e.g. *pen – ben*. Common features: occlusive – occlusive, labial – labial. Differentiating feature: fortis – lenis.

If two distinctive features are marked, the opposition is said to be double, e.g. *pen – den*. Common features: occlusive – occlusive. Differentiating features: labial – lingual, fortis voiceless – lenis voiced.

If three distinctive features are marked the opposition is said to be triple, e.g. *pen – then*. Differentiating features: occlusive – constrictive, labial – dental, fortis voiceless – lenis voiced.

6. The System of English Phonemes. Consonants

If speech sounds are studied from the point of view of their production by man's organs of speech, it is the differences and similarities of their articulation that are in the focus of attention. A speech sound is produced as a result of definite coordinated movements and positions of speech organs, so the articulation of a sound consists of a set of articulatory features.

Grouping speech sounds according to their major articulatory features is called an **articulatory classification**.

According to the specific character of the work of the speech organs, sounds in practically all the languages are subdivided into two major subtypes: **VOWELS (V)** and **CONSONANTS (C)**.

There are **1) articulatory, 2) acoustic** and **3) functional** differences between V and C.

1. The most substantial **articulatory** difference between vowels and consonants is that in the articulation of V the air passes freely through the mouth cavity, while in making C an obstruction is formed in the mouth cavity and the airflow exhaled from the lungs meets a narrowing or a complete obstruction formed by the speech organs.
1. Consonant articulations are relatively easy to feel, and as a result are most conveniently described in terms of PLACE and MANNER of articulation.
2. Vowels have no place of obstruction, the whole of speech apparatus takes place in their formation, while the articulation of consonants can be localized, an obstruction or narrowing for each C is made in a definite place of the speech apparatus.
3. The **particular quality of Vs** depends on the volume and shape of the mouth resonator, as well as on the shape and the size of the resonator opening. The mouth resonator is changed by the movements of the tongue and the lips.
4. The **particular quality of Cs** depends on the kind of noise that results when the tongue or the lips obstruct the air passage. The kind of noise produced depends in its turn on the type of obstruction, on the shape and the type of the narrowing. The vocal cords also determine the quality of consonants.
5. From the **acoustic** point of view, vowels are called the sounds of voice, they have high acoustic energy, consonants are the sounds of noise which have low acoustic energy
6. **Functional** differences between Vs and Cs are defined by their role in syllable formation: Vs are syllable forming elements, Cs are units which function at the margins of syllables, either singly or in clusters.

These differences make it logical to consider each class of sounds independently.

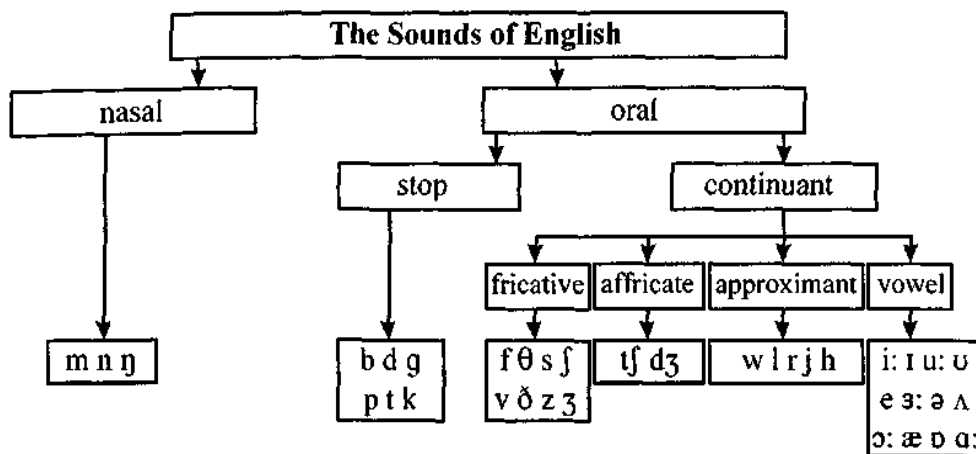
As it follows from the above given considerations, the sounds of a language can be classified in different ways. H. Giegerich [1992], M. Pennington [1996], use a set of **basic** binary (two-way) distinctions in terms

of: **1) phonation; 2) oro-nasal process; 3) manner of articulation.**

Table 1

1) Phonation	2) Oro-nasal process	3) Manner of articulation
" Sonorants: sounds whose phonetic content is predominantly made up by the sound waves produced by their voicing	Oral: sounds in the production of which the air escapes through the mouth.	Stops: sounds made with a complete obstruction or stoppage of the airflow coming up from the lungs. They are also termed <i>plosives</i> .
Obstruents (noise consonants): sounds produced as a result of obstruent articulation involving an obstruction of the air stream that produces a phonetic effect independent of voicing. They can typically occur in voiced and voiceless variants.	Nasal: sounds in the production of which the softpalate is lowered, and the air escapes through the mouth.	Continuants: sounds in which the obstruction of the airflow is only partial, so that the sound can be prolonged for a period of time. Vowels are one type of continuants and there are three consonant types of continuants: fricatives: whose phonetic content includes a hissing noise, produced by turbulence in the air stream as it is forced through the narrow gap between the articulators; affricates: complex sounds which consist of two components which correspond to two phases of articulation- an oral-stop phase followed with a short friction phase. approximants: sounds in the production of which one articulator moves close to another, though not so close as to cause a turbulent as to produce friction. r, w, j are termed <i>central approximants</i> because air passes through the oral tract along the center of the opening, l is called a <i>lateral approximant</i> because air passes out along the side/s of the articulation. h is a <i>glottal approximant</i> . In some phonological systems approximants are treated as <i>semi-consonants (l, r)</i> or <i>semi-vowels (w, j)</i>

Thus, in accordance with the above-given grouping of sounds, the sounds of English can be classified as follows:



7. General Characteristics of Consonants

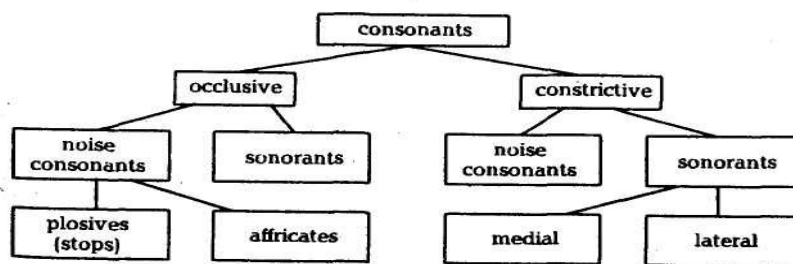
There are few ways of classifying English consonants. According to V.A.Vassilyev primary importance should be given to the type of obstruction and the manner of production of noise. On this ground he distinguishes two large classes of consonants:

1. occlusive, in the production of which a complete obstruction is formed;
2. constrictive, in the production of which an incomplete obstruction is formed.

The phonological relevance of this feature could be exemplified in the following oppositions:

[ti]	- [si]	tea - sea	(occlusive - constrictive)
[si:d]	- [si:z]	seed - seas	(occlusive - constrictive)
[pul]	- [ful]	pull - full	(occlusive - constrictive)
[bəut]	- [vəut]	boat - vote	(occlusive - constrictive)

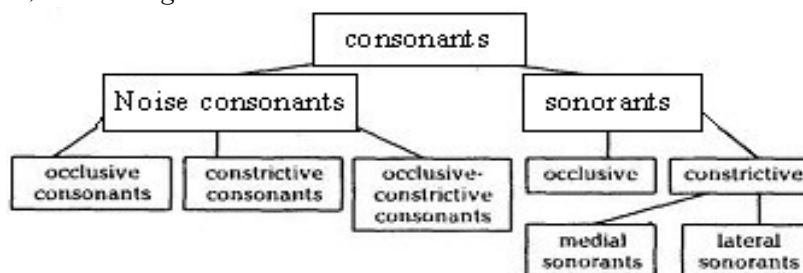
Each of the two classes is subdivided into noise consonants and sonorants. The division is based on the factor of prevailing either noise or tone component in the auditory characteristic of a sound. In their turn noise consonants are divided into plosive consonants (or stops) and affricates.



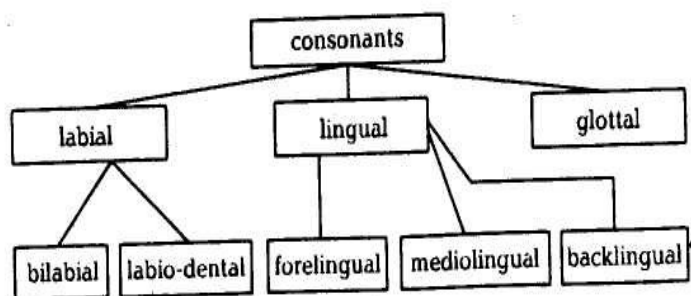
Another point of view is shared by M.A. Sokolova, K.P. Gintovt, G.S. Tikhonova, R.M. Tikhonova. They suggest that the first and basic principle of classification should be the degree of noise. Such consideration leads to dividing English consonants into two general kinds: noise consonants and sonorants.

Sonorants are sounds that differ greatly from all other consonants of the language. This is largely due to the fact that in their production the air passage between the two organs of speech is fairly wide, that is much wider than in the production of noise consonants. As a result, the auditory effect is tone, not noise. This peculiarity of articulation makes son orants sound more like vowels than consonants. On this ground some of the British phoneticians refer some of these con sonants to the class of semivowels, [r], [j], [w], for example. Acoustically sonorants are opposed to all other consonants because they are characterized by sharply defined formant structure and the total energy of most of them is very high. However, on functional grounds, according to their position in the syllable, [r], [j], [w] are included in the consonantal category, but from the point of view of their phonetic description they are more perfectly treated as vowel glides.

The place of articulation is another characteristic of English consonants which should be considered from the phonological point of view. The place of articulation is determined by the active organ of speech against the point of articulation. According to this principle the English consonants are classed into: labial, lingual, glottal. The class of labial consonants is subdivided into: a) bilabial; b) labio-dental; and among the class of



lingual consonants three subclasses are distinguished; they are: a) forelingual, b) mediolingual and c) backlingual. The classification of consonants according to this principle is illustrated in the following scheme:



The importance of this characteristic as phonologically relevant could be proved by means of a simple example. In the system of English consonants there could be found oppositions based on the active organ of speech and the place of obstruction.

- [pæn] – [tæn] pan – tan (bilabial – forelingual) [wai] – [lai] why – lie (bilabial – forelingual)
- [weil] – [jeil] weil – yale (bilabial – mediolingual) [pik] – [kik] pick – kick (bilabial – backlingual)
- [les] – [jes] less – yes (forelingual – mediolingual)
- [dei] – [gei] day – gay (forelingual – backlingual)
- [sai] – [hai] sigh – high (forelingual – glottal)

[fi:t] – [si:t] feet – seat (labio-dental – forelingual)

Our next point should be made in connection, with another sound property, that is voiced — voiceless characteristic which depends on the work of the vocal cords. It has long been believed that from the articulatory point of view the distinction between such pairs of consonants as [p, b], [t, d], [k, g], [s, z], [f, v], [ʃ, ʒ], [tʃ, dʒ] is based on the absence or presence of vibrations of the vocal cords, or on the absence or presence of voice or tone component. However, there is also energy difference. All voiced consonants are weak (lenis) and all voiceless consonants are strong (fortis).

According to the position of the soft palate consonants can be oral and nasal. There are relatively few consonantal types in English which require the lowered position of the soft palate. They are the nasal occlusive sonorants [m], [n] and [ŋ]. They differ from oral plosives in that the soft palate is lowered allowing the escape of air into the nasal cavity. It is a well-known fact that no differences of meaning in English can be attributed to the presence or absence of nasalization. It is for this reason that it cannot be a phonologically relevant feature of English consonants, so it is an indispensable concomitant feature of English nasal consonants. Another problem of a phonological character in the English consonantal system is the problem of affricates, that is their phonological status and their number.

The question is: what kind of facts a phonological theory has to explain?

1. Are the English [tʃ, dʒ] sounds monophonemic entities or biphonemic combinations (sequences, clusters)?
1. If they are monophonemic, how many phonemes of the same kind exist in the system of English consonants, or, in other words, can such clusters as [tr, dr], [tʃ, dʒ] and [tθ, dð] be considered affricates?

Theoretically in each language there might be as many affricates as there are fricatives but in reality the number of them is limited and there are languages where there are none.

According to specialists in English phonetics, there are two affricates in English, they are: [tʃ, dʒ]. D. Jones points out there are six of them: [tʃ, dʒ], [ts, dʒ] and [tr, dr]. A.C. Gimson increases their number adding two more affricates: [tθ, dð].

The fact is that Ukrainian and Russian phoneticians look at English affricates through the eyes of a phoneme theory, according to which a phoneme has three aspects: articulatory, acoustic and functional, the latter being the most significant one. As to British phoneticians, their primary concern is the articulatory-acoustic unity of these complexes, because their aim is limited by practical reasons of teaching English.

According to N.S. Trubetskoj a sound complex may be considered nonphonemic if:

1. its elements belong to the same syllable;
1. it is produced by one articulatory effort;
2. its duration should not exceed normal duration of either of its elements.

The grouping of the RP consonants according to the articulatory principles exemplified above may be illustrated in the table given below:

Table 2

Active organ, place of obstruction Type of obstruction A manner of the production of noise		Labial		Lingual					Pharyngeal	
				Forelingual			Medio-lingual	Back lingual	glottal	
		bilabial	labio-dental	inter-dental	alveolar	post-alveolar	palato-alveolar	palatal		velar
Occlusives	plosives	p, b			t, d				k, g	
	nasal sonorants	m			n				ŋ	
Constrictives	fricatives		f, v	θ, ð	s, z		ʃ, ʒ			h
	sonants	w			l	r		j		
Affricates										

8. Modifications of Consonants in Connected Speech

Language in everyday use is not conducted in terms of isolated, separate units; it is performed in **connected sequences** of larger units, in words, phrases and longer utterances.

Consonants are modified according to the **place of articulation**. Assimilation takes place when a sound changes its character in order to become more like a neighbouring sound. The characteristic which can vary in this way is nearly always the place of articulation, and the sounds concerned are commonly those which involve a complete closure at some point in the mouth that is plosives and nasals which may be illustrated as follows:

1. The dental [t], [d], followed by the interdental [θ], [ð] sounds (partial regressive assimilation when the influence goes backwards from a "latter" sound to an "earlier" one), e.g. *"eighth", "at the", "breadth", "said that"*.
1. The post-alveolar [t], [d] under the influence of the post-alveolar [r] (partial regressive assimilation), e.g. *"free", "true", "that right word", "dry", "dream", "the third room"*.
2. The post-alveolar [s], [z] before [ʃ] (complete regressive assimilation), e.g. *horse-shoe* ['hɔ:ʃu:], *this shop* [ðɪʃʃɔ:p], *does she* ['dʌʃi:].
3. The affricative [t + ʃ], [d + ʃ] combinations (incomplete regressive assimilation), e.g. *graduate* ['grædʒueɪt], *congratulate* [kən'grætʃuleɪt], *did you* ['dɪdʒu:], *could you* ['kʊdʒu:], *what do you say* ['wɒtʒu:'seɪ].

The **manner of articulation** is also changed as a result of assimilation, which includes:

1. Loss of plosion. In the sequence of two plosive consonants the former loses its plosion: *glad to see you, great trouble, and old clock* (partial regressive assimilations).
1. Nasal plosion. In the sequence of a plosive followed by a nasal sonorant the manner of articulation of the plosive sound and the work of the soft palate are involved, which results in the nasal character of plosion release: *sudden, nor now, at night, let me see* (partial regressive assimilations).
2. Lateral plosion. In the sequence of a plosive followed by the lateral sonorant [l] the noise production of the plosive stop is changed into that of the lateral stop: *settle, table, at last* (partial regressive assimilations). It is obvious that in each of the occasions one characteristic feature of the phoneme is lost.

The **voicing value** of a consonant may also change through assimilation. This type of assimilation affects the work of the vocal cords and the force of articulation. In particular voiced lenis sounds become voiceless fortis when followed by another voiceless sound, e.g.:

1. Fortis voiceless/lenis voiced type of assimilation is best manifested by the regressive assimilation in such words as *news paper* (*news* [z] + *paper*); *gooseberry* (*goose* [s] + *berry*). In casual informal speech voicing assimilation is often met, e.g. *have to do it* ['hæv tə'du:], *five past two* ['faɪf pɑst 'tu:]. The sounds which assimilate their voicing are usually, as the examples show, voiced lenis fricatives assimilated to the initial voiceless fortis consonant of the following word. Grammatical items, in particular, are most affected: [z] of *has, is, does* changes to [s], and [v] of *of, have* becomes [f], e.g.

She's five. Of course.

She has fine eyes. You've spoiled it. Does Pete like it?

2. The weak forms of the verbs *is* and *has* are also assimilated to the final voiceless fortis consonants of the preceding word thus the assimilation is functioning in the progressive direction, e.g.

Your aunt's coming.

What's your name? (partial progressive assimilation)

3. English sonorants [m, n, r, l, j, w] preceded by the fortis voiceless consonants [p, t, k, s] are partially devoiced, e.g. *smart, snake, tray, quick, twins, play, pride* (partial progressive assimilation).

Lip position may be affected by the accommodation, the interchange of consonant + vowel type. Labialisation of consonants is traced under the influence of the neighbouring back vowels (accommodation), e.g. *pool, moon, rude, soon, who, cool*, etc. It is possible to speak about the spread lip position of consonants followed or preceded by front vowels [i:], [i], e.g. *tea - beat; meet - team; feat - leaf; keep - leak; sit - miss* (accommodation).

The position of the soft palate is also involved in the accommodation. Slight nasalization as the result of prolonged lowering of the soft palate is sometimes traced in vowels under the influence of the neighbouring sonorants [m] and [n], e.g. *and, morning, men, come in* (accommodation).

Elision or complete loss of sounds, both vowels and consonants, is observed in the structure of English words. It is typical of rapid colloquial speech and marks the following sounds:

1. Loss of [h] in personal and possessive pronouns *he, his, her, him* and the forms of the auxiliary verb *have, has, had* is wide spread, e.g. *What has he done?* ['wɒt əz i dʌn].
1. [l] tends to be lost when preceded by [ɔ:], e.g. *always* ['ɔ:wɪz], *already* ['ɔ:redɪ], *all right* ['ɔ:'raɪt].

2. Alveolar plosives are often elided in case the cluster is followed by another consonant, e.g. *next day* ['neks 'dei], *just one* ['dʒʌs 'wʌn], *mashed potatoes* ['mæʃ pə'teitəuz]. If a vowel follows, the consonant remains, e.g. *first of all, passed in time*. Whole syllables may be elided in rapid speech: *library* ['laibri], *literary* ['litri].

Examples of historical elision are also known. They are initial consonants in *write, know, knight*, the medial consonant [t] in *fasten, listen, whistle, castle*.

