Н. М. Собчакова

ТЕОРЕТИЧЕСКАЯ ФОНЕТИКА АНГЛИЙСКОГО ЯЗЫКА

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Рецензенты:
профессор, доктор филологических наук О.А. Кострова
доцент, доктор педагогических наук О.М. Осиянова

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В пособии рассмотрены теоретические аспекты фонетики английского языка, отражены современные теории фонемы, слога, просодической системы. Материал изложен с позиций современной науки, описаны основные составляющие фонетического строя английского языка. Каждая глава завершается упражнениями по изученной теме и списком рекомендуемой литературы. Таблицы, рисунки обеспечивают наглядность и доступность учебного материала, образцы контрольных работ и требования к результатам освоения дисциплины дают возможность овладеть материалом самостоятельно.

Настоящее учебное пособие предназначено для студентов, изучающих английский язык, преподавателей английского языка.

Содержание

Introduction

The Course of Theoretical Phonetics introduces students to the International Phonetic Alphabet and other popular transcription systems, to the syllabic structure of English, the distribution of stress within a word, word-group, etc.; gives a clear insight into the consonant and vowel systems; describes the suprasegmental parts of phonetic material, such as syllables, intonation and it's components.

The course is taught through lectures, class discussions, practical tasks, laboratory sessions, oral presentations and test work .

This textbook has several aims:

- to help learners of English organize their self-study by learning and using the fundamental principles of Phonetics and the Phonological system of the English language, and by understanding the basic segmental and suprasegmental linguistic phenomena, constituting phonemic level,

- to provide with different scholars' opinions on phonetic phenomena,

- to develop practical skills of pronunciation issues through practical-oriented tasks,

- to increase interest and motivation of the students in applying the concepts of Theoretical Phonetics to practical tasks, including language teaching,

- to highlight the importance of suprasegmental properties of speech while conveying a thought, which may reveal the speaker's social background, the speaker-listener relationship, degree of interest or involvement in the situation, attitudinal characteristics: assertiveness, concern, sarcasm, surprise, etc

To successfully complete the course, students are required:

- to attend the lectures and seminars;
- to participate in class discussions, demonstrating an appropriate level of understanding of the discussed issues ;
- to complete practical assignments ;

- to complete a final written test which involves all the studied material and includes two of the theoretical aspects of the course
- to sit a final test which consists only of the theoretical aspects of the course

1 Chapter I. Phonetics as a science

1. **Phonetics as a linguistic science. Its main notions.**
2. **Branches of phonetics. Types of phonetic analysis.**
3. **Connection of phonetics with other linguistic and non-linguistic disciplines.**
4. **Speech-production mechanism. Organs of speech**

Phonetics as a linguistic science: its main notions.

Phonetics was known to ancient Greeks, where the theory of public speech and phonetic delivery were important. The origin of the word "phonetics" is a Greek word "phona" – a sound, a voice.

Phonetics is one of the fundamental branches of linguistic, an independent branch like lexicology or grammar. It's very important in the study of a language, because neither grammar nor vocabulary can exist without the phonetic form. All grammar or vocabulary phenomena are expressed phonetically. So, phonetics is a basic branch of linguistics: neither linguistic theory nor the linguistic practice can do without phonetics.

Phonetics investigates the phonemes and their allophones - \segmental phonetics\ , the syllabic structure of the language, the distribution of stress, and intonation (i.e. all prosodic features) - \suprasegmental phonetics\. This subdivision of phonetics makes it necessary to introduce the notion of phonetic system of language. Under the phonetic system of language they understand a set of phonetic units arranged in an orderly way to replace each other in a given framework. Phonetics is divided into two major systems: segmental phonetics, which is concerned with individual sounds (i.e. "segments" of speech) and suprasegmental phonetics dealing with the larger units of connected speech: syllables, words, phrases and texts.

As for the subject of phonetics , it is interested in the sounds that are produced by the human speech-apparatus, but only such sounds which have a role in language, that bring organized information, i.e. meaningful sounds.

Phonetics is the study of the way people make, transmit, and receive speech sounds. Phonetics is interested in the way how the sounds are organized into a system of units and the variation of those units in all types and styles of spoken language.

Phonetics as a branch of linguistics that studies speech sounds in the broad sense, comprising segmental sounds, suprasegmental units and prosodic phenomena (pitch, stress, tempo, rhythm, pauses).

Branches of phonetics. Types of phonetic analysis.

There are three main branches of phonetics :
- articulatory
- acoustic
- auditory

Articulatory phonetics deals with the work of speech organs in the production of speech sounds (positioning of vocal organs, active and passive organs).

The field of articulatory phonetics is in studying articulation, the phoneticians explain how humans produce speech sounds via the interaction of different physiological structures. Generally, articulatory phonetics is concerned with the transformation of aerodynamic energy into acoustic energy. Aerodynamic energy refers to the airflow through the vocal tract. Its potential form is air pressure; its kinetic form is the actual dynamic airflow. Acoustic energy is variation in the air pressure that can be represented as sound waves, which are then perceived by the human auditory system as sound.