While the elision is a very common process in connected speech, we also occasionally find sounds being inserted. When a word which ends in a vowel is followed by another word beginning with a vowel, the so-called intrusive "r" is sometimes pronounced between the vowels, e.g.

Asia and Africa ['ei ʃ ə r ə n d 'æfrɪkə]
the idea of it [ði:ai'diə r ə vit] *ma and pa* ['ma:r
 ə n d 'pa:]

The so-called linking "r," is a common example of insertion, e.g. *clearer, a teacher of English*.

When the word-final vowel is a diphthong which glides to [i] such as [ai], [ei] the palatal sonorant [j] tends to be inserted, e.g. *saying* ['seɪjɪn]; *trying* ['traɪjɪn].

In case of the [U]-gliding diphthongs [əu], [au] the bilabial sonorant [w] is sometimes inserted, e.g. *going* ['gəuwɪn], *allowing* [ə'ləuwɪn].

The process of inserting the sonorants [r], [j] or [w] may seem to contradict the tendency towards the economy of articulatory efforts. The explanation for it lies in the fact that it is apparently easier from the articulatory point of view to insert those sounds than to leave them out.

The insertion of a consonant-like sound, namely a sonorant, interrupts the sequence of two vowels (VV) to make it a more optional syllable type: consonant + vowel (CV). Thus, insertion occurs in connected speech in order to facilitate the process of articulation for the speaker, and not as a way of providing extra information for the listener.

The ability to produce English with an English-like pattern of stress and rhythm involves **stress-timing** (= the placement of stress only on selected syllables), which in turn requires speakers to take shortcuts in how they pronounce words. Natural sounding pronunciation in conversational English is achieved through blends, overlapping, reduction and omissions of sounds to accommodate its stress-timed rhythmic pattern, i.e. to squeeze syllables between stressed elements and facilitate their articulation so that the regular timing can be maintained.

Such processes are called **coarticulatory/adjustment phenomena** and they comprise:

1. change of consonant or vowel quality,
2. loss of consonant or vowels, and even
3. loss of entire syllables :

I must go [mɛssgəu] = vowel change and consonant loss *memory* ['memri] = vowel and syllable loss *did you* [dɪdʒə] = consonant blending and vowel change *actually* ['æk ʃ li] = consonant blending, vowel and syllable loss

Syllables or words which are articulated precisely are those high in information content, while those which are weakened, shortened, or dropped are predictable and can be guessed from the context.

Sound adjustments in connected speech can be summarized as follows:

Table 3

	Types of adjustments	Kinds of adjustments
1.	Adjustments related to C-C linking	1. Assimilations = modifications of a C under the influence of a neighboring C.
2.	Adjustments related to V-V, C-V, V-C linking	1. Liaison = connecting of the final sound of one word or syllable to the initial sound of the next. 2. Accommodation (adaptation) = modifications of C under the influence of the adjacent V or vice versa: e.g. <i>two</i> = labialized [t] under the influence of the rounded [u]; <i>let</i> = more open [e] after [l]. 3. Glottal stop / hard attack

3.	Adjustments related to sound deletion / insertion	<ol style="list-style-type: none"> Elisions (elipsis or omission) = deletion of a sound in rapid or careless speech. Epenthesis = inserting of a V or C segment within an existing string of segments. Smoothing = a diphthong optionally loses its second element before another vowel, or it is monophthongized: E.g.: <i>fire</i> ['faɪə -'faə - 'fa:].
4.	Adjustments on the syllable level	Compression when two syllables, usually both weak, optionally become one. Applies only to [i], [u], syllabic consonants: [i] becomes like [j], e.g. <i>lenient</i> ['li:niənt] - ['li:njənt], etc.
5.	Weakening	Weakforms are alternate forms of words so reduced in their articulation that they consist of a different set of phonemes. Weakforms differ from strongforms by containing a weak vowel resultant from reduction or by elision of one or more of its phonemes, e.g. <i>can</i> [kən], [kn]

Adjustments related to C-C linking

Assimilation. During assimilation a given C (*the assimilating C*) takes on the characteristics of a neighboring C (*the conditioning C*). This is often misunderstood as 'lazy' or 'sloppy' speech, since the organs of speech involved appear to be taking the path of least resistance. However, assimilation is a universal feature of spoken language. In English it occurs frequently, both within words and between words.

Several **types of assimilation** can be recognized.

1. According to **the degree** the assimilating C takes on the characteristics of the neighbouring C, assimilation may be **1) partial** or **2) total**.

In the phrase *ten bikes*, the normal form in colloquial speech would be [tem baɪks], not [ten baɪks] which would sound somewhat 'careful'. In this case, the assimilation has been **partial**: the [n] has fallen under the influence of the following [b] and has adopted its bilabiality, becoming [m]. It has not, however adopted its plosiveness. The phrase [teb baɪks] would be likely if one had a severe cold!

The assimilation is **total** in *ten mice* [tem maɪs], where the [n] is now identical with [m].

1. A further classification is in terms of **the direction** in which the assimilation works. There are three possibilities:

2.1. **Regressive** (or **anticipatory**) assimilation: the sound changes due to the influence of the following sound, e.g. *ten bikes*. This is particularly common in English in alveolar consonants in word-final position. Another example of regressive assimilation is reflected in the English spelling system – namely in the four variants of the negative suffix **in-** which occurs in all the cases except when the subsequent sound is a bilabial or a liquid [l] or [r]:

Table 4

<i>in-</i>	<i>im-</i>	<i>il-</i>	<i>ir-</i>
<i>indifferent</i>	<i>impossible</i>	<i>illogical</i>	<i>irregular</i>
<i>inexcusable</i>	<i>imbalanced</i>	<i>illegal</i>	<i>irrelevant</i>
<i>inflexible</i>	<i>immeasurable</i>	<i>illegible</i>	<i>irresponsible</i>

In rapid native speaker speech, sequences of *sibilants* having the form

[s] or [z] + [j] are particularly susceptible to this type of regressive assimilation: [s] + [j] = [ʃ], e.g. *horseshoe*, *one's shadow*, *his shirt* [z] + [j] = [ʒ], e.g. *hosier*.

With a stop C, a final /t/ or /d/ may assimilate to a following initial [p], [k], or [b], [g] respectively, i.e. the place of articulation changes but the voiced or voiceless quality of the segment remains constant:

Table 5

<i>good boy</i>	<i>good girl</i>	<i>at peace</i>	<i>pet kitten</i>
[b:]	[g:]	[p:]	[k:]

A final nasal C, especially /n/, may also adjust the place of articulation according to that of a following conditioning C:

He is in pain.

They 're in Korea.

It rains in May. *Be on guard!*
[m] [n]

Change in place of articulation or in voicing are the most common types of regressive assimilation in English.

There are, however, also some cases of regressive assimilation with a change in manner of articulation. These tend to occur in informal speech, e.g.

Could you give me a call? Let me do that for you.
[m:] [m:]

2.2. Progressive (perseverative) assimilation: the C changes because of the influence of the preceding C, e.g. *lunch score* articulated with [s] becoming [ʃ] under the influence of [tʃ]. But these assimilations are less common in English. They occur in some contractions, e.g. *it's, that's*.

2.3. Coalescent (reciprocal) assimilation (асиміляція зрощення) is a type of reciprocal assimilation: the first C and the second C in a cluster fuse and mutually condition the creation of a third C with features from both original Cs.

This assimilation occurs most frequently when final alveolar Cs [t], [d] are followed by initial palatal [j]. Then they become *affricates* [tʃ], [dʒ], and this assimilation is called **affricatization**. Final alveolar Cs [s], [z] before [j] can become palatalized fricatives or *sibilants* [ʃ] and [ʒ] respectively (the assimilation is then called **assibilation**), e.g.:

t + j = [tʃ] *Is that your dog?, virtue, statue* d + j = [dʒ] *Would you mind moving? education, during* s + j = [ʃ] *issue, He is coming this year.* z + j = [ʒ] *Does your mother know?*

The amount of assimilation that occurs in native speaker pronunciation will depend on the formality of the situation, the rate of speech, and the style of the speaker.

Adjustments related to C-V, V-C linking

The ability to speak English SMOOTHLY, to utter words or syllables that are appropriately connected entails the use of LINKING (or LIAISON) which is the connecting of the final sound of one word or syllable to the initial sound of the next. The amount of linking that occurs in native-speaker speech will depend on a number of factors, such as the informality of the situation, the rate of speaking, and of course the individual speech Profile (or idiolect) of the speaker. Thus, the amount of linking that occurs is not entirely Predictable. However this phenomenon occurs with regularity in the following environments:

1. **Linking r.** In BrE (RP), and other non-rhotic accents, a word said in isolation never ends in [r]. Nevertheless, in connected speech an [r] may be pronounced in some cases if the next word begins with a vowel sound. This typically happens with a word (syllable) that ends in one of the vowels, when the following word (syllable) begins with a vowel sound.

far [fa:], [fa:r]. In isolation, or before a consonant sound, this word is, in RP, pronounced [fa:]. **But** in a phrase such *us far away, far out* it is usually pronounced [fa:r]. In GenAm it is always [fa:r], whatever the environment it occurs in.

near [niə]. In isolation, the RP form is [niə]. But in a phrase such as *near enough* it is usually pronounced [niər].

Usually, as in the cases just mentioned, the spelling includes r. The inserted r- sound is then known as **linking r**. It corresponds to a historical [r], now lost before a consonant or pause.

In RP, however, as in other non-rhotic accents (some of New England accents and in New York City) speakers tend to add an intrusive [r] to **V+V sequence** even when there is no r in the spelling of the preceding word. This is called **intrusive r** which does not correspond to historical r, e.g.

comma ['kɒmə], ['ka:mə]. In isolation, the RP form is ['kɒmə]. But in a phrase such *put a comma in*, it is often pronounced ['kɒməɹ]. In GenAm it is always ['ka:məɹ], whatever the environment.

thaw [θɔ:], [θa:]. In isolation, RP *thaw* is [θɔ:]. In the phrase *thaw out*, intrusive r may be added. Some more examples of intrusive r: *vanilla[r] ice cream, media[r]event, formula[r] A, the idea[r] of it, Asia[r] and Africa.*

Linking and **intrusive r** are special cases of juncture; this name refers to the relationship between one sound and the sounds that immediately precede or follow it, and has been given some importance in phonological theory. If we take the two words *my turn* [mai tɜ:n], the relationship between [m] and [ai], between [t] and [ɜ:] and between [ɜ:] and [n] is said to be one of **close juncture**, [m] is preceded by silence and [n] is followed by silence, and so [m] and [n] are said to be in a position of **external open juncture**. The problem lies in deciding what the relationship is between [ai] and [t]; since we do not usually pause between the words, there is no silence (or external open juncture) to indicate word division. But if English speakers can usually recognize it as *my turn*

[maɪ tʃ:n] and not *might earn* [maɪt ʒ:n]. This is where the problem of internal open juncture (usually just called *juncture* for short) becomes apparent.

What is that makes perceptible the difference between [maɪ tʃ:n] and [maɪt ʒ:n]? The answer is that in the one case the [t] is aspirated (initial in *turn*), and in the other case [t] is not (being final in *might*). In addition to this, [aɪ] is shorter in *might*. Of course, the context in which such words occur almost always makes it clear where the boundary comes, and the juncture information is often redundant. More examples:

all that I'm after today – *all the time after today*
kid's skin – *kids kin he lies* – *heal*
eyes
keep sticking – *keeps ticking*

2. When a word or syllable ending in a single C is followed by a word or syllable beginning with a V, the C is often produced intervocally as if it belonged to both syllables: *black and gray*, *Macintosh apple*, *dog eat dog*.

2. When a word or syllable terminating a consonant cluster is followed by a word or syllable commencing with a vowel, the final consonant of the cluster is often pronounced as part of the following syllable. This phenomenon is sometimes referred to as resyllabification:

lef/t arm, *fin/d out*, *push/ed up*, *adap/table*

NOTE that resyllabification does not result in any aspiration of voiceless stops.

3. When two identical consonants come together as a result of the juxtaposition of two words, there is one single, elongated articulation of the consonant (i.e. native speakers do not produce the consonant sound twice):

Table 6

Examples	Elongated consonant
<i>stop pushing</i>	[p:]
<i>bad dog</i>	[d:]
<i>short time</i>	[t:]
<i>big gap</i>	[g:]
<i>quick cure</i>	[k:]
<i>less serious</i>	[s:]

4. **A glottal stop**, symbolized [ʔ], is a plosive made at the glottis by the vocal folds. It has several different functions in English.

(i) It is optionally used as a way of adding emphasis to a syllable that begins with a vowel sound.

(ii) It is optionally used to separate adjacent vowel sounds in successive syllables. In BrE this can be a way of avoiding r, as in one pronunciation of *underexpose* [ˌʌndəɪk'spəʊz] – [-əʔɪk-].

(iii) It forms an essential part of certain interjections, e.g. AmE *uh-uh*. In these uses ? does not represent any phoneme of the language.

(iv) It may be used as an allophone of the phoneme [t] in certain positions. This is known as "**glottalling**", or "**glottal replacement**". This use of ? is condemned by many speakers. Nevertheless, it is increasingly heard, especially in BrE. Note, however, that ? is found as an allophone of [t] ONLY:

– at the end of a syllable,

– when the preceding sound is a sonorant (= vowel, diphthong, liquid, or nasal).

In both BrE and AmE, it is widely used where the following syllable begins with a nasal:

atmospheric [ˌætməʃ'ferɪk] – [ˌæʔməʃ-], *button* [ˈbʌtən] – [ˈbʌʔn]

In BrE, it is often used in informal speech at the end of a word, (a) where that word is at the end of a sentence, OR (b) where the following word begins with a consonant.

What's that ? [wɔʔs'ðæʔ], *quite wrong* [ˌkwɑɪt'rɔŋ]

It is sometimes used, especially in BrE, to strengthen [p], [t], [ʃ], [tr], [k] at the end of a syllable, when followed (in the case of p, t, k) by a consonant in the next syllable. (This known as *glottal reinforcement*). There may be a resyllabification:

accurate [ˈækjʊrət] – [ˈækʔkjʊrət], *teaching* ['ti: tʃɪŋ] – ['ti:ʔ tʃɪŋ].

Adjustments related to sound deletion / insertion

ELISION (ELLIPSIS, OMISSION, DELETION) is the process of deleting or not nearly articulating of sounds in certain contexts. It is not random, but follows certain rules, which differ from one language to another. In some cases, the spelling system of English is sensitive to this phenomenon, representing deletion in the contracted forms of auxiliary verbs plus NOT (e.g. *isn't*, *mustn't*). In other cases, however, omission occurs without any acknowledgement in the spelling system. Even many native speakers may be unaware of where deletion occurs. The process is pervasive.

1. Some types of **elision** typically occur within a single syllable and therefore within word. In English they include:

- the elision of [t] in [ntʃ] and of [d] in [ndʒ]. Thus *lunch* [lʌntʃ] may be pronounced [lʌntʃ] or, less commonly, [lʌnʃ]; *strange* [streɪndʒ]; may be [streɪndʒ] or, less commonly, [streɪnʒ].
- loss of [t] when [nt] is between two vowels or before a syllabic [l]: *winter*, *Toronto*, *mantle*
- loss of /t/ or /d/ when they occur in a sequence or cluster of three consonants:

[t] *restless*, *listless*, *exactly*

[d] *windmill*, *kindness*, *hands*

• the elision of [p] in [mps], [mpt], of [t] in [nts], and of [k] in [nks], [nkt]. Thus *jumped* [dʒʌmpt] may be pronounced [dʒʌmpt] or, less commonly, [dʒʌmt], *lynx* [lɪnks] may be [lɪnks] or, less commonly, [lɪns].

2. Other types of elision occur only at syllable boundaries. This applies both within words and between words. They include the elision of [t] and [d] when surrounded by other consonants, and the elision of [ə] before a liquid.

• Elision of [t] or [d] is usually possible when it is preceded by one of certain consonants at the end of a syllable, if the next syllable (or word) starts with a consonant, under these conditions:

[t] may be elided in [ft], [st], and less commonly in pt, kt, tSt, θt, St

[d] may be elided in [ld], [nd], and less commonly in [bd], [gd], [dʒd], [vd], [ðd], [td], [md].

Additionally, [t] is sometimes elided in the contracted negative *-n't* no matter what kind of sound follows.

For example, *next* [nekst] in isolation or before a vowel sound is pronounced [nekst], but in a phrase, such as *next thing*, *next question*, it is often pronounced [neks], with elision of the [t].

stand [stænd] in isolation, or before a vowel sound, is pronounced [stænd], but in a phrase such as *stand clear*, *stand firm* it is often pronounced [staən], with elision of the [d].

When *didn't* [dɪdnt] is followed by another word in a phrase, it is sometimes pronounced [dɪdn], with elision of the [t].

• Elision of [ə] is often (though not always) possible when it is followed by a *liquid* (= [l] or [r]) and then a *weak vowel*. This has the effect of making the liquid *syllabic*, unless *compression* also occurs (in which case all trace of the [ə] disappears).

camera: the full form is ['kæməərə]. When [ə] is elided, in the first instance it makes the [r] syllabic: ['kæmrə]. This is usually compressed to 'give camera' ['kæmrə]. All three possibilities occur.

In **casual speech** [ə] is also sometimes elided in the first syllable of a word in which the second syllable is stressed and begins with a liquid. The initial syllable then undergoes compression. Thus *terrific* [tə'rɪfɪk] sometimes becomes [t'rɪfɪk], or *collide* [kə'lɑɪd] – [k'lɑɪd]. They belong only in *casual style of pronunciation*.

Sometimes a pronunciation that was originally the result of elision has become the only possibility for some speakers. Some people have ['kæmrə] as the only pronunciation for *camera*, or [plɪ:s] as the only form for *police*. For many English people it would feel very artificial to pronounce a [t] in *postman* ['pəʊsmən].

Table 7

DELETION	NO DELETION
Deletion of the word-final [t] or [d] occurs in clusters of two consonants at a word boundary when the following word begins with a consonant: <i>Eas(t) side blin(d) man wil(d) boar</i>	However, when the following word begins with a vowel, there is no deletion. Instead resyllabification occurs: <i>Eas/t end blin/d eye wil/d ass</i>

Loss of the final [v] in *OF* (i.e. reduction to schwa) before words with initial consonants: *lots of money*, *waste of time*, *hearts of palm*.

Loss of initial /h/ and [ð] in pronomial forms in connected speech: *ask her*, *help him*, *tell them*

Smoothing. A diphthong optionally loses its second element before another vowel:

[ai], [au] become [a] *try again* [tra ə'geɪn], *how about* [ha ə'baut]

[ei] becomes [e] *stay around* [ste ə'raʊnd]

[əu] becomes [ə] *going* [gəɪn]

Adjustments on the syllable level

Compression. Sometimes a sequence of sounds in English has two possible pronunciations: either as two separate syllables, or compressed into a single syllable, e.g. the word *lenient* ['li:nɪənt] two pronunciations are possible: a slower one ['li:nɪənt], and a faster one ['li:njənt] [Wells 1995:152].

Diagram ['daɪəgræm] – two pronunciations are possible: a slower one ['daɪəgræm], and a faster one ['dægræm].

Generally the uncompressed version is more usual [Wells 1995:152-153]:

- in rarer words
- in slow or deliberate speech the first time the word occurs in a discourse. The compressed pronunciation is more usual:
- in frequently-used words in fast or casual speech if the word has already been used in the discourse.

NOTE: These compressions are commonly used in RP but not in GenAm.

Weakening/Reduction

In some circumstances a strong vowel becomes weak:

- **in related words:** *anatomic* [æ'nætə'mɪk] – *anatomy* [ə'nætə'mi];
- **in affixes:** *president* ['prezɪdənt] – *preside* [pri'zaid]; • **variant pronunciations:** *Monday* ['mʌndeɪ] – ['mʌndi];
- **in function words:** *from* [frɒm] – [frəm].

Weakform words are alternate forms of words so reduced in their articulation that they consist of a different set of phonemes. There are vast numbers of such words in English but there are only forty-odd which have variants which cannot be considered as optional. These are of vital importance to the user of English as a foreign language because they are the words which principally operate in its grammatical structure. Such weakform words with stylistically distinctive variants can in one or the other of their forms seriously effect the style or meaning of an expression.

The essential importance of weakforms lies in the fact that their use, which is universal for all forms of mother tongue English worldwide, makes a very large contribution to the characteristic rhythm of English. Failure to use them, which is so common among EFL speakers, can result in bizarrely abnormal effects even if every single other feature is completely idiomatic. Such for example would be the speaking with no use of weakforms in all of the following sentences:

*The speaker asked for [fə] questions. VS. The speaker asked **four** [fɔ:] questions.*

He is going to [tu:] fast instead of [tə] VS. He is going too [tu:] fast.

Which flight are you taking? – The five to [tə] six (5.55) VS. The five-two [tu:] –six (5.26).

EFL users undoubtedly find great difficulty in attempting to approximate to the native Speaker's usage in this area and reproduce the only natural fluent pronunciations of such very simple sentences as the following:

The ice has melted. I shall have finished soon. That will do.

When am I expected? What have we got? How long has he had it?

Most often the weakform differs from the **strongform** by containing a weak vowel resultant from reduction or by elision of one or more of its phonemes.

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Questions

1. How many aspects of speech sounds can be differentiated? Explain the essence of each aspect?
 1. Define the phoneme.
 2. What is an allophone?
 3. What are the three aspects of a phoneme?
 4. What allophones are called principal / subsidiary?
 5. Define the invariant of the phoneme.
 6. What is the difference between distinctive and non-distinctive articulatory features?
 7. What types of transcription do you know?
 8. What are the main trends in phoneme theory?
 9. Enumerate the methods of phonological analysis.
 10. How is a speech sound iproduced?
 11. What does the articulation of a sound consist of ?
 12. What is an **articulatory classification** of speech sounds?
 13. According to what are speech sounds divided into vowels and consonants?
 14. What differences are there between V and C?
 15. Explain the essence of
 - a. **articulatory differences** between V and C
 - b. **acoustic differences** between V and C
 - c. **functional differences** between V and C.
 2. Classify English RP consonants. What principles of classification do you know?
 3. According to what can English consonants be modified?
 4. What is connected speech and what is its significance?
 5. What does the ability to produce English with an English-like pattern of stress and rhythm involve?
 6. What are coarticulatory / adjustment phenomena? Give examples.
 7. What syllables are typically articulated precisely and what are weakened, shortened, or dropped in connected speech?
 8. Speak on the typology of sound adjustments in connected speech:

	Types of adjustments	Kinds of adjustments
1.	Adjustments related to C-C linking	1. Assimilations
2.	Adjustments related to V-V, C-V, V-C linking	1. Liaison 1. Accommodation (adaptation) 2. Glottal stop/hard attack
3.	Adjustments related to sound deletion/ insertion	1. Elisions (ellipsis or omission) 1. Epenthesis 2. Smoothing
4.	Adjustments on the syllable level	1. Compression
5.	Weakening	1. Weakforms

Practical task

1. Make a glossary of the main notions and give their definitions.
1. Study articulatory features of RP consonants:

RP Consonant Phonemes /Cph: 24	
[p]	a labial, bilabial, occlusive, plosive, voiceless, fortis consonant phoneme (=Cph)

[b]	a labial, bilabial, occlusive, plosive, voiced, lenis Cph
[t]	a lingual, forelingual, alveolar, occlusive, plosive, voiceless, fortis Cph
[d]	a lingual, forelingual, alveolar, occlusive, plosive, voiced, lenis Cph
[k]	a lingual, backlingual, occlusive, plosive, voiceless, fortis Cph
[g]	a lingual, backlingual, occlusive, plosive, voiced, lenis Cph
[f]	a labial, labio-dental, constrictive, fricative, voiceless, fortis Cph
[v]	a labial, labio-dental, constrictive, fricative, voiced, lenis C ph
[θ]	a foreligual, interdental, constrictive, fricative , voiceless, fortis Cph
[ð]	a foreligual, interdental, constrictive, fricative , voiced, lenis Cph
[s]	a forelingual, alveolar, constrictive, fricative, voiceless, fortis Cph
[z]	a forelingual, alveolar, constrictive, fricative, voiced, lenis Cph
[ʃ]	a foreligual, palato-alveolar, constrictive, fricative, voiceless, fortis Cph
[ʒ]	a foreligual, palato-alveolar, constrictive, fricative, voiced, lenis Cph
[h]	a glottal, constrictive, fricative, voiceless, fortis Cph
[tʃ]	a voiceless affricate
[dʒ]	a voiced affricate
[m]	a bilabial, occlusive, plosive nasal sonant (S)
[n]	an alveolar-apical, occlusive, plosive nasal S
[ŋ]	a backlingual, velar, occlusive, plosive nasal S
[l]	an alveolar-apical, constrictive, fricative, lateral S
[w]	a bilabial, constrictive, fricative, medial S
[r]	a post-alveolar, constrictive, fricative, medial S
[j]	a medio-lingual, palatal, constrictive, fricative S

- Fill in the following table featuring the articulatory classification of the English RP consonants:
- Identify the phonetic process in each word or word combination and fill them in into the appropriate section:

Spar owners, a pair of shoes, left arm, stop pushing, it's, his shirt, It rains in May, He's coming this year, exactly, history, correct, 'cause, lots of money, reference, are, kindness, Is that your dog?, miserable, favourite, Let me do that for you, Does your mother know?, far away, police, 'bout, tell them, ask her, quick cure, vanilla ice-cream, find out, suppose, Would you mind moving?, waste of time, we, 'round, Be on guard, must

Active organ, place of obstruction Type of obstruction A manner of the production of noise		Labial		Lingual					Pharyngeal
				Forelingual			Medio-lingual	Back-lingual	
		bilabial	labio-dental	inter-dental	alveolar	post-alveolar	palato-alveolar	palatal	velar
Occlusives	plosives								
	nasal sonants								
Constrictives	fricatives								
	sonants								
Affricates									

Connected speech adjustment phenomena	Examples
1. Linking r	
2. Intrusive r	
3. Resyllabification	

4. Elongated articulation of the consonant	
5. Progressive (perseverative) assimilation	
6. Regressive(anticipatory) assimilation	
7. Coalescent (reciprocal) assimilation	
8. Syncope	
9. Aphesis	
10. Epenthesis	
11. Deletion (elision = ellipsis)	
12. Reduction	

Test

Answer the following questions using one-word/phrase answers:

№	Question	Answer
1	How many aspects of speech sounds are distinguished?	
2	How many major types can speech sounds be subdivided into according to the specific character of the work of the speech organs?	
3	[r], [w], [j] are termed ...	
4	Sounds in the production of which the soft palate is lowered, and the air escapes through the nose are called ...	
5	A labial, labio-dental, constrictive, fricative, voiceless, fortis consonant phoneme	

6	An alveolar-apical, constrictive, fricative, lateral sonant	
7	A glottal, constrictive, fricative, fortis consonant phoneme	
8	A post-alveolar, constrictive, fricative, medial sonant	
9	A forelingual, palato-alveolar, constrictive, fricative, voiced, lenis consonant phoneme	
10	A lingual, backlingual, velar, occlusive, plosive nasal sonant	
11	A labial, bilabial, constrictive, fricative, medial sonant	
12	A lingual, backlingual, occlusive, plosive, voiceless, fortis consonant phoneme	
13	A lingual, forelingual, post-alveolar, constrictive, fricative, medial sonant	
14	A forelingual, interdental, constrictive, fricative, voiceless, fortis consonant phoneme	
15	A voiceless affricate	
16	How many consonant phonemes are there in RP?	
17	The founder of the phoneme theory is ...	
18	Features of phonemes involved in the differentiation of the words are called ...	
19	Allophones that are free from the influence of the neighbouring sounds and are most representative of the phoneme as a whole are called ...	
20	Allophones which appear as a result of the influence of the neighbouring speech sounds (assimilation, adaptation, accommodation) are called ...	

21	What is the principal function of the phoneme?	
22	The articulatory features which do not serve to distinguish meaning are called ...	
23	The phonemes of a language form a system of ...	
24	The ability to produce English with an English-like pattern of stress and rhythm involves ...	
25	Modifications of a consonant under the influence of a neighbouring consonant are termed ...	
26	A deletion of a sound in rapid or careless speech is termed ...	
27	Connecting of the final sound of one word or syllable to the initial sound of the next one is called ...	
28	Modifications of a consonant under the influence of the adjacent vowel or vice versa are called ...	
29	Inserting of a vowel or consonant segment within an existing string of segments is called ...	
30	The process when two syllables, usually both weak, optionally become one is called ...	
31	According to the degree the assimilating C takes on the characteristics of the neighbouring C, assimilation may be ...	
32	What are the most common types of assimilation in English?	
33	What type of assimilation occurs in the contractions <i>it's</i> , <i>that's</i>	
34	What is the name of assimilation in which the first consonant and the second consonant in a cluster fuse and mutually condition the creation of a third consonant with features from both original consonants?	
35	Give an example of affricatization.	
36	Linking and intrusive r are special cases of ...	
37	Define the type of assimilation in <i>ten mice</i> [tem mais]	
38	"Glottalizing" may be used as an allophone of the phoneme ...	
39	Name the phenomenon occurring in the pronunciation of <i>button</i> [ˈbʌtʃn] – [ˈbʌʔn]	
40	Name the phenomenon occurring in the pronunciation of <i>camera</i> [ˈkæməɹə] – [ˈkæmrə]	

Lecture 4 VOWELS AND THEIR MODIFICATIONS

Plan

1. General characteristics of vowels.
1. Modifications of vowels in connected speech.
2. Sound alternations.
3. Stylistic modifications of sounds.

1. General Characteristics of Vowels

The quality of a vowel is known to be determined by the size, volume, and shape of the mouth resonator, which are modified by the movement of active speech organs, that is the tongue and the lips. Besides, the particular quality of a vowel can depend on a lot of other articulatory characteristics, such as the relative stability of the tongue, the position of the lips, physical duration of the segment, the force of articulation, the degree of tenseness of speech organs. So vowel quality could be thought of as a bundle of definite articulatory characteristics which are sometimes intricately interconnected and interdependent. For example, the back position of the tongue causes the lip rounding, the front position of the tongue makes it rise higher in the mouth cavity, the lengthening of a vowel makes the organs of speech tenser at the moment of production and so on.

The analysis of the articulatory constituents of the quality of vowels allowed phoneticians to suggest the criteria which are conceived to be of great importance in classificatory description. First to be concerned here are the following criteria termed:

1. stability of articulation;
2. tongue position;
3. lip position;
4. character of the vowel end;
5. length; 6. tenseness.

Stability of articulation specifies the actual position of the articulating organ in the process of the articulation of a vowel. There are two possible varieties: a) the tongue position is stable; b) it changes, that is the tongue moves from one position to another. In the first case the articulated vowel is relatively pure, in the second case a vowel consists of two clearly perceptible elements. There exists in addition a third variety, an intermediate case, when the change in the tongue position is fairly weak. So according to this principle the English vowels are subdivided into:

1. monophthongs,
2. diphthongs, 3. diphthongoids.

This interpretation is not shared by British phoneticians. A.C. Gimson, for example, distinguishes twenty vocalic phonemes which are made of vowels and vowel glides. Seven of them are treated as short phonemes: [i], [e], [æ], [ɒ], [u], [ʌ], [ə] and thirteen as long ones: [a:], [ɔ:], [ɜ:], [i:], [u:], [ei], [ɜu], [ai], [au], [ɒu], [iə], [eə], [uə] five of which are considered relatively pure: [a:], [ɔ:], [ɜ:], [i:], [u:]; the rest are referred to long phonemes with different glides: [ei], [ai], [ɒi] with a glide to [i]; [ɜu], [au] with a glide to [u]; and [iə], [eə], [uə] with a glide to [ə].

Diphthongs are complex entities just like affricates, so essentially similar complications are known to exist with them. The question is whether they are monophonemic or biphonemic units. Scholars like V.A. Vasilyev and L.R. Zinger grant the English diphthongs monophonemic status on the basis of articulatory, morphological and syllabic indivisibility as well as the criteria of duration and commutability.

As to articulatory indivisibility of the diphthongs it could be proved by the fact that neither morpheme nor syllable boundary that separate the nucleus and the glide can pass within it, for example: ['sei-in] *saying*, ['krai-in] *crying*, [in-'dʒɔ-in] *enjoying*, ['slɜ-u-ə] *slower*, ['plɜ-u-in] *ploughing*, ['kliə-rə] *clearer*, ['eə-rin] *airing*, ['puə-rə] *poorer*. The present study of the duration of diphthongs shows that the length of diphthongs is the same as that that characterizes the English long monophthongs in the same phonetic context, cf. [sait – si:t], [kɔut – kɔ:t]. Finally the application of commutation test proves the monophonemic status of diphthongs because any diphthong could be commutated with practically any vowel. It could be exemplified in the following oppositions:

[bait — bit] *bite – bit*
 [bait—bʌt] *bite – but*
 [bait — bɔ:t] *bite – bought* and so on.

Monophonemic character of English diphthongs is proved by native speakers' intuition, who perceive these sound complexes as a single segment.

Another principle we should consider from phonological point of view is **the position of the tongue**. For the sake of convenience the position of the tongue in the mouth cavity is characterized from two aspects, that is the horizontal and vertical movement.

According to the horizontal movement Ukrainian and Russian phoneticians distinguish five classes of English vowels. They are:

1. front: [i:], [e], [ei], [æ], [ɛ(ə)];
1. front-retracted: [ɪ], [ɪ(ə)];
2. central: [ʌ] [ɜ:] [ə], [ɜ(u)], [ɛ(ə)];
3. back [ɔ], [ɔ:], [u:], [a:];
4. back-advanced: [u], [u(ə)].

British phoneticians do not single out the classes of front-retracted and backadvanced vowels. So both [i:] and [ɪ] vowels are classed as front, and both [u:] and [u] vowels are classed as back.

As to the tongue position in its vertical movement British scholars distinguish three classes of vowels: high (or close), mid (or half-open), and low (or open) vowels. Ukrainian and Russian phoneticians made the classification more detailed distinguishing two subclasses in each class, i.e. broad and narrow variations of the three vertical positions of the tongue. Thus the following six groups of vowels are distinguished:

1. close a) narrow: [i:] [u:];
 b) broad: [ɪ], [u], [ɪ(ə)], [u(ə)];
2. mid a) narrow: [e], [ɜ:], [ə], [ɛ(i)], [ɜ(u)];
 b) broad: [ə], [ʌ];
3. open a) narrow: [ɛ(ə)], [ɔ:], [ɔ (i)];

b) broad: [æ], [a(i, u)], [ɔ], [ɑ:]

Another feature of English vowels which is sometimes included into the principles of classification is **lip rounding**. Traditionally three lip positions are distinguished, that is spread, neutral and rounded. For the purpose of classification it is sufficient to distinguish between two lip positions: rounded and unrounded, or neutral. The fact is that any back vowel in English is produced with rounded lips, the degree of rounding is different and depends on the height of the raised part of the tongue; the higher it is raised the more rounded the lips are. So lip rounding is a phoneme constitutive indispensable feature, because no back vowel can exist without it.

Another property of English vowel sounds – **checkness** depends on the character of the articulatory transition from a vowel to a consonant. This kind of transition (VC) is very close in English unlike Ukrainian. As a result all English short vowels are checked when stressed. The degree of checkness may vary and depends on the following consonant. Before fortis voiceless consonant it is more perceptible than before a lenis voiced consonant or sonorant. All long vowels are free.

The English monophthongs are traditionally divided into two varieties according to their length:

a) short vowels: [ɪ], [e], [æ], [ɒ], [ʊ], [ʌ], [ə];

a) long vowels: [i:], [a:], [ɔ:], [ɜ:], [u:].

A vowel like any sound has physical duration – time which is required for its production (articulation). When sounds are used in connected speech they cannot help being influenced by one another. Duration is one of the characteristics of a vowel which is modified by and depends on the following factors:

1. its own length,
2. the accent of the syllable in which it occurs,
3. phonetic context,
4. the position of the sound in a syllable,
5. the position in a rhythmic structure,
6. the position in a tone group,
7. the position in a phrase,
8. the position in an utterance,
9. the tempo of the whole utterance,
10. the type of pronunciation, 11. the style of pronunciation.

The problem the analysts are concerned with is whether variations in quantity or length are meaningful (relevant), that is whether vowel length can be treated as a relevant feature of English vowel system.

Different scholars attach varying significance to vowel quantity.

The approach of D. Jones, an outstanding British phonetician, extends the principle, underlying phonological relevance of vowel quantity. That means that words in such pairs as [bid] – [bi:d], [sit] – [si:t], [ful] – [fu:d], [ˈfɔ:wə:d] (*foreword*) – [ˈfɔ:wəd] (*forward*) are distinguished from one another by the opposition of different length, which D. Jones calls chronemes. The difference in quantity is considered to be decisive and the difference in quality (the position of the active organ of speech) is considered to be subordinate to the difference in quantity. According to the point of view of V.A. Vassilyev, English is not a language in which chronemes as separate prosodic phonological units can exist (1970: 204).

One more articulatory characteristic needs our attention. That is **tenseness**. It characterizes the state of the organs of speech at the moment of production of a vowel. Special instrumental analysis shows that historically long vowels are tense while historically short vowels are lax.

Summarizing we could say that phonological analysis of articulatory features of English vowels allows to consider functionally relevant the following two characteristics: a) stability of articulation,

b) tongue position.

The rest of the features mentioned above, that is lip position, character of vowel end, length, and tenseness are indispensable constituents of vowel quality. Though they have no phonological value they are considerably important in teaching English phonetics.

It is well-known that a vowel in an unstressed syllable is perceived as very short, weak, and indistinct. The unstressed syllables are usually associated with vowels of central or centralized quality [ə], [ɪ], sometimes [ʊ] and the diphthongs [ɜu], [aɪ] (or a syllabic consonant), e.g. *among* [əˈm ʌn], *before* [biˈfɔ:], *useful* [ˈju:sfʊl], *tomato* [təˈmɑ:təʊ], *exercise* [ˈeksəsaɪz], *sudden* [ˈs ʌdn].

Also vowels of full quality sometimes occur in unstressed positions, often in borrowed words of Latin and Greek origin, e.g. *architect* [ˈɑ:kutekt], *paragraph* [ˈpærəgrɑ:f], *canteen* [kaenˈti:n].

These nonreduced vowels in unstressed syllables are typical of all styles of pronunciation.

Then again partially reduced sounds are found in unstressed positions. They appear in more formal and careful style of pronunciation instead of the neutral sound used in informal casual speech. Cf.: *phonetics* [fəʊˈnetiks – fɜːˈnetiks – fəˈnetiks].

Our next point should be made in connection with the **phone mic status of the neutral sound** [ə].

The phonological analysis marks the opposition of the neutral sound to other unstressed vowels, the most common among them being [ɪ]. In the minimal pairs: *officers* [ˈɒ flɪsəz] – *offices* [ˈɒ fisɪz]; *accept* [əkˈsept] – *except* [ɪkˈsept], *armour* [ˈɑ:mə] – *army* [ˈɑ:mi] the neutral sound is phonologically

opposed to the phoneme [i] with its own distinctive features capable of differentiating the meaning of lexical units. So the neutral sound [ə] in *officers, accept, armour* is an independent phoneme opposed to the [i] phoneme of the minimal pairs given above.

On the other hand, the problem of the phonemic status of the neutral sound has a morphological aspect. In English as well as in Ukrainian there are numerous alternations of vowels in stressed and unstressed syllables between the derivatives of the same root or different grammatical forms of the same word. Cf.:

- [æ] – [ə] man – sportsman
- [ʌ] – [ə] some – wholesome
- [ɪ] – [ə] combine n – combine v
- [ei] – [ə] operation – operative
- [ʒu] – [ə] post – postpone

The alternated sounds are allophones of one and the same phoneme as they are derivatives of the same lexical units, the same morphemes. Thus the neutral sounds in the examples above are the neutralized allophones of the nonreduced vowels of full formation; so [ə] in *sportsman* is an allophone of the [æ] phoneme as in *man*; [ə] in *photography* is an allophone of the [ʒu] phoneme as in *photograph*.

To exemplify the above-mentioned principles of classification, the RP vocalic system can be presented in the following way:

Table 8

1. Stability of articulation		Monophthongs – 12				Diphthongs – 8
2. Length of articulation		Long – i:, u:, ɑ:, ɔ:, ɜ:		Short – ɪ, e, æ, ɒ, ʌ, ʊ, ə		
3. Degree of muscular tension		Tense – i:, u:, ɑ:, ɔ:, ɜ:		Lax – ɪ, e, æ, ɒ, ʌ, ʊ, ə		
4. Lip participation		Rounded (labialized) u:, ʊ, ɔ:, ɒ		Unrounded (non-labialized) ɪ, e, æ, ʌ, ə, i:, ɑ:, ɜ:		
5. Vertical movement of the tongue		6. Horizontal movement of the tongue				
		fully front	front retracted	central (mixed)	back advanced	fully back
High (close)	narrow variety	i:				u:
	broad variety		ɪ		ʊ	
Mid (mid-open)	narrow variety	e		ɜ:		
	broad variety			ə ʌ		
Low (open)	narrow variety					ɔ:
	broad		æ			ɒ ɑ:

2. Modifications of Vowels in Connected Speech

The modifications of vowels in a speech chain are traced in the following directions: they are either quantitative or qualitative or both. These changes of vowels in a speech continuum are determined by a number of factors such as the position of the vowel in the word, accentual structure, tempo of speech, rhythm, etc.

The decrease of the vowel quantity or in other words the shortening of the vowel length is known as a quantitative modification of vowels, which may be illustrated as follows:

1. The shortening of the vowel length occurs in unstressed positions, e.g. *blackboard* [ɔ:], *sorrow* [ʒu] (reduction). In these cases reduction affects both the length of the unstressed vowels and their quality.

Form words often demonstrate quantitative reduction in unstressed positions, e.g.

Is → he or she to blame? – [hi:]

But: *At last he has come.* – [hi]

1. The length of a vowel depends on its position in a word. It varies in different phonetic environments. English vowels are said to have positional length, e.g. *knee – need – neat* (accommodation). The vowel [i:] is the longest in the final position, it is obviously shorter before the lenis voiced consonant [d], and it is the shortest before the fortis voiceless consonant [t].

Qualitative modification of most vowels occurs in unstressed positions. Unstressed vowels lose their "colour", their quality, which is illustrated by the examples below:

1. In unstressed syllables vowels of full value are usually subjected to qualitative changes, e.g. *man* [mæn] – *sportsman* ['spɔ:tsmən], *conduct* ['kɒndʌkt] – *conduct* [kən'dʌkt]. In such cases the quality of the vowel is reduced to the neutral sound [ə].

These examples illustrate the neutralized (reduced) allophones of the same phonemes as the same morphemes are opposed.

Nearly one sound in five is either [ə] or the unstressed [ɪ]. This high frequency of [ə] is the result of the rhythmic pattern: if unstressed syllables are given only a short duration, the vowel in them which might be otherwise full is reduced. It is common knowledge that English rhythm prefers a pattern in which stressed syllables alternate with unstressed ones. The effect of this can be seen even in single words, where a shift of stress is often accompanied by a change of vowel quality; a full vowel becomes [ə], and [ə] becomes a full vowel. Compare: *analyse* ['ænləaɪz] – *analysis* [ə'nælɪsɪs].

1. Slight degree of nasalization marks vowels preceded or followed by the nasal consonants [n], [m], e.g. *never*, *no*, *then*, *men* (accommodation).

The realization of reduction as well as assimilation and accommodation is connected with the style of speech. In rapid colloquial speech reduction may result in vowel elision, the complete omission of the unstressed vowel, which is also known as zero reduction. Zero reduction is likely to occur in a sequence of unstressed syllables, e.g. *history*, *factory*, *literature*, *territory*. It often occurs in initial unstressed syllables preceding the stressed one, e.g. *correct*, *believe*, *suppose*, *perhaps*.

The example below illustrates a stage-by-stage reduction (including zero reduction) of a phrase.

Has he done it? [hæz hi?,dʌnɪt]
 [həz hɪ ,dʌnɪt]
 [əz ɪ ,dʌnɪt]
 [z ɪ ,dʌnɪt]

3. Sound Alternations

The sound variations in words, their derivatives and grammatical forms of words are known as **sound alternations**. It is perfectly obvious that sound alternations are caused by assimilation, accommodation and reduction in speech. Alternations of consonants are mainly due to contextual assimilations: the dark [ɫ] in *spell* alternates with the clear [l] in *spelling*. Vowel alternations are the result of the reduction in unstressed positions: *combine* ['kɒmbaɪn] (n) – *combine* [kəm'baɪn] (v) where [ɒ] in the stressed syllable of the noun alternates with the neutral sound in the unstressed syllable of the verb. Some sound alternations are traced to the phonetic changes in earlier periods of the language development and are known as **historical**.

The following list of examples presents the most common types of historical alternations.

1. Vowel Alternations

1. Distinction of irregular verbal forms:

[i: – e – e]: mean – meant – meant
 [ɪ – ʌ – ʌ]: dig – dug – dug.
 [aɪ – ʊ – ɪ]: write – wrote – written
 [ɪ – æ – ʌ]: sing – sang – sung
 [ɛə – ɔ: – ɔ:]: wear – wore – worn
 [aɪ – ɪ – ɪ]: hide – hid – hidden
 [i: – ʊ – ʊ]: speak – spoke – spoken
 [ʊ – u: – ʊ]: know – knew – known
 [ɪ – eɪ – ɪ]: give – gave – given
 [e – ɔ: – ɔ:]: get – got – got
 [i: – ɔ: – ɔ:]: teach – taught – taught
 [æ – u – u]: understand – understood – understood
 [eɪ – u – eɪ]: take – took – taken
 [eɪ – ʊ – ʊ]: wake – woke – woken
 [u: – ɔ: – ɔ:]: shoot – shot – shot
 [e – ʊ – ʊ]: tell – told – told
 [ɪ – æ – æ]: sit – sat – sat
 [ɪ – ɔ: – ɔ:]: think – thought – thought
 [ʌ – eɪ – ʌ]: become – became – become
 [aɪ – ʊ – ɪ]: rise – rose – risen
 [ʊ – u: – ʊ]: grow – grew – grown

[u: - ʊ - ʊ]: choose - chose - chosen
 [ai - u: - ʊ]: fly - flew - flown
 [ai - ɪ: - ɪ:]: fight - fought - fought
 [ai - au - au]: find - found - found
 [i: - ɔ: - i:]: see - saw - seen [iə - ɜ: - ɜ:]: hear - heard - heard and some other less common verbal alternations of this type.

1. Distinction of causal verbal forms:

[i - e]: sit - set
 [ai - ei]: rise - raise [ɔ: - e] fall - fell

3. Distinction of singular and plural forms of nouns:

[æ - e]: man - men
 [u - i:]: foot - feet
 [u: - i:]: tooth - teeth
 [au - ai]: mouse - mice
 [u - i]: woman - women
 [ai - i]: child - children

4. Distinction of parts of speech in etymologically correlated words:

[i: - e]: feast - festive
 [a: - æ]: class - classify
 [ɔ - e]: long - length
 [ɔ: - e]: broad - breadth
 [ei - æ]: nation - national
 [ai - i]: wise - wisdom
 [ɔ - i:]: hot - heat

This type of alternation is often strengthened not only by suffixation but also by the shifting of stress like in: *part* - *particular*, *climate* - *climatic*.

2. Consonant Alternations

1. Distinction of irregular verbal forms:

[d - t]: send - sent, lend - lent

2. Distinction of parts of speech in etymologically correlated words:

[s - z]: advice - advise, house - house, use - use

[s - d]: defence - defend

[s - d]: intent - intend

[k - t]]: speak - speech

[t - s]: important - importance

3. Vowel + Consonant Alternations (often supported by suffixation and the shifting of stress)

[i - ai] + [v - f]: live - life

[a: - ei] + [θ - ð]: bath - bathe

[e - i:] + [θ - ð]: breath - breathe

[ɔ - u:] + [s - z]: loss - lose

Sound alternations are also widely spread on the synchronical level in the presentday English and are known as **contextual**. In connection with contextual sound alternations there arises a **problem of phonemic identification of alternated sounds**. The functioning of sounds in different grammatical forms and derivatives of words seems very complicated and flexible. The study of the relationship between phonemes and morphemes is called **morphophonemics**. The interrelation of phonology and morphology in linguistic investigations is also known as **morphophonology** or **morphonology** which is actually the phonology of morphemes. Morphonology studies the way in which sounds can alternate as different realizations of one and the same morpheme. A morpheme is a minimal unit of meaning. We would all agree that such words as *windy*, *dusty*, *sunny* consist of two morphemes. Similarly, *demonstration*, *alternation* have two component morphemes. The meanings of *wind*, *dust*, *sun* as well as of *demonstrate*, *situate* are obvious. But what function do the morphemes *-y* and *-ion* perform? On the basis of the examples, it appears that the function of *-y* is to convert a noun into an adjective. Similarly *-ion* converts a verb into a noun. These morphemes have a grammatical meaning, their main purpose is to convert one part of speech into another. Each set of data below exemplifies a sound alternation in one and the same morpheme of two different parts of speech.

malice	['mælis]	- malicious [mə'liʃəs]
active	['æktiv]	- activity [æk'tiviti]
abstract	['æbstrækt]	- abstract [æb'strækt]
conduct	['kɒndʌkt]	- conduct [kən'dʌkt]
contrast	['kɒntræst]	- contrast [kən'træst]

We are interested now in the sound in its weak position. Vowels are said to be in their strong position when they are in stressed syllables and in the weak position when they are in the unstressed

ones. Consonants may well be said to be in their strong position before vowels and in the intervocalic position; they are in weak positions when they are word final or precede other consonants.

There may be different solutions to the problem of phoneme identification in weak positions of alternated words. The question arises whether the sound [ə] in the words *activity* and *contrast* is a neutral phoneme or it is an allophone of the [æ] or [ɒ] phonemes (as in *active*, *'contrast*) which loses some of its distinctive features in the unstressed position. The difference is quite essential as in the first case the neutral sound is identified as an independent neutral phoneme, in the second – it is a neutralized allophone of the [æ] or [ɒ] phonemes of the corresponding alternated words.

The loss of one or more distinctive features of a phoneme in the weak position is called **phonemic neutralization**. In English, the voicing opposition is neutralized after the initial [s]. We are well aware of the fact that the phonemes [t] and [d], for example, contrast in most environments: initially (*tick* – *Dick*), finally (*bid* – *bit*); after nasals (*bend* – *bent*), after [l] (*cold* – *colt*). But after [s], no contrast between [t], [d] is possible, nor, similarly, is there a contrast between [p], [b] and [k], [g] in this environment. The voicing contrast is neutralized after initial [s].

4. Stylistic Modifications of Sounds

Stylistic oppositions have long been observed in linguistic literature in the two marginal types of pronunciation: formal and informal. **Formal speech** suggests dispassionate information on the part of the speaker. It is characterized by careful articulation and relatively slow speed. A.C. Gimson defines it as careful colloquial style [1981], G. Brown describes it as formal slow colloquial style of speech [1977]. V.A. Vassilyev labels it normal-speed colloquial style of speech [1970]. Other researchers call it full style [Булантин 1970]. **Informal speech** implies everyday conversation. The following definitions are also used: rapid colloquial speech, conversational style.

Stylistic modifications of intonation do not coincide with those of sounds.

Now let us turn to different forms of communication. A monologue often presupposes public speaking with a considerable distance of the addresser (the speaker) from the addressee (the listener) or a piece of calm narrative. Dialogues are more often private, personal and intimate. Monologuing is characterized by more phonetic precision. On the other hand speech may vary in numerous ways. The interaction of the extralinguistic factors may arrange the opposite situation: the speaker's highly excited narration of some critical situation will become full of slurring while a dialogic discussion of problems between colleagues will be phonetically most precise.

Stylistic sound variations seem to have the tendency towards the increase of the sound modifications in speech with the quickening of its tempo and the weakening of the carefulness, e.g. *government* [g^hvəmɒnt → g^hvəmnt → g^hvmnt → g^hbmnt].

Phonetic means which are stylistically relevant depend on the extralinguistic situation of the discourse.

The first thing that counts in the stylistic modifications of sounds is the character of relationship between the speaker and the listener and the degree of formality in their discourse. Speech continuum reflects the amount of attention that the speakers give to their speech. It is assumed that in formal situations the participants will monitor their linguistic behaviour. If the speaker wants to be clearly understood (like while producing a lecture with an educational aim), he should sound explicit and his pronunciation may be characterized as supercorrect. In informal situations, where speakers are more relaxed, less attention will be given to speech and more natural and simplified it will sound. Consequently, the degree of simplification of speech (assimilation, reduction, elision) may be looked upon as a style forming means.

Typical character of sound simplifications in relation to the degree of formality is the great qualitative stability of vowels in slow formal speech and more frequent sound variability in informal spoken English. Both front and back vowels in less explicit articulation tend to be changing towards neutralized sounds, especially in grammatical words.

Spelling	Formal	Informal
<i>it's not</i>	its 'nɒt	əts 'nót
<i>because</i>	bi'kɒz	bikəz
<i>according to</i>	ə'kɒ:dɪn tə	əkədin tə
<i>I think he was</i>	aɪ'θɪŋk hi?'wɜz	ʌ 'θɪŋk i wɜz

The historically long vowel [i:] tends to lose its diphthongization; as the next stage it undergoes quantitative reduction and finally changes its quality as well.

Spelling	Formal	Informal
<i>I don't believe it</i>	aɪ 'dɔʊnt bi'li:v it	ʌ dɔʊn(t) bə'liv it
<i>it seems to be</i>	ɪt 'si:mz tə bi?	ɪt 'sɪmz tə bi

The similar process of reduction is likewise observed in [u:] simplified to [ʊ].

Spelling	Formal	Informal
<i>a few more words</i>	ə 'fju: 'mɔ: 'wɜ:dz	ə fju mɔ?'wɜ:dz
<i>a new aspect</i>	ə 'nju: 'æspekt	ə 'n(j)u 'æspekt

As to labialization of vowels the amount of rounding varies greatly between the individual speakers. The vowel [ɔ:] seems to retain lip rounding as a rule. The vowels [ɒ] and [ɔ] have very little, if any, rounding at all in informal speaking. The vowels [u:], [u] seem to lose the rounding altogether.

Diphthongs are very often monophthongized in informal speech. The diphthong [ɛə] tends to be simplified to [ɛ(:)], e.g.

Spelling Formal Informal where weə we

here and there 'hiə r ənd 'ðeə θ 'hi (ə)r ən 'ðe

In an unstressed position it is further modified to [e], e.g. *there is an opinion* [ðer lz ən ə'plɪnjən]. The diphthong [iə] often gets a sort of central vowel realization [ɜ].

Spelling	Formal	Informal
<i>really strange</i>	'ri:li 'streɪndz	'rɜli 'streɪndz
<i>serious action</i>	'siəriəs 'ækʃn 'sɜri(ə)s 'ækʃn	<i>experienced worker</i> iks'piəriənst 'wɜ:kə iks'pɜrənst 'wɜ:kə

The [u] ending diphthongs [au] and [ɜu] are simplified into [a] and [ɜ] accordingly. The various stages of their realizations are found both in stressed and unstressed positions. The quality of the initial element is retained and the second element, the glide, is obscured or lost.

Spelling	Formal	Informal
<i>now they</i>	'nau ðei	'na ðe(i)
<i>south of italy</i>	'sauθ əv 'itəli	'saθ əv 'itəli
<i>going ahead</i>	'gəuin ə'hed	'gɜn ə'hed
<i>yes or no</i>	'jes ɔ?'nɜu	'jes ə'nɜ

Unstressed positions are sometimes marked by the next stage of qualitative reduction. The diphthong [au] is realized as some kind of [ʌ].

Spelling	Formal	Informal
<i>and now we've</i>	ənd 'nau wi'v	ən n ʌwi'v
<i>come to</i>	'k ʌm tə	'k ʌm tə
<i>mark how different</i>	'mɑ:k hau 'dɪfərənt	'mɑk h ʌ 'dɪfrənt
<i>it is</i>	ɪt ɪz	ɪt ɪz

The diphthong [ɜu] is sometimes completely neutralized in the unstressed position.

Spelling	Formal	Informal
<i>so we've discussed</i>	səu wi'v dɪs'k ʌst	sə wɪv dɪs'k ʌst
<i>hope to settle it</i>	həʊp tə 'setl ɪt	hə tə 'setl ɪt

Vowel elision is very frequent in informal conversational style. It often goes with other processes involving assimilation and elision of consonants. Elided neutral sound [ə] is very common in the unstressed syllables of polysyllabic words, like:

Spelling	Formal	Informal
<i>collective</i>	kə'lektɪv	'klektɪv
<i>different</i>	'dɪfərənt	'dɪfrənt
<i>prisoner</i>	'prɪzənə	'prɪznə
<i>political</i>	pə'lɪtɪkl	'plɪtɪkl
<i>phonetically</i>	fə'netɪkəli	'fnetɪkəli

In the last three examples the loss of [ə] in the initial unstressed syllable of a word causes the initial consonant form a cluster with the consonant of the stressed syllable. Vowel reduction mostly occurs in extended utterances in sequences of words. The loss of the neutral sound [ə] in the preposition *to* or the particle *to* preceded by a consonant is a very common pattern.

Spelling	Formal	Informal
<i>next to Liverpool</i>	'nekst tə 'lɪvəpu:l	'nekst 'tlɪvəpu:l
<i>back to london</i>	'bæk tə 'l ʌndən	'bæk 'tl ʌnd(ə)n
<i>to see them</i>	tə 'si: ðəm	'tsi: ðəm
<i>future situation</i>	'fju:tʃə ,sɪtʃu'eɪʃn	'fju:tʃə 'sɪtʃueɪʃn

<i>this afternoon</i>	ðis 'a:ftə'nu:n	ðis 'a:ftnu:n
<i>after all</i>	'a:ftər 'ɑ:l	'a:ft'rɑ:l

In the majority of spoken utterances beginning with *its* the initial [ɪ] is elided when the phrase runs on without a marked pause after the previous saying.

Spelling	Formal	Informal
<i>it's paid well</i>	its 'peid wel	ts 'peid wel
<i>it's necessary</i>	its 'nesəsəri	ts 'nesəsəri
<i>it's counted as</i>	ts 'kauntid əz	ts 'kauntid əz

Likewise in polysyllabic words beginning with the unstressed *ex-* it is often simplified to [ks].

Spelling	Formal	Informal
<i>extremely</i>	iks'tri:mli	'kstri:mli
<i>extraordinary</i>	iks'trɑ:dnri	'kstrɑ:dnri
<i>excluded</i>	iks'klu:did	'ksklu:did

As it has already been mentioned vowel reduction often results in regular consonant clusters like [tr], [fr], [pl], [kl] typical for the English sound system. Cf. *tram, try, tree* and *interesting, aft(e)r all; please, play* and *p(ol)itical; clay, cloud, circle* and *collective; friend, from* and *diff(e)rence*.

Alongside with regular clusters in informal careless speech we find phonetic facts which seem impossible for the English pronunciations namely consonant sequences [tsn], [tsk], [tsp] and others.

Spelling	Formal	Informal
<i>it's not exact</i>	its 'nɒt ig'zækt	ts 'nɒt ig'zækt
<i>it's close to</i>	its 'kləʊs tə	ts 'kləʊs tə
<i>it's perhaps you</i>	its pə'hæps 'ju:	ts pə'hæps 'ju:

These sequences never occur in speech where the words are uttered clearly and explicitly but in the stream of informal speech in the least prominent parts of the utterance. These facts represent the natural process of compression, or simplification which are known in other languages.

We shall now turn to the most common 'tendencies in **the stylistic modifications of consonants**. The process of different sorts of assimilations typical for the English language is usually not so simple as the replacement of one member of phoneme by another.

The mechanism of assimilation is a complex of alternations of segmental realizations within the cluster, which is difficult to exemplify in the symbols of the accepted form of transcription, especially when the described sound is only partially "there".

The assimilations of consonants according to voiced (lenis) – voiceless (fortis) principle are not so common in English as they are in Ukrainian. Still the degree of voicing or devoicing of consonants increases passing gradually through several stages from slow careful reading before a large audience to informal careless conversation and ends with the elision of the sound, e.g. *must be* [m^hst bi- → m^hst b^hi? → m^hst pi? → m^hs pi?]; *don't get* [dʌnt get → dʌnt^hget → dʌnt ket].

In the intermediate stages the cluster is represented by a series of sound alternations which reflect the adaptation to the neighbouring sound. The elision of "t" is often met in the position between two consonants.

The consonants are also markedly different in informal conversational style according to their place of articulation. Word final consonants [t], [d], [n], sometimes [m], [s], [z] immediately followed by a velar or labial consonant undergo a sort of adaptation.

Spelling	Formal	Informal
<i>great burden</i>	'greit bɜ:dn	'greip bɜ:dn
<i>that man</i>	'ðæt 'mæn	'ðæp 'mæn
<i>american</i>	a'merikən	ə'merikən
<i>government</i>	'gʌvnmənt	'gʌv(ə)mənt
<i>hundred places</i>	'hʌndrɪd 'pleisɪz	'hʌndrəb 'pleisɪz
<i>taken gladly</i>	'teɪkn 'glædli	'teɪkn 'glædli

Instead of the closure for the [t] a marked glottal stop [ʔ] is also observed before the modified plosive consonant.

Spelling	Formal	Informal
<i>Great Britain</i>	'greit 'brɪtn	'grei? 'p ^h ribn
<i>didn't go</i>	'dɪdn't 'gəʊ	'dɪdn?'k ^h əʊ
<i>couldn't come</i>	'kʊdn't 'kʌm	'kʊdn?'k ^h ʌm

The illustrated modifications could be summarized in the following way

We the idea these existing rapid A process of	[t] < [p] before [p], [m] [k] before [k]	that place ['ðæp 'pleis] that might ['ðæp 'mait] don't question ['dʌnk 'kwestʃ(ə)n]	
	[d] < [b] before [p], [b], [m] [g] before [k], [g]	good morning ['gʊb 'mɔːnɪŋ] would be ['wʊb bi:]	can get [kæn 'get] should strongly emphasize that the students are not recommended to imitate extreme forms of the ways of adaptation in very careless speech.
	[n] < [m] before [p], [b], [m] [k] before [k], [g]	Good God ['gʊd 'gɒd] good cook ['gʊd 'kʊk] on me [ɒn 'mi:] in business [ɪn 'bɪznɪs] in quite [ɪn 'kwaɪt]	definite and very frequent assimilation is observed when [s], [z] sounds are followed by the palatal [j] in the unstressed part of the phrase. The alveolars tend to become palato-alveolar in informal conversational style.

Spelling	Formal	Informal
<i>this year</i>	'ðɪs 'jɪə	'ðiː 'jɪə
<i>as you</i>	əz ju:	əz ju:
<i>as yet</i>	əz jet	əz jet

The palatal [j] is strong enough to affect the manner of articulation of the preceding [t], [d] sounds. In accordance with the tempo and style of speech, individual fluency, number of recipients and other situational factors the assimilated segment preceding [j] may consist of several sections with gradually changing features. The process most often leads to an affricate:

<i>would you</i>	[wʊdju:] → wud'ju → wuɔːu]
<i>could you</i>	[kʊdju:] → kud'ju → kuɔːu]
<i>mind you</i>	[maɪndju:] → maɪnd'ju → maɪnɔːu]
<i>can't you</i>	[kɑːntju:] → kɑːnt'ju → kɑːntʃu]
<i>about you</i>	[əbaʊtju:] → əbaʊt'ju → əbaʊtʃu]

The elision of consonants is no less frequent process in informal speech than a vowel elision. The most common consonants to find involved in elision are [t] and [d]. Elision usually occurs in a syllable final sequence when the sound stands between two consonants. It is said to be more common for [t] and [d] to be elided between the other two consonants than it is for them to be pronounced.

Spelling	Formal	Informal
<i>second group</i>	'sekənd 'gru:p	'sekən 'gru:p
<i>first five</i>	'fɜːst 'faɪv	'fɜːs 'faɪv
<i>next point</i>	'nekst 'pɔɪnt	'neks 'pɔɪnt
<i>best judge</i>	'best 'dʒʌdʒ	'bes 'dʒʌdʒ
<i>the fact that</i>	ðə 'fækt ðət	ðə 'fækt ðət
<i>second term</i>	'sekənd 'tɜːm	'sekən 'tɜːm

[d] elides even more readily than [t]. We find the loss of [d] in a syllable final sequence preceding another consonant but immediately following a vowel.

Spelling	Formal	Informal
<i>that it would be</i>	ðət ɪt wʊd 'bi:	ðət ɪt wʊ 'bi
<i>he said some words</i>	hi?'sed sʌm 'wɜːdz	(h)ɪ 'se səm 'wɜːdz
<i>about</i>	əbaʊt	əbaʊt

Other consonants tend to be elided in some definite environments. For instance, the consonant [v] is often elided when it is final in an unstressed form word *have* or *of* and immediately precedes another consonant.

Spelling	Formal	Informal
<i>lists of the students</i>	'lɪsts əv ðə 'stju:dənts	'lɪsts ə ðə 'st(j)u:d(ə)nts
<i>we've been studying</i>	wɪ'v bi:n 'stʌdiɪŋ	wɪ bi:n 'stʌdiɪŋ
<i>of course</i>	əv'kɔːrs, əf 'kɔːrs	ə'kɔːrs

The definite article [ðə] is often realized as the neutral sound alone. It occurs in cases when the definiteness of the noun is clearly established and [ə] can only be interpreted as the realization of the definite article [ðə].

Spelling	Formal	Informal
<i>and the way he</i>	ənd ðə 'wei hi?	ən(d) ə 'wei (h)ɪ
<i>did it</i>	'dɪd ɪt	'dɪd ɪt
<i>and the reason for it</i>	ənd ðə 'riːzn fɔːr ɪt	ən(d) ə 'riːzn frɪt
<i>and the scotchman</i>	ənd ðə 'skɒtʃmən	ən(d) ə 'skɒtʃmən

The elision of [l] is restricted to the position after the vowel [ɔ:]. This process was established in the earlier periods of the English language which is reflected in the pronunciation of the words *talk*, *walk*; sometimes in the word *certainly*.

Spelling	Formal	Informal
<i>all right</i>	ɔ:l 'rait	ɔ: 'rait
<i>already</i>	ɔ: 'redi	ɔ:'redi
<i>always</i>	'ɔ:lwɪz	'ɔ:wɪz
<i>also</i>	'ɔ:lsʊ	'ɔ:sʊ

The elision of [l] in words beginning with *all* is typical even for slow full speech style.

We cannot deny that every actual sound realization is a unique and individual ideophone. Apart from the distinctive, contextual and stylistic features it differs in the timbre and **personal voice qualities** of every speaker which make his speech recognizable though we may not see the speaker but only hear him over the radio or in a telephone talk. Thus the sound realizations of phonemes are marked by personal features in addition to distinctive, contextual and stylistic. In the most general way the relationship between these phonetic units may be illustrated in this scheme.

So, a phoneme, an allophone, a variant and a phone form a kind of hierarchy of phonetic units in discourse.

The degree of formality or in other words the character of relationship between participants of the discourse proves to be most significant in the stylistic modifications of sounds.

Table 9

Phoneme →	Allophone →	Variant →	Phone
Distinctive	Distinctive	Distinctive	
Distinctive	features	features	
features	Contextual	Contextual	
Contextual	features	features	
features		features	
Stylistic			
Stylistic			
features			
Personal			features

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Questions

1. What is the quality of a vowel determined by?
1. What criteria are used for the classification of vowels?
2. What are English vowels subdivided into?
3. Define diphthongs.
4. From what aspects is the position of the tongue in the mouth cavity characterized?
5. What groups of vowels are distinguished in English?
6. What are the traditional lip positions in English pronunciation?

7. What does the checkness of English vowel sounds depend on?
8. What is duration of a vowel modified by and what does it depend on?
9. Define tenseness.
10. What is the phonemic status of the neutral sound [E]?
11. What are the directions of modifications of vowels?
12. Define sound alternations.
13. What are historical alternations?
14. Define morphophonemics.
15. What is phonemic neutralization?
16. What do the terms "formal speech" and "informal speech" suggest?
17. Where is vowel elision very frequent?
18. What are the most common tendencies in the stylistic modifications of consonants?
19. What is the subject matter of morphonology?

Practical task

1. Make a glossary of the main notions and give their definitions.
1. Study articulatory features of RP vowels.

RP Vowel Phonemes / Vph: 20	
RP Monophthongs / M): 12	
[i:]	a monophthong, long, tense, unrounded, front, high / close vowel phoneme of the narrow variety (=v.)
[ɪ]	a M, short, lax, unrounded, front retracted, high / close Vph of the wide v.
[e]	a M, short, lax, unrounded, front, mid / half-open V ph of the narrow v.
[æ]	a M, half-long, lax, unrounded, front, low / open V ph of the wide v.
[ʌ]	a M, short, lax, unrounded, central / mixed, mid V ph of the wide v.
[ɑ:]	a M, long, tense, unrounded, back, low / open V ph of the wide v.
[ɒ]	a M, short, lax, rounded, back, low / open V ph. Of the wide v.
[ɔ:]	a M, long, tense, rounded, back, low / open V ph of the narrow v.
[u]	a M, short, lax, rounded, back advanced, low / open V ph of the wide v.
[u:]	a M, long, tense, rounded, back, high / close V ph of the narrow v
[ɜ:]	a M, long, tense, unrounded, central / mixed, mid V ph of the narrow v.
[ɜ]	a M, short, lax, unrounded, central / mixed, mid V ph of the wide v.
RP Diphthongs = 8	
[eɪ]	a closing diphthong (= D) with the i-glide
[aɪ]	a closing D with the i-glide
[ɔɪ]	a closing D with the i-glide
[əʊ/ aʊ]	a closing D with the u-glide
[aʊ]	a closing D with the u-glide
[iə]	a centering D with the ɜ-glide
[eə]	a centering D with the ɜ-glide
[ʊə]	a centering D with the a-glide

2. Fill in the following table featuring the articulatory features of English RP vowels

1. Stability of articulation	Monophthongs – _____			Diphthongs – _____		
2. Length of articulation	Long – _____ _____	Short – _____, _____, _____ _____		i-glide: _____ _____		
3. Degree of muscular tension	Tense – _____ _____	Lax – _____, _____, _____ _____		ə-glide: _____ _____		
4. Lip participation	Rounded (labialized) _____	Unrounded (non-labialized) _____		u-glide: _____ _____		
5. Vertical movement of the tongue	6. Horizontal movement of the tongue					
	variety	fully front	front retracted	central (mixed)	back advanced	fully back
High (close)	narrow					
	broad					
Mid (mid-open)	narrow					
	broad					
Low (open)	narrow					
	broad					

Test

Answer the following questions using one-word / phrase answers

№	Question	Answer
1	From the acoustic point of view vowels are called the sounds of ...	
2	Vowels have no ...	
3	Sounds whose phonetic content is predominantly made up by the sound waves produced by their voicing are called ...	
4	A monophthong, half-long, lax, unrounded, front, low / open vowel phoneme of the wide variety	
5	A monophthong, long, tense, unrounded, central / mixed, mid vowel phoneme of the narrow variety	
6	A monophthong, long, tense, unrounded, back, low / open vowel phoneme of the wide variety	
7	A monophthong, short, lax, rounded, back advanced, low / open vowel phoneme of the wide variety	
8	A monophthong, long, tense, unrounded, front, high / close vowel phoneme of the narrow variety	
9	A monophthong, short, lax, unrounded, central / mixed, mid vowel phoneme of the wide variety	
10	A monophthong, short, lax, rounded, back, low / open vowel phoneme of the wide variety	
11	A monophthong, short, lax, unrounded, central / mixed, mid vowel phoneme of the wide variety	
12	A monophthong, short, lax, unrounded, front, mid / half-open vowel phoneme of the narrow variety	
13	Change of consonant or vowel quality, loss of consonants or vowels, and even loss of entire syllables in connected speech are called ...	
14	The process under which a diphthong optionally loses its second element before another vowel, or it is monophthongized, is called ...	
15	Vowels are subdivided into ...	
16	The position of the tongue in the mouth cavity is characterized from two aspects: ...	

17	Traditionally three lip positions are distinguished: ...	
18	What articulatory feature characterizes the state of the organs of speech at the moment of producing a vowel?	
19	In what positions does the shortening of a vowel length occur?	
20	What changes are vowels of full value subjected to in unstressed syllables?	

Lecture 5

SYLLABIC AND ACCENTUAL STRUCTURE OF ENGLISH WORDS

Plan

1. Syllabic structure of English words.
1. Accentual structure of English words.

1. Syllabic Structure of English Words

Speech is a continuum. However, it can be broken into minimal pronounceable units into which sounds show a tendency to cluster or group themselves. These smallest phonetic groups are generally given the name of **syllables**. The syllable is one or more speech sounds forming a single uninterrupted unit of utterance which may be a commonly recognized subdivision of a word or the whole of a word [Wells 2000: 758]. Being the smallest pronounceable units, the syllables form language units of greater magnitude, that is morphemes, words and phrases. Each of these units is characterized by a certain syllabic structure. Consequently we might say that a meaningful language unit has two aspects: syllable formation and syllable division which form a dialectical unity.

The syllable is a fairly complicated phenomenon and like the phoneme it can be studied on four levels: acoustic, articulatory, auditory and functional, which means that the syllable can be approached from different points of view.

Talking about the analysis of articulatory or motor aspect of the syllable we could start with the so-called **expiratory**, or chest pulse or pressure theory (теорія видиху) which was experimentally based by R.H. Stetson [Stetson 1951]. This theory is based on the assumption that expiration in speech is a pulsating process and each syllable should correspond to a single expiration so that the number of the syllables in an utterance is determined by the number of expirations made in the production of the utterance. This theory was strongly criticized by linguists. G.P. Torsuev, for example, writes that in a phrase a number of words and consequently syllables can be pronounced with a single expiration [Торсуев 1960]. This fact makes the validity of the pulse theory doubtful.

Another theory most often referred to is the theory of syllable put forward by O. Jespersen. It is generally called the **sonority** theory / the prominence theory (теорія відносної сонорності) and is based on the concept of sonority. The creator of this theory, the Danish linguist Otto Jespersen, has proved that the least sonorous sounds which have the least carrying power, are those for which the mouth is closed (voiceless oral stops), while the most sonorous sounds are those for which the mouth is wide open (low vowels). All other sounds are ranked in between these two extreme points of the sonority scale: (from the highest degree to the lowest):

1. Low vowels (a, ɔ..).
1. High vowels (i:, i...)
2. Semivowels (j, w)
3. Liquids (l, r)
4. Nasals (m, n, ŋ)
5. Fricatives (voiced) (v, z, ð)
6. Fricatives (voiceless) (f, θ, s)
7. Oral stops (voiced) (b, d, g)
8. Oral stops (voiceless) (p, t, k).

By this theory the syllable is treated as the combination of a more sonorous sound with a less sonorous one. All the sounds with the greatest degree of sonority (*vowels* and *sonorants*) are at the peak of the syllable, by which the syllable may be marked as a unit, because the rest of the sounds surrounding the peak cling to it.

According to V.A. Vassilyev, the most serious drawback of this theory is that it fails to explain the actual mechanism of syllable formation and syllable division [1970]. Besides, the concept of sonority with which the theory operates is not very clearly defined, which makes it still less consistent.

Further experimental work aimed at the description of the syllable as a phonetic phenomenon resulted in a lot of other theories, such as F. de Saussure's theory, the theory of the Rumanian linguist

A. Rosetti, and the theory of the Czech linguist B. Hala. The existence of such a variety of approaches to the problem of the syllable means that it is not an easy matter to describe it. That is why the theories referred to above are unable to explain more than a restricted aspect of the phenomenon.

Academician L.V. Shcherba [1963] put forward the theory of **muscular tension** (теорія м'язового напруження). It was put forward by the French linguist Michaelle Grammont and supported and further developed by the Russian linguist Lev V. Scherba.

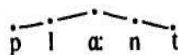
Academician Lev Volodymyrovych Scherba explained syllable formation by muscular tension impulses and three types of consonants. In speaking, muscular tension impulses follow one another. Each impulse has its strongest point – *the peak of prominence* – and its weakest prominence – *the valley of prominence*. Valleys of prominence correspond to points of syllabic division. The end of one syllable and the beginning of the next one can be ascertained by determining the type of consonants which take part in forming the syllables.

Consonants may be pronounced:

1. *initially strong* – the beginning of a consonant may be more energetic, while the end may be weaker;
1. *finally strong* – the beginning of the consonant may be weak, and its end more energetic;
2. and *geminate* or *double* – both the beginning and the end are energetic with a weakening of muscular tension in the middle, acoustically, they give the impression of two consonants.

The more energetic part of a consonant is attached to a vowel, so that initially strong C occurs at the end of a close syllable, while finally strong C occurs at the beginning of a syllable, his theory again does not give a complete explanation of the syllable division mechanism.

It is worth noticing that the theory has been modified by V.A. Vassilyev [1970]. The point is that the syllable like any other pronounceable unit can be characterized by three physical parameters: pitch, intensity and length. Within the range of the syllable these parameters vary from minimum on the prevocalic consonants to maximum on the centre of the syllable, then there is another decrease within the postvocalic consonants. So the conclusion follows: if we take into consideration the tension of articulation and the abovementioned acoustic data on the speech production level the syllable can be treated as an arc of articulatory effort, for example:



Up till now we have spoken about theories which try to define the syllable on either of the two levels of production or perception. The linguist and psychologist N.I. Zhinkin has suggested the so-called **loudness** theory which seems to combine both levels (15). The experiments carried out by N.I. Zhinkin showed that the arc of loudness on perception level is formed due to variations of the volume of pharyngeal passage which is modified by contraction of its walls. The narrowing of the passage and the increase in muscular tension which results from it reinforce the actual loudness of a vowel thus forming the peak of the syllable. So according to this theory the syllable could be thought of as the arc of loudness which correlates with the arc of articulatory effort on the speech production level since variations in loudness are due to the work of all the speech mechanisms.

There exist two points of view on the syllable:

1. Some linguists consider the syllable to be a purely articulatory unit which lacks any functional value. This point of view is defended on the grounds that the boundaries of the syllable do not always coincide with those of the morphemes.

1. However the majority of linguists treat the syllable as the smallest pronounceable unit which can reveal some linguistic function.

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

- a) a syllable is a chain of phonemes of varying length;
- a) a syllable is constructed on the basis of contrast of its constituents (which is usually of vowel-consonant type);
- b) the nucleus of a syllable is a vowel, the presence of consonants is optional; there are no languages in which vowels are not used as syllable nuclei, however, there are languages in which this function is performed by consonants;
- c) the distribution of phonemes in the syllabic structure follows the rules which are specific enough for a particular language.

1) syllable formation (складоутворення) **2) syllable division/separation** (складоподіл).

Articulatorily, the syllable is the minimal articulatory unit of the utterance.

Auditorily, the syllable is the smallest unit of perception: the listener identifies the whole of the syllable and after that the sounds which it contains.

Phonologically it is a structural unit which consists of a sequence of one or some phonemes of a language in numbers and arrangements permitted by the given language.

Syllable formation in English is based on the phonological opposition vowel – consonant.

In English the syllable is formed:

- by any vowel alone or in combination with one or more consonants – not more than 3 preceding and not more than 4 following it, e.g. *are* [a:], *we* [wi:], *it* [it], *sixths* [siksθs].
- by a word final sonorants [n], [l], [m] immediately preceded by a consonant: e.g. *rhythm* [ˈrɪðəm], *garden* [ˈgɑ:dən].

The English sonorants [w], [j] are never syllabic as they are always syllable-initial.

Thus vowels and sonorants are syllable-forming elements and every word, phrase or sentence has as many syllables as it has syllabic elements.

Every English syllable has a center or **peak** – a vowel or a sonorant. The peak may be preceded by one or more non-syllabic elements which constitute the **onset** of the syllable, and it may be followed by one or more non-syllabic elements which constitute the coda, e.g. *cat* [kæt], *tree* [tri:], *ice* [aɪs]

Every language has its own common patterns in which the phonemes are arranged to form syllables.

According to the placement of vowels and consonants the following types of syllables are distinguished:

Table 10

Placement of VOWELS	Placement of CONSONANTS
open: the V is at the end, such a S is articulated with the opening of the mouth by the end: e.g. <i>they</i> , <i>wri-ter</i>	covered at the beginning: the C is at the beginning of the syllable: e.g. <i>tie</i>
closed: which end in C, at the end of such a S the mouth is closed: e.g. <i>hun-dred</i> , <i>hat</i>	covered at the end: the C is at the end of a S: e.g. <i>on</i>

The presentation of a syllable structure in terms of C and V (canonical forms) gives rather numerous combinations which can be grouped into **4 structural types of syllables:**

Table 11

1. Fully open	V ore, or
2. Fully closed (V between C)	CVC <i>fat</i> CCVC <i>place</i> CVCC <i>fact</i> CCCVCC <i>street</i> CVCCC <i>facts</i> CVCCCC <i>sixths</i> [siksθs]
3. Covered at the beginning (one C or a sequence of C precede a vowel)	CV <i>too</i> CCV <i>spy</i> CCCV <i>traw</i>
4. Covered at the end (one C or more complete the syllable)	VC <i>on</i> YCC <i>act</i> VCCC <i>cts</i>

Structurally, the commonest types of the syllable in English are VC; CVC. CV is considered to be the universal structure. CV syllabic types constitute more than half of all structural types in Russian and Ukrainian.

The characteristic feature of English is monosyllabism: it contains between four and five thousand monosyllabic words. Most of the words of old English origin is of one syllable, the limit for the number of syllables in a word in English is 8, e.g. *incomprehensibility*.

Syllables can be also designated **1. by the**

position in the word:

from the beginning – INITIAL (початковий), MEDIAL (серединний), FINAL фінальний/кінцевий) or *from the end* – ULTIMATE (останній), PENULTIMATE (передостанній/другий від кінця), ANTEPENULTIMATE (третій від кінця);

2. by the position in relation to stress:

PRETONIC (переднаголошений), TONIC (наголошений), POSTTONIC післянаголошений) (Any syllable which is not tonic is ATONIC/ненаголошений).

e.g. <i>tre</i> -	<i>men</i> -	<i>dous</i>
initial	medial	final
antepenultimate	penultimate	ultimate
pretonic	tonic	posttonic
		c

The linguistic importance of syllable division in different languages is in finding typology of syllables and syllabic structure of meaningful units of a language, that is morphemes and words. It is the syllable division that determines the syllabic structure of the language, its syllabic typology.

Syllabic structure of a language like its phonemic structure is patterned, which means that the sounds of language can be grouped into syllables according to certain rules. The part of phonetics that

deals with this aspect of a language is called phonotactics. Phonotactic possibilities of a language determine the rules of syllable division.

Each syllable contains exactly one vowel. This vowel may be preceded or followed by one or more consonants. The vowel itself may be a short vowel, a long vowel or a diphthong; or if it is the weak vowel [ə], it may be combined with a nasal [n], [m] or a liquid [l] to give a syllabic consonant.

The division of a word into syllables is called syllabification [Wells 2000: xix]. The question of syllabification in English is controversial: different phoneticians hold different views about it. It is generally agreed that phonetic syllable divisions must be such as to avoid (as far as possible) creating consonant clusters which are not found in words in isolation [Wells 2000]. Thus it may be argued that *candy* should be ['kæ.n. dɪ] or ['kæ.nɪ. d] but not ['kæ. ndɪ] since [nd] is not a possible initial consonant cluster in English. This principle is called **the phonotactic constraint** (фонотактичне обмеження) on syllabification.

Syllable divisions in *Longman Pronunciation Dictionary* (LPD) by J. C. Wells 2000] are shown by spacing, e.g. *playtime* /'pleɪ taɪm/.

In *English Pronouncing Dictionary* (EPD) by Daniel Jones-Alfred Ch. Gimson-Peter Roach (15th edition 1997), syllable division is marked with a dot - [.] as recommended by the International Phonetic Association (the IPA), e.g. *admirable* ['æd.mə.r. ə.bl].

The following **rules of phonetic** (spoken) **syllable** division are adopted in LPD2000:

1. A **syllable boundary** is found wherever there is a **word boundary**, and also coincides with the morphological boundary between elements in a **compound**:

displace [dɪs 'pleɪs] *become* [bɪ 'kʌm] *countless* ['kaʊnt ləs] *hardware* ['hɑ:d weə]
CVC-CSVC CV-CVS CVSC-SVC CVC-SV

1. **Consonants** are syllabified with whichever of the two adjacent vowels is more strongly stressed, e.g. *farmer* ['fɑ:m ə], *agenda* [ə 'dʒ əndə].

If they are both unstressed, it goes with the **leftward** one: e.g. *cinema* ['sɪn əmə], *delicious* [dɪ 'lɪʃəs], *deliberate* [dɪ'lib ər ət].

2. The English **diphthongs** are unisyllabic, they make one vowel phoneme, while the so-called triphthongs are disyllabic, because they consist of a diphthong + the neutral vowel/schwa:

table science flower CV-CS CV-VSC CSV-V

3. The English **affricates** [tʃ], [dʒ] cannot be split: *catching* ['kæʃɪŋ]

Sometimes a syllable consists phonetically only of a consonant or consonants. If so, a consonant (or one of them) is **nasal** (usually [n]) or a **liquid** (usually [l] or [r] in AmE), for instance, in the usual pronunciation of *suddenly* ['sʌd n lɪ]. Such a consonant is a **syllabic consonant**. The IPA provides a special **diacritic** [̩] to show syllabicity, thus syllabic consonants may be shown [n̩] [l̩].

Instead of a syllabic consonant, it is possible to pronounce a vowel [ə] plus an ordinary (non-syllabic) consonant. Thus it is possible though not usual to say ['sʌd ən lɪ]. Likely syllabic consonants are shown in LPD with the raised symbol [̥], thus ['sʌd ̥n lɪ]: a raised symbol indicates a sound whose inclusion LPD does not recommend, hence this notation implies that LPD prefers bare [n] in the second syllable.

Syllabic consonants are also sometimes used where LPD shows italic [ə] plus a nasal or a liquid, e.g. *distant* ['dɪst fnt̩]. Although there is a possible pronunciation ['dɪst nt̩], LPD recommends ['dɪst ənt̩].

When followed by a weak vowel, a syllabic consonant may lose its syllabic quality, becoming a plain non-syllabic consonant, e.g. *threatening* ['θret ənɪn] may be pronounced with three syllables including syllabic [ŋ]: ['θret ŋ ɪn] or compressed into two syllables with plain [n]: ['θret nɪn].

EPD adds the following recommendations as for the syllabification of syllabic consonants [EPD 1997: xv]:

1. In case of [l] corresponding to the "-le" spelling form, preceded by any plosive or homorganic fricative as in *bottle*, *wrestle*, it is not felt to be acceptable in BBC/RP pronunciation to pronounce this with a vowel in the second syllable, and therefore [l] is marked as syllabic: *bottle* ['bɒt.l̩], *cycle* ['saɪk.l̩]. Where a word such as the above carries a suffix with the initial vowel, as in *bottling*, *cycling*, two variants are possible ['bɒt.l̩ .ɪn] and ['bɒt.lɪn].

1. Syllabic nasals are not usual where they would result in a **nasal** -plosive-syllabic consonant sequence, e.g. *London*, *abandon* must contain a schwa vowel in the final syllable: /'lʌn.dən/.

Phonetic (spoken) syllables must not be confused with **orthographic (written)** syllables. An orthographic syllable is a group of letters in spelling [Wells 2000: 758]. Syllables in writing are also called **syllabographs**.

When a word is split across two lines of writing, it should be broken at an orthographic syllable boundary. Parts of phonetic and orthographic syllables do not always coincide:

worker ['wɜ:k.k.ə] CVC-V = two phonetic syllables and one syllabograph

A most **GENERAL RULE** claims that division of words into syllables in writing is passed on **the morphological principle** which demands that the part of a word which is separated should be either a prefix, or a suffix or a root (morphograph), e.g. *pic-ture* ['pɪk tʃə]. **Compound words** can be divided

according to their meaning: *hot-dog; spot-light* It is not possible to divide a word within a phonetic syllable:

A suffix of TWO syllables such as *-ABLE, -ABLY, -FULLY* cannot be divided in writing, e.g. *reliable, lov-ably, beauti-fully*. If there are two or three consonants before *-NG*, these consonants may be separated in writing: *gras-ping, puz-zling*.

With the exception of *-LY*, a word cannot be divided so that an ending of two letters such as *-ED, -ER, -IC* begins the next line, e.g. *worked, teacher, hectic*, BUT: *cold-ly, bold-ly*.

A word of ONE phonetic syllable, a word of less than FIVE letters cannot be divided into syllabographs, e.g. *piece* [pi:s], *time* [taim].

Now we shall consider three very important functions of the syllable.

The first function is known to be the **constitutive** function (конститутивна функція) of the syllable. It lies in its ability to be a part of a word or a word itself. The syllable forms language units of greater magnitude, that is words, morphemes and utterances. In this respect two things should be emphasized. First, the syllable is the unit within which the relations between the distinctive features of the phonemes and their acoustic correlates are revealed (15). Second, within a syllable (or a sequence of syllables) prosodic characteristics of speech are realized, which form the stress-pattern of a word and the rhythmic and intonation structures of an utterance. In sum, the syllable is a specific minimal structure of both segmental and suprasegmental features.

The other function of the syllable is its **distinctive** function (смислорозрізнавальна / дистинктивна функція). In this respect the syllable is characterized by its ability to differentiate words and word-forms. To illustrate this a set of minimal pairs should be found so that qualitative and/or quantitative peculiarities of certain allophones should indicate the beginning or the end of the syllable.

So far only one minimal pair has been found in English to illustrate the word distinctive function in the syllable, that is [ˈnai-treit] *nitrate* – [ˈnait-reit] *night-rate*. The distinction here lies in:

1. the degree of aspiration of [t] sounds which is greater in the first member of the opposition than in the second;
1. allophonic difference of [r]: in the first member of the opposition it is slightly devoiced under the influence of the initial [t];
2. the length of the diphthong [ai]: in the second member of the opposition it is shorter because the syllable is closed by a voiceless plosive [t].

The third function of the syllable is the identificatory function (ідентифікативна функція): the listener can understand the exact meaning of the utterance only when the correct syllabic boundary is perceived:

<i>an aim</i>	—	<i>a name</i>
<i>mice kill</i>	—	<i>my skill</i>
<i>an ice house</i>	—	<i>a nice</i>
		<i>house</i>
<i>peace talks</i>	—	<i>pea stalks</i>
<i>plate rack</i>	—	<i>play track</i>

Sometimes the difference in syllabic division might be the basic ground for differentiation sentences in such minimal pairs as:

<i>I saw her eyes.</i>	—	<i>I saw her rise.</i>
<i>I saw the meat.</i>	—	<i>I saw them eat.</i>

2. Accentual Structure of English Words

The syllable or syllables which are uttered with more prominence than the other syllables of the word are said to be **stressed** or **accented**. **Word stress** can be defined as the singling out of one or more syllables in a word, which is accompanied by the change of the force of utterance, pitch of the voice, qualitative and quantitative characteristics of the sound which is usually a vowel [Леонтьева 1988: 179]. The correlation of varying prominences of syllables in a word is understood as the accentual structure of the word or its stress pattern.

According to the most salient feature the following types of word stress are distinguished in different languages:

1. **dynamic or force stress** if special prominence in a stressed syllable(syllables) is achieved mainly through the intensity of articulation;
2. **musical or tonic stress** if special prominence is achieved mainly through the range of pitch, or musical tone.
3. **quantitative stress** if special prominence is achieved through the changes in the quantity of the vowels, which are longer in the stressed syllables than in the unstressed ones.

4. **qualitative stress** if special prominence is achieved through the changes in the quality of the vowel under stress [Леонтьева 1988: 180]. Vowel reduction is often used as manipulation of quality in unstressed syllables.

According to A.C. Gimson, the effect of prominence is achieved by any or all of four factors: force, tone, length and vowel colour [1970]. The dynamic stress implies greater force with which the syllable is pronounced. In other words in the articulation of the stressed syllable greater muscular energy is produced by the speaker. European languages such as English, German, French, Ukrainian are believed to possess predominantly dynamic word stress. In Scandinavian languages the word stress is considered to be both dynamic and musical. The musical (or tonic) word stress is observed in Chinese, Japanese, Vietnamese. It is effected by the variations of voice pitch in relation to neighbouring syllables.

Recent investigations of lexical stress in English show the **existence of a hierarchy of acoustic cues** to the stressed status of a syllable in English: the perceptually most influential cue is (higher) **pitch**, the second most important cue in the hierarchy is (longer) **duration**, the third is (greater) **intensity** and the last is segmental (sound) **quality** [Laver 1995: 513].

The English linguists (D. Crystal [1969], A.C. Gimson [1970]) agree that in English word stress or accent is a complex phenomenon, marked by the variations in **force, pitch, quantity** and **quality**. The dynamic and the tonic features of English word stress prevail over the others. It should be noted that when the tonic or musical component of word stress is involved it is the change of pitch level that is significant in making the syllable prominent, but not the type of tone direction.

As to the quantitative and qualitative components of word stress they are also significant. Certain distinctions of the vowel length and colour are reduced or lacking in unstressed syllables. The fact strengthens the idea that the accentuation is influenced by the vowel length and quality. The vowel of the stressed syllable is perceived as never reduced or obscure and longer than the same vowel in the unstressed syllables. Thus, the word "stress" or "accent" is also defined as qualitative where the vowel colour or quality is a means of stress and quantitative with relatively increased length of the stressed vowel.

The term **prominence** seems to cause some ambiguity when related to word stress. The stressed syllables are often said to be the most prominent syllables in the word. According to G.P. Torsuev the notions "stressed" and "prominent" should not be used synonymically [1960].

Prominence in speech is a broader term than stress. It is obtained by the components of word stress, such as the loudness, the length, the quality of the vowel plus the inherent sonority of the vowel and its historical length. In a discourse the effect of prominence may be strengthened by the melody which is the component of intonation.

Languages are also differentiated according to **the placement of word stress**. The traditional classification of languages concerning place of stress in a word is into those with a fixed stress and those with a free stress. In languages with a fixed stress the occurrence of the word stress is limited to a particular syllable in a multisyllabic word. For instance, in French the stress falls on the last syllable of the word (if pronounced in isolation), in Finnish and Czech it is fixed on the first syllable, in Polish on the one but last syllable.

In languages with a free stress its place is not confined to a specific position in the word. In one word it may fall on the first syllable, in another on the second syllable, in the third word — on the last syllable, etc.

The word stress in English as well as in Ukrainian is not only free but it may also be shifting, performing the semantic function of differentiating lexical units, parts of speech, grammatical forms. It is worth noting that in English word stress is used as a means of word-building, in Ukrainian it marks both word-building and word formation, e.g.

'contrast	–	con'trast
'habit	–	ha'bitual
'music	–	mu'sician

The opinions of phoneticians differ as to how many degrees of stress are linguistically relevant in a word. The majority of British (D. Jones, R. Kingdon, A.C. Gimson) and Russian linguists (V.A. Vassilyev, J. Shakhbagova) usually distinguish three degrees of stress in the word. The primary stress is the strongest, the secondary stress is the second strongest. All the other degrees are termed weak stress. Unstressed syllables are supposed to have weak stress. The American scholars B. Bloch and G. Trager find four contrastive degrees of word stress, namely: loud, reduced loud, medial and weak stresses [1942]. Other American linguists also distinguish four degrees of word stress but term them: primary stress, secondary stress, tertiary stress and weak stress. The difference between the secondary and tertiary stresses is very subtle and seems subjective. The criteria of their difference are very vague. Secondary stress differs from tertiary in that it usually occurs on the 3rd or 4th pretonic syllable, and tertiary is always post-tonic. The second pre-tonic syllables of such words as ,libe'ration, ,recog'nition are marked by secondary stress in RP, in General American they are said to have a tertiary stress. In GA a tertiary stress also affects the suffixes *-ory*, *-ary*, *-ory* of nouns and the suffixes *-ate*, *-ize*, *-y* of verbs,

which are considered unstressed in RP, e.g. 'terri,tory, 'cere,mony, 'dictio,nary; 'demonst,rate, 'orga,nize, 'simpli,fy.

There are several systems of notation for marking stress in a written word that can make the concept visual for the language users: CAPitals, **boldface**, *grave* and *aigu* accents, underlining. Most dictionaries mark primary stress with a **vertical superscript stress mark** – ' before the main stress syllable, and secondary stress with a **subscript stress mark** – , before the syllable bearing secondary stress; tertiary stress is marked with ˙ before the appropriate syllable: *interchangeability* [ˌɪntə,tseɪndʒ ə'blɪətɪ]. The stress marks in the Ukrainian and Russian phonetic traditions are placed above the stressed vowels which are the nuclei of the syllable: вимовляй правильно.

The stress in a word may be on the last syllable, the **ult**; on the next-to-last (the second from the end), **the penult**; on the third syllable from the end, the **antepenult**; and a few words are stressed on the fourth syllable from the end, **the pre-antepenult** [Kreidler 1997: 156].

The accentual structure of English words is liable to instability due to the different origin of several layers in the Modern English word stock. In Germanic languages the word stress originally fell on the initial syllable or the second syllable, the root syllable in the English words with prefixes. This tendency was called **recessive**.

The rhythm of alternating stressed and unstressed syllables gave birth to the **rhythmical** tendency in the present-day English which caused the appearance of the secondary stress in the multisyllabic French borrowings, e.g. ,revo'lution, ,organi'sation, as,simi'lation, etc. It also explains the placement of primary stress on the third syllable from the end in three- and four-syllable words, e.g. 'cinema, 'situate, ar'ticulate.

The retentive tendency consists in the retention of the primary stress on the parent word: 'person - 'personal, or more commonly the retention of the secondary stress on the current word: 'personal-personality. The difference between constant accent and the retentive stress consists in that the former remains on the same syllable in all the grammatical forms of a word or in all the derivatives from one and the same root, whereas retentive stress in a derivative falls on the same syllable on which it falls in the parent word, while in her derivatives from the same root it may be shifted [Vassilyev 1970: 278], e.g. 'person ~ 'personal -per'sonify.

There are certain categories of English words stressing of which is determined by the **semantic factor**, e.g. compound words and words with the so-called separable prefixes, the majority of such words have two equally strong stresses, both stressed parts are considered to be of equal semantic importance, with the semantic factor thus canceling the rhythmic tendency in word stressing, e.g.

- **compound adjectives:** *hard-working, blue-eyed,*
- **verbs with post positions** : *sit down, take off,*
- **numerals from 13 to 19.** *fourteen, sixteen.*

It should be noted that the rhythmic tendency becomes operative when such words occur in sentences and the first stress of a double-stressed English word disappears when an immediately or closely preceding word requires stress: a 'very good-looking 'girl.

The numerous variations of English word stress are systematized in the **typology of accentual structure** of English words worked out by G.P. Torsuev [1960]. He classifies them according to the number of stressed syllables, their degree or character (the main and the secondary stress). The distribution of stressed syllables within the word accentual types forms accentual structures of words, e.g. the accentual type of words with two equal stresses may be presented by several accentual structures: 'well-'bred [-], 'absent-minded [- -], or 'good-looking [- -]. Accentual types and accentual structures are closely connected with the morphological type of words, with the number of syllables, the semantic value of the root and the prefix of the word.

The accentual types are:

- I. [-] This accentual type marks both simple and compound words. The accentual structures of this type may include two and more syllables, e.g. 'father, 'possibly, 'mother-in-law, 'gas-pipe.
- II. [-]. The accentual type is commonly realized in compound words, most of them are with separable prefixes, e.g. 'radio-'active, 're-'write, 'diso'bey.
- III. [-] and IV. [-]. The accentual types are met in initial compound abbreviations like 'USA, 'RSVP.
- V. -[- -] The type is realized both in simple and compound words, very common among compound words, e.g. 'hair-,dresser, 'sub,structure.
- VI. [- -]. The accentual type marks a great number of simple words and some compound words as well. In simple words the stresses fall onto:
 1. the prefix and the root: ,maga'zine;
 1. the root and the suffix: ,hospi'tality;
 2. the prefix and the suffix: ,disorgani'zation.
- VII. -[- -] The type includes rather a small number of simple words with the separable prefixes, e.g. 'mis,repr'esent.

VIII. [ɪ -]. The type is found in a very small number of words, usually simple words with the stresses on the prefix, the root and the suffix, e.g. *individualization*.

IX. [-ɪ]. The type is met in rare instances of compound words with separable prefixes, e.g. *un'sea,worthy*.

X. [-ɪ =]. The type is represented by rare instances of simple and compound words, e.g. *soda-,water ,bottle*.

XI. [-ɪ]. The type is found in rare instances of compound words consisting of the three components, e.g. *ginger'beer-,bottle*.

The data given above suggest an idea of the great variability in the accentual structure of English words. The most widely spread among the enumerated accentual types are supposed to be Type I [ɪ -], Type II [ɪ], Type V-ɪ] and Type VI-ɪ]. Each type includes varieties of definite accentual structures with different numbers of syllables and marks thousands of words. So the four of them cover the main bulk of most common English words and are therefore most typical for the English vocabulary. As we may see, the typical feature of English accentual structure is its instability. There is a great number of words having variants of their accentual patterns. They may differ in:

1. number of stresses: *RSVP* [ɪ] or [ɪ -];
1. the place of stress: *hospitable* [ɪ -] or [ɪ -];
2. the degree of stress: *individualization* [ɪ == -] or [ɪ == -]

The variability of the word accentual structure is multiplied in connected speech. The accentual structure of words may be altered under the influence of rhythm, e.g.

An 'unpolished 'stone. But: The 'stone was un'polished.
'Find 'page four'teen. But: We 'counted 'fourteen 'birds.

The tempo of speech may influence the accentual pattern of words. With the quickening of the speed the carefulness of articulation is diminished, the vowels are reduced or elided, the secondary stress may be dropped, e.g. The 'whole organi'zation of the 'meeting was 'faulty.

The word stress is closely interrelated with sentence stress. The demarcation of word stress and sentence stress is very important both from the theoretical and the practical viewpoint. Sentence stress usually falls on the very syllable of the word which is marked by word stress. Thus the accentual structure of the word predetermines the arrangement of stresses in a phrase. At the same time the stress pattern of a phrase is always conditioned by the semantic and syntactical factors. The words which usually become stressed in a phrase are notional words. They convey the main idea of the phrase, though any word including form words may be marked by sentence stress, if it has certain semantic value in the sentence.

The common character of word stress and sentence stress is also observed in their rhythmical tendency to alternate stressed and unstressed syllables and pronounce them at approximately equal intervals.

Word stress and sentence stress are first of all different in their sphere of application as they are applied to different language units: Word stress is naturally applied to a word, as a linguistic unit, sentence stress is applied to a phrase.

Secondly, the distinction of the rhythmic structure of a word and a phrase is clearly observed in the cases when the word stress in notional words is omitted in a phrase, e.g. I 'don't think he is 'right.

Or when the rhythmic structure of the isolated word does not coincide with that of a phrase, e.g.

'Fifteen. 'Room Fif'teen. 'Fifteen 'pages.

So in a speech chain the phonetic structure of a word obtains additional characteristics connected with rhythm, melody, and tempo. Though the sentence stress falls on the syllable marked by the word stress it is not realized in the stressed syllable of an isolated word but in a word within speech continuum. Since the spheres of word stress and sentence stress fall apart their functions are actually different. Sentence stress organizes a sentence into a linguistic unit, helps to form its rhythmic and intonation pattern, performs its distinctive function on the level of a phrase.

We shall turn now to the **functional aspect of word stress**. Word stress in a language performs three functions.

I. Word stress constitutes a word, it organizes the syllables of a word into a language unit having a definite accentual structure, that is a pattern of relationship among the syllables; a word does not exist without the word stress. Thus the word stress performs the constitutive function. Sound continuum becomes a phrase when it is divided into units organized by word stress into words.

I. Laver holds the view that lexical stress shows a **culminative function**: being a characteristic property of the word, it is thought to help the listener to judge how many individual words the speaker has produced in a given utterance [Laver 1995:517].

II. Word stress enables a person to identify a succession of syllables as a definite accentual pattern of a word. This function of word stress is known as identificatory (or recognitive). Correct

accentuation helps the listener to make the process of communication easier, whereas the distorted accentual pattern of words, misplaced word stresses prevent normal understanding.

II. Word stress alone is capable of differentiating the meaning of words or their forms, thus performing its distinctive function. The accentual patterns of words or the degrees of word stress and their positions form oppositions. There are about 135 pairs of words of identical orthography in English which could occur either as nouns (with stress on the penultimate syllable) or as verbs (with stress on the final syllable), with a very small number of cases the location of lexical stress alone being the differentiating factor: 'import (noun) – im'port (verb), 'insult (noun) – in'sult (verb) [Laver 1995: 516].

Orthographically identical word-pairs in English differentiated by word-stress as nouns (penultimate stress) or verbs (ultimate stress):

Table 12

<i>abstract</i>	<i>contest</i>	<i>extract</i>	<i>produce</i>
<i>accent</i>	<i>contrast</i>	<i>fragment</i>	<i>progress</i>
<i>addict</i>	<i>convict</i>	<i>import</i>	<i>protest</i>
<i>address</i>	<i>defect</i>	<i>impact</i>	<i>rebel</i>
<i>affect</i>	<i>desert</i>	<i>impress</i>	<i>recess</i>
<i>affix</i>	<i>detail</i>	<i>incline</i>	<i>record</i>
<i>annex</i>	<i>digest</i>	<i>increase</i>	<i>refill</i>
<i>collect</i>	<i>discard</i>	<i>insert</i>	<i>refuse</i>
<i>combat</i>	<i>discharge</i>	<i>insult</i>	<i>segment</i>
<i>commerce</i>	<i>discount</i>	<i>intern</i>	<i>survey</i>
<i>commune</i>	<i>discourse</i>	<i>object</i>	<i>subject</i>
<i>compound</i>	<i>escort</i>	<i>outrage</i>	<i>suspect</i>
<i>compress</i>	<i>envelope</i>	<i>perfume</i>	<i>torment</i>
<i>confine</i>	<i>exploit</i>	<i>pervert</i>	<i>transfer</i>
<i>conflict</i>	<i>export</i>	<i>present</i>	<i>transport</i>
		<i>project</i>	<i>t</i>

VA. Vassilyev introduces the term "accenteme" for word stress as a suprasegmental phonological unit having different degrees and placement in a word [1970]. For instance the primary accenteme is opposed to the weak word accenteme (unstressed position), in 'import – im'port differentiating the noun from the verb. A.C. Gimson establishes three groups of words with identical spelling representing different parts of speech which are opposed by means of shifting of the stress [1970].

1. A small group of words where the noun is differentiated from a verb by the opposition of the accentual pattern of the word alone, e.g.

increase ['inkris] – *in* [in'kri:s]
s u l t ['ins ^lt] – [in's ^lt]
impress ['impres] – [im'pres]
inlay ['inlei] – [in'lei]

1. The second group where the shifting of the stress which means the change of the accentual pattern of the word may be or may not be accompanied by the reduction of the vowel in the unstressed syllable of the verbs, e.g.

transport ['træns'pɔ:t] [træns'pɔ:t] or [trəns'pɔ:t] *torment* ['tɔ:ment] [tɔ:'ment]
or [tə'ment]

2. The largest group of such pairs of words manifests the change of their accentual pattern together with the qualitative reduction of the unstressed vowel, e.g.

combine ['kɒmbain] – [kəm'bain]
conduct ['kɒnd ^kt] – [kən'd ^kt]
contrast ['kɒntra:st] – [kən'tra:st]

and many others.

Oppositions of accentual types of words are also observed as a concomitant factor in word-formation in addition to suffixation.

e.g. 1. [ɹ--] – [ɹ--ɹ] 'organize – ,organi'zation
e.g. 'substitute – ,substi'tution
e.g. 2. [ɹɹ--] – [ɹɹ--ɹ] 're'organize – 're,organi'zation
'predis'pose – 'pre,dispo'sition
e.g. 3. [ɹ--] – [ɹ--ɹ] 'palatalize – 'palatali'zation
'solemn – 'solemni'zation
e.g. 4. [ɹ--ɹ] – [ɹ--ɹ--ɹ] ,incon'siderable – 'incon
,side'ration

and others.

There is also a group of accentuation oppositions where compound nouns are opposed to free word combinations, e.g.

<i>a 'blackboard</i>	класна дошка
<i>a 'black 'board</i>	чорна дошка
<i>a 'dancing-girl</i>	танцівниця
<i>a 'dancing 'girl</i>	дівчина, яка танцює

The accentual structure of words is actually very closely interrelated with their semantic value. By way of illustration we shall now analyse a fairly large class of words in English which are marked by two primary stresses (Accentual Type II). They are either compounds consisting of two semantically important stems or words with semantically relevant separable prefixes or the suffix *-teen*. The accentual pattern of this group of words is regulated by the meaningful weight of the elements of the compounds. Word stress establishes contrastive relationship of the elements and often creates opposition to comparable words.

Most of compound adjectives have two equal stresses as both elements in them are semantically important, e.g.

'absent-'minded, 'left-'handed, 'good-'looking.

As soon as the significance of one of the elements of a compound adjective is weakened, its accentual pattern is changed. (Accentual Type I), e.g. *'spring-like, 'nymph-like, 'powder-like; 'oval-shaped, 'bow-shaped.*

The same tendency is observed in compound nouns: if their elements are semantically important both elements are equally stressed (Accentual Type II), e.g. *'north-'east, 'north-'west, 'south-'west.*

At the same time most of compound nouns have one stress on the first element which is more significant than the second one. They are sometimes opposed to other compounds with the same second element, e.g. *'dining-room - 'bedroom - 'bathroom - 'livingroom; 'shop-girl - 'ballet-girl.*

Compound verbs have two equal stresses as their postpositions change the actual meaning of the verb itself as it is illustrated in the following example:

	-	<i>'Put it where it ,was.</i>
<i>What shall I do with it?</i>	-	<i>'Put it ,on.</i>
	-	<i>'Put it ,off.</i> Oppositions are also found among compound

verbs:

*to 'switch 'on - to 'switch 'off to 'turn 'on -
to 'turn 'off* Words with meaningful prefixes are likewise semantically opposed to those without prefixes. Compare:

<i>'educated</i>	-	<i>'un'educated</i>
<i>'regular</i>	-	<i>'ir'regular</i>
<i>'please</i>	-	<i>'dis'please</i>
<i>'cyclone</i>	-	<i>'anti'cyclon</i>
<i>.understand</i>	-	<i>'misunder'stan d</i>

Compound numerals have naturally two equal stresses, making both elements significant, e.g. *'twenty-three, 'sixty-'five.*

Numerals with the *-teen* suffix are marked by two stresses to oppose them to the numerals with the unstressed suffix *-ty*. If the suffix *-teen* is not stressed the vowel [i:] in it is shortened and obscured, the sonant [n] is weakened, there is consequently a danger of misunderstanding, e.g.

-	<i>'What page is it? </i>
-	<i>'Seven teen. </i>
-	<i>'Seven,teen or seventy? </i>

Guidelines to English word stress placement

English stress placement is a highly complicated matter. There is an opinion that it is best to treat stress placement as a property of an individual word, to be learned when the word itself is learned. However, it is also recognized that in most cases when English speakers come across an unfamiliar word, they can pronounce it with the correct stress. Thus in principle, it should be possible to

summarize rules of lexical stress placement in English, and practically all the rules will have exceptions.

In order to decide on stress placement, it is necessary to make use of some or all of the following information:

1. whether the word is morphologically simple, or whether it is complex containing one or more affixes (prefixes or suffixes) or a compound word;
 1. the grammatical category to which the word belongs (noun, verb, adjective, etc.)
 2. the number of syllables in a word;
 3. the phonological structure of the syllables; [Roach 1995:88]
 4. the historical origin of a word.

The following **guidelines** to lexical stress placement in English should be taken as tendencies rather than absolute rules due to exceptions to almost any rule.

Lexical stress of monosyllabic words presents no problem - pronounced in isolation they are said with **primary stress**.

Basic rules of stressing two-syllable simple words comprise rules of stressing Verbs, nouns, adjectives, etc. The basic rule of stressing two-syllable **VERBS** runs that if the second syllable of the verb contains a long vowel or a diphthong, or if it ends with more than one consonant, that second syllable is stressed: *apply, attract, arrive*.

1. if the final syllable contains a short vowel and one final consonant, the first syllable is stressed: *open, enter*.
1. a final syllable is also unstressed if it contains *hah*. *follow, borrow*.
2. any two-syllable verbs with prefixes of Germanic and Latin origin have the root syllable stressed (see a more detailed explanation in words with prefixes).

Two syllable simple **ADJECTIVES** are stressed according to the same rule as two-syllable verbs: *'lovely, 'even, 'hollow*; cf.: *dí'vine, co'rrect, a'live*. There are exceptions to this rule: *'honest, 'perfect*.

Two-syllable **NOUNS** have the first syllable stressed if the second syllable contains a short vowel: *dinner, money, colour*. Otherwise it will be on the second syllable: *de'sign, b'dloon*.

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

Lexical stress of three-syllable simple words.

Table 13

Three-syllable verbs	Three-syllable nouns
If the last syllable of a three-syllable verb 1) contains a short vowel and ends with not more than one consonant, that syllable will be unstressed, and stress will be placed on the preceding (penultimate syllable): <i>de'termine, en'counter</i> . 2) contains a long vowel or a diphthong, or ends with more than one consonant, that final syllable will be stressed: <i>enter'tain, under'stand</i> .	If the final syllable of a three-syllable simple noun contains 1) a long vowel or a diphthong and/or ends with more than one consonant, the stress will usually be placed on the first syllable: <i>'intellect, 'marigold</i> . 2) a short vowel and the middle syllable contains a short vowel and ends with not more than one consonant, the first syllable will be stressed: <i>'quantity, 'cinema</i> . 3) contains a short vowel or [ɪ] and if the penultimate syllable contains a long vowel or a diphthong, or if it ends with more than one syllable, that penultimate syllable will be stressed: <i>po'tato, dí'saster, sy'nopsis</i> .

Lexical stress of words of four or more syllables. It can be stated in a most general way that in words of four and more syllables the stress is placed on **the antepenultimate syllable (third from the end)**, e'mergency, hi'storical, ca'lamity.

But most of such words are of complex morphological structure containing affixes (prefixes and / or suffixes) which makes it necessary to regard stress placement rules applied to prefixal and suffixal words separately.

Words with prefixes. As a general rule, words containing prefixes tend to be stressed on the first syllable of the base or root element, with the prefix either unstressed or having secondary stress [Celce-Murcia et al 1996:134]. In English, prefixes fall into one of two categories:

Table 14

Prefixes of Germanic origin	Prefixes of Latin origin
a-, be-, for-, fore-, mis-, out-, over-, un-, under-, up-, with, e.g. <i>awake, believe, forgive, foresee, mis take, outrun, overdo, untie, understand, uphold, withdraw</i>	a(d)-, com-, de-, dis-, ex-, en-, in-, o-, per-, pre-, pro-, re-, sub-, sur-, e. g. <i>admix, complain, discard, exclude, entreat, inhale, oppose, persuade, remember, subside, surmount</i>

<p>1) Some of these prefixes are always unstressed in the words in which they occur: <i>a-, be-, fore-, with-</i>.</p> <p>2) Others usually receive secondary stress in the following prefix+verb combinations: <i>undo, outdo, overlook, underpay</i>.</p> <p>3) An exception to this general rule (secondary stress on the prefix and primary stress on the base) occurs when a word with a prefix functions as a noun and has the same pattern as a noun compound. In this case, the prefix or its first syllable tends to have primary stress: <i>foresight, outlook, overdose, underwear, upstart</i>. Cf: <i>I couldn't stop the OVERflow of the tank!</i> (prefix+base functioning as a noun) <i>Why did the tank overFLOW!</i> (prefix+verb)</p>	<p>1) It is usually the base (not the prefix) that receives primary stress. However, unlike Germanic prefixes, – the majority of Latin prefixes are unstressed when part of a verb: <i>compare, disturb, produce, expect</i>.</p> <p>2) When these prefixes are part of a word that functions as a noun, the prefix often receives primary stress: Cf.: <i>Fresh PROduce (noun) is expensive in winter. The company will PROduce (verb) new brands</i>. In these examples, the difference in stress patterns helps to reinforce the differences between parts of speech.</p>
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Words with suffixes. We can identify three types of suffixes, from the point of view of stress [Gimson 2001: 226-227; Celce-Murcia et al 1996: 136]:

Table 15

<p>1) Stress-neutral suffix – the suffix does not affect the location of stress in the base/stem to which it is attached</p>	<p>2) Stress-imposing / stress-attracting suffix – the suffix causes the stress to fall on a particular syllable of the stem</p>	<p>3) Stressed / stressfixing suffix – the suffix itself is stressed</p>
<p>1) for the most part, stress-neutral suffixes are Germanic in origin: -hood, -less, -ship, -ful, e.g. <i>childhood, tasteless, beautiful, friendship</i>. 2) Other neutral suffixes – not all of Germanic origin – that function the same way include derivational suffixes ending in -ment, and most of those ending in -y: ary, -ery, -ory, -cy-, -acy, -ty; diminutive -y; -ish, -ism, -ist, -er, -ess, -ness, -dom, e.g. <i>disaGrEEment, inFIRmary, DELicacy, FOOLish, SEParatist, LLOness, etc.</i></p>	<p>1) on the syllable immediately preceding the suffix: -eous, advanTAgeous -graphy, phoTOgraphy -ial, proVERBial -ian, PaRlsian -ic, cliMATic -ical, ecoLOGical -ious, inJURious -ity, aBILity -ion eduCation</p>	<p>1) suffixes that have come into English via French often cause the final syllable of a word to receive primary stress [Kreidler 1989: 307]: -aire, questionNAIRE -eer, volunTEER -ese, VietnAMESE -esque, groTESQUE -ique, anTIQUE -oon, balLOON -ette, casSETTE</p>

NOTE: 1. In cases where the base and the suffix have different historical origins, it is the suffix that determines the English stress pattern, e.g. Germanic suffixes **-ly** and **-ness** when added to the words of Romance origin cause no shift in stress: *PASSive, PASSively, PASSiveness* but the shift from *PASSive* to *pasSIVity* occurs on adding the Latin suffix **-ity** [Celce-Murcia et al 1996:138].

2. Some suffixes can be stress-neutral or stress-fixing in particular cases, e.g. **-able**, which is in most cases stress-neutral: *adore – aDORable, question – QUEStionable, reconcile – REconcilable*. However, in a number of disyllabic roots with stress on the final syllable, that stress may be shifted to the first syllable of the root: *admire – ADmirable, apply – ApplicAble, prefer – PREferable*. In some cases the general pressure from the stressneutrality of **-able** may lead to alternative pronunciations [Gimson 2001:206]: *apPLICable, COMparable – comPARable* (GenAm), *deMONstrable – DEMonstrable*, etc.

Stress in compounds and phrases. **Compounds** are composed of more than one root morpheme but function grammatically and/or semantically as a single word [Gimson 2001:228]. Compounds may be written as one word, e.g. *dishwasher*, or with a hyphen, e.g. *user-friendly*, or with a space between the two elements, e.g. *season ticket*. There is no systematic practice in the choice among these three ways, although there is a tendency for compounds with primary stress on the first element to be written as one word or with a hyphen, and for those with the primary stress on the final element to be written as two words [Gimson 2001:228].

When an adjective modifies the following noun, they make a **phrase**, and typically, they have a **late stress**, i.e. the second word has more stress than the first, e.g. *,polished 'wood, ,interesting 'book, ,funning 'water, ,hard 'work, ,difficult 'course*.

There are some guidelines for defining stress placement in **compounds** and **phrases** [Kreidler 1997:144-154; Gimson 2001: 228-231; Wells 2000:163]:

Compounds typically have **early stress**, the first element is more stressed than the second: *'firewood, 'library book, 'running shoes, 'homework, correspondence course.*

Early stress is usual in compounds in which:

- the two elements are written as one word: *'headline, 'screwdriver; 'laptop, 'lifestyle;*
- expressions consisting of NOUN+NOUN: *'picture frame, 'child abuse, 'theme park, 'tape measure.*
- expressions consisting of A(djective)+NOUN, N's+N, N+V, N+Ving: *'batting average, 'bull'seye, 'crow'snest, 'landfill, 'ear-splitting, 'job-sharing,*
- phrasal and prepositional verbs used as nouns: *'burn-out, 'lay-off, 'melt-down, 'setup.*

LATE STRESS is usual in the following **compounds** as if they were phrases:

- when the first element is the material or ingredient out of which the thing is made: *cherry 'pie, pork 'chop, pee 'pudding, panana 'split,* except for CAKE, JUICE and WATER: these have normal early stress: *'carrot cake, 'orange juice, 'mineral water.*
- the first element is a proper name: *,Euston 'Road, the ,Hilton 'Hotel, ,Oxford 'Circus,* except for STREET: these have normal early stress: *'Oxford Street, 'Euston Street.*
- the first element names a place or time: *,city 'centre, ,town 'hall, ,summer 'holidays, ,Easter'bunny, ,Christmas 'pudding, ,morning 'paper, ,office 'party, ,kitchen 'sink.*
- when both N1 and N2 are equally referential: *acid 'rain, aroma 'therapy, fridge'freezer;*
- when N1 is a value: *100per cent 'effort, dollar 'bill, pound 'note.*

Compound adjectives divide fairly evenly between those with initial primary stress: *'seasick, 'hen-pecked, 'ladylike,* and those with final stress: *deep-'seated, rent-'free, skin'deep, sky-'blue.*

Sometimes the same sequence of words can make a **phrase** or a **compound**. Here **the late** or **early stress** distinguishes them:

Table 16

Compounds = EARLY STRESS	Phrases = LATE STRESS
<i>a 'darkroom = a room for developing photographs</i>	<i>a ,dark 'room = a room which is dark because there is little light in it</i>
<i>a 'moving van = to carry furniture when one moves house</i>	<i>,moving 'van = a van that is in motion</i>
<i>a blackbird = a kind of bird: <i>Turdus merula</i></i>	<i>,black 'bird = any bird that is black</i>
<i>an 'English teacher = a teacher of English</i>	<i>,English 'teacher = a teacher who is English</i>

The stress patterns of some English words are liable to variations of different kinds. There is free variation of stress location due to some rhythmic and analogical pressures, both of which entail in addition considerable changes of sound pattern in words [Gimson 1001:231], e.g.

1) in some words of three syllables, there is variation between '- - - and '- - patterns: *deficit, integral (adj), exquisite.*

1) similarly, in words of four syllables, there is variation between first and second syllable stressing: *hospitable, formidable, despicable.*

Pronunciation patterns of such words due to the variation in stress placement have the status of **alternative pronunciation forms** which occur in educated usage.

Cases of variable stress placement caused by the context is known as **'stressshift'** [EPD 1997: xii]. When a word of several syllables has a stress near the end of the word, and is followed by another word with stress near its beginning, there is a tendency or the stress in the first word to move nearer the beginning if it contains a syllable that is capable of receiving stress, e.g. the word *academic* in isolation usually has the stress on the penultimate syllable [-dem-]. However, when the word *year* follows, the stress is often found to move to the first syllable [æk-]; the whole phrase *'academic year'* will have the primary stress on the word *year*, so the resulting stress pattern will be *,academic 'year*. In isolation, we say *fundamental* and *Japanese* with primary stress on *-ment*, and *-nese*, in connected speech these words may have a different pattern: greater stress on *fund-* and *Jap-*.

There are also often differences between the stressing of compounds in RP and General American, e.g.

Table 17

RP	GenAm
<i>'season ,ticket</i>	<i>,season 'ticket</i>
<i>,Adam's 'apple</i>	<i>'Adam's ,apple</i>
<i>,peanut 'butter</i>	<i>'peanut ,butter</i>

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Questions

1. What is a syllable?
1. How many aspects does the problem of the syllable have?
2. What is the syllable - articulatorily? - auditorily? - phonologically?
3. How many functions does the syllable perform phonologically?
4. What does
 - the CONSTITUTIVE FUNCTION
 - the DISTINCTIVE FUNCTION
 - the IDENTIFICATORY FUNCTION mean?
2. How is the syllable formed in English?
3. Why are the English sonorants /w/, /l/ never syllabic?
4. How is it possible to establish the number of syllables according to the syllable-forming elements?
5. What are the structural components of a syllable called, e.g. *cat*, *tree*, *ice* 10. What is the presentation of a syllable structure in terms of C and V called?
 11. Name structural types of syllables in terms of C and V?
 11. What are the commonest types of the syllable in English structurally?
 12. What type of syllable is considered to be the universal structure?
 13. What is the characteristic feature of English according to the number of syllables in words?
 14. What is the limit for the number of syllables in a word in English?
 15. How can syllables be designated:
 - a) by the position in a word? b) by the position in relation to stress?
 16. What is the relative **sonority theory/ the prominence theory** based upon?
 17. What is the sonority of a sound?
 18. Who is the creator of the relative **sonority theory**? What has he proved?

19. Give the two extreme points of the sonority scale?
20. How is the syllable treated the by the relative **sonority** theory?
21. What does the sonority theory help establish and what is its drawback?
22. Who put forward the **muscular tension theory**?
23. How does muscular tension impulses occur in speaking ? What corresponds to points of syllabic division?
24. How can the end of one syllable and the beginning of the next one be ascertained?
25. How can consonants be pronounced?
26. Where do initially strong C and finally strong C occur?
27. What is the drawback of this theory?
28. What is the division of a word into syllables called?
29. What can be said about the question of syllabification in English?
30. What do phoneticians agree about in general?
31. What is the **phonotactic constraint** on syllabification?
32. How is syllable divisions shown in Longman Pronunciation Dictionary (LPD) and in English Pronouncing Dictionary (EPD)?
33. What are basic **rules of phonetic (spoken) syllable division**:
 - is there any coincidence between a syllabic and a morphological boundary?
 - how are consonants syllabified?
 - how are diphthongs syllabified?
 - are affricates unisyllabic?
 - what are the guidelines for syllabification of syllabic consonants?
12. What is an orthographic syllable? What is another term to designate orthographic syllables?
13. Do parts of phonetic and orthographic syllables always coincide? Exemplify.
14. What is a most general principle the division of words into syllables in writing based on?
15. Where is the syllabic boundary in writing if there are two or three consonants before *-ING*, e.g. *grasping*, *puzzling*?
16. How can compound words be divided, e.g.: *hotdog*; *spotlight*?
17. Is it possible to divide a word within a phonetic syllable?
18. What is the rule of syllable division of suffixes in writing?
19. Is it possible to divide a word so that an ending of two letters such as *-ED*, *-ER*, *-IC* begins the next line? Are there any exceptions to this rule?
20. Is it possible to divide a word of ONE phonetic syllable?
 - a word of less than FIVE letters?
21. How can word stress (WS) be defined ?
22. What types of WS are distinguished in different languages according to its nature?
23. How many **types of WS in English according to its DEGREE** are singled out by the majority of phoneticians?
24. How many degrees of WS are distinguished by the American linguists?
25. How many degrees of WS are distinguished in your native language?
26. Comment on the systems of notation for marking stress in a written word in English and Ukrainian.
27. What WS tendencies determine the location and degree of it?
28. Explain the essence of
 - the recessive tendency;
 - the rhythmic tendency; • the retentive tendency and
 - the semantic factor.
29. What function does WS perform? Explain the essence of each function.
30. Comment on the case when the location of WS alone differentiates parts of speech. Give examples.
31. Comment on English stress placement as a general problem.
32. What information should be taken into account in order to decide on stress placement?
33. Speak on the **guidelines** to WS placement in English:
 - monosyllabic words
 - two-syllable simple words
 - three-syllable simple words
 - four or more syllables
 - words with prefixes

- words with suffixes
 - compounds and phrases.
34. Give examples of free variation of stress location in English words.
 35. What status do accentual variants of such words have?
 36. What is '**stress-shift**'?

Practical task

1. Make a glossary of the main notions and give their definitions.
1. Divide these words into phonetic syllables. Give their syllabic structural patterns.

№	A word in transcription	Its syllabic structural pattern
0	bridle ['braɪd .ə1]	CSVC.S
1	people	
2	copious	
3	luggage	
4	militant	
5	participant	
6	scatter	
7	scissors	
8	tired	
9	disorientation	
10	incomprehensible	

2. Mark the stress in the following words: *profile*, *capitalize*, *unintelligibility*, *temperamental*, *qualify*, *situate*, *dictate*, *desert* (verb), *desert* (noun), *bare-headed*.

3. Mark which words contain
 - A stress-neutral suffix – SN
 - A stress-imposing suffix – SI
 - A stressed suffix – S

Base word	Derivative word and its lexical stress	Type of suffix
0. <i>climate</i>	<i>climatic</i>	SI
1. Portugal	Portuguese	
2. poison	poisonous	
3. launder	laundrette	
4. infirm	infirmary	
5. period	periodical	
6. punctual	punctuality	
7. separate	separatist	
8. punish	punishment	
9. picture	picturesque	

10.proverb	proverbial	
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5. Write each compound in the correct group:

№	WORD	Early stress	Late stress
1	Apple blossom		
2	apple pie		
3	cheese grater		
4	cheese sauce		
5	jamjar		
6	jam sandwich		
7	peach brandy		
8	peach stone		
9	mineral water		
10	orange juice		

Test

№	Question	Answer
1	The limit for the number of syllables in English is ...	
2	The universal syllabic structure in the canonical form is ...	
3	The division of words into syllables is called ...	
4	Divide into phonetic syllables the word <i>bottle</i> .	
5	What symbol is used to designate a syllabic consonant?	
6	What two types of sounds cannot be split during syllabification?	
7	Divide in writing the word <i>speaking</i> .	
8	Divide in writing the word <i>teacher</i> .	

9	How is the third syllable from end designated?	
10	How is the syllable preceding the stressed syllable designated?	
11	What sounds are at the peak of the syllable according to the prominence theory?	
12	How many degrees of word stress are singled out in English?	
13	What degree of word stress do American phoneticians add to the traditionally recognized degrees in English?	
14	Indicate word stress placement in the word <i>increase</i> as a) a verb and b) a noun.	
15	What syllable of four- or more-syllable words is stressed in English?	
16	How many types of suffixes are identified from the point of view of their influence on word stress placement?	

17	What kind of suffixes are <i>-ic</i> , <i>-ity</i> , <i>-ian</i> from the point of view of their influence on word stress placement?	
18	Give two examples of stress-fixing suffixes.	
19	Which kind of word stress do typically compounds have?	
20	<p>Give correct lexical stress in <i>an English teacher</i> for</p> <p>a) a teacher who is English</p> <p>b) a teacher of English</p>	<p>a) <i>an</i> <i>English</i> <i>teacher</i></p> <p>b) <i>an</i> <i>English</i> <i>teacher</i></p>