Acoustic phonetics deals with movements of air (airwaves) that take place between the mouth of the speaker and the ear of the listener (their rate, amplitude of vibration, physical characteristics of speech sounds, use of special techniques to measure sounds characteristics). Acoustic phonetics is a subfield of phonetics

which deals with acoustic aspects of speech sounds. Acoustic phonetics investigates properties like amplitude of a waveform, its duration, its fundamental frequency, or other properties of its frequency spectrum, and the relationship of these properties to other branches of phonetics (e.g. articulatory or auditory phonetics). As for the use of special techniques, the study of acoustic phonetics was greatly enhanced in the late 19th century by the invention of the Edison phonograph. The phonograph allowed the speech signal to be recorded and then later processed and analyzed. By replaying the same speech signal from the phonograph several times, filtering it each time with a different band-pass filter, a spectrogram of the speech utterance could be built up. Further advances in acoustic phonetics were made possible by the development of the telephone industry, it greatly facilitated the systematic study of the spectral properties of periodic and aperiodic speech sounds, vocal tract resonances and vowel formants, voice quality, prosody, etc.

Auditory phonetics is interested in the hearing process, the perception of speech (how the movements of the air turn into the vibrations of the ear-drum of the listener and then- into nervous impulses sent to the brain).

Beside these three branches, there are several subdivisions of phonetics:
PHONETICS can be :
- General (studies general phonetic laws, problems and principles common for any language)
- Special (studies phonetics of a particular languages /ex: English theoretical phonetics)
- Comparative (compares phonetics of one language to that of the other languages)
- Historical (deals with the historical development of language sound system)

We may speak of general phonetics and the phonetics of a particular language (special or descriptive phonetics). General phonetics studies all the sound-producing possibilities of the human speech apparatus and the ways they are

used for purpose of communication. The phonetics of a particular language studies the contemporary phonetic system of the particular language, i.e. the system of its pronunciation, and gives a description of all the phonetic units of the language. Descriptive phonetics is based on general phonetics.

Linguists distinguish also historical phonetics whose aim is to find and establish the successive changes in the phonetic system of a given language (or a language family) at different stages of its development. Historical phonetics is a part of the history of language.

Phonetics can also be theoretical and practical. Practical, or normative, phonetics that 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 language.

Theoretical phonetics studies language with a view to constructing theory of its structure and functions and without regard to any practical applications. Practical one – finds its application in language teaching, offering a variety of practical tasks for drilling.

Connection of phonetics with other linguistic and non-linguistic disciplines

Phonetics is closely connected not only with other linguistic disciplines, but also with many non-linguistic disciplines. This connection of phonetics with other linguistic disciplines is determined by the fact that language is a system of components which are inseparably connected with one another.

It is connected with lexicology (one phoneme can help to differentiate words from each other, for eg: b**u**t –b**i**t, hear**t**-har**m** ; parts of speech from each other, for eg: piece of advi**ce**- to advi**se**; word and sentence stress can help to differentiate meanings of words, for eg: ’з**а**мок – зам’**о**к)

It is also connected with grammar as word stress can help to differentiate parts of speech, for eg: ’**i**mport - to im’p**o**rt, ’pr**e**sent - to pre’s**e**nt; phoneme can

help to distinguish grammatical forms of words (for eg: plural from singular: t**oo**th-t**ee**th, cat-cat**s**; past form –from present: look-look**ed**, ben**d**-ben**t**) .

Phonetics is also connected with many other sciences: medicine, physics, psychology (*pshychophonetics*), rhetorics, mathematics, statistics, computer technologies, etc.)

Acoustic phonetics is connected with physics and mathematics. Articulatory phonetics is connected with physiology, anatomy, and anthropology. Historical phonetics is connected with general history of the people whose language is studied; it is also connected with archaeology. Phonology is connected with communication (information) theory, mathematics, and statistics.

Phonetics and Social Sciences: language is not an isolated phenomenon, it's a part of society. The use of language and pronunciation in particular is determined by the social context (situation). So, sociophonetics studies the way language functions in social context. The social features/ factors we are interested in are: regional/ geographical factor, the age of the speaker, gender, social status, sphere of communication (so-called "pronunciational styles").

Speech-production mechanism. Organs of speech

The process of speech production is realized in the folowing scheme:

1)the message is formed and incoded in the brain of the speaker (linguistic/ psychological level)

2) it is transmitted to the organs of speech and some sounds are articulated (physiological stage)

3) the movements of the organs of speech produce sound waves (physical/ acoustic stage)

4) the sound waves are perceived, identified and decoded by the listener (auditory stage)

Human speech is the result of a highly complicated series of events. Let us consider the speech chain, which may be diagrammed in simplified form like this:

Speaker's brain	Speaker's vocal tract	Transmission of sounds through air	Listener's ear	Listener's brain
1	2	3	4	5
linguistic	articulatory	acoustic	auditory	linguistic

The formation of the concept takes place in the brain of a 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. . The sound phenomena have different aspects:

(a) the articulatory aspect;

(b) the acoustic aspect;

(c) the auditory (perceptive) aspect;

(d) the functional (linguistic) aspect.

Now it is possible to show the correlation between the stages of the speech chain and the aspects of the sound matter.

Articulation comprises all the movements and positions of the speech organs necessary to pronounce a speech sound. According to their main sound-producing functions, the speech organs can be divided into the following four mechanisms:

(1) the power mechanism;

(2) the vibration mechanism;

(3) the resonator mechanism;

(4) the obstruction mechanism.

The functions of the power mechanism consist in the supply of the energy in the form of the air pressure and in regulating the force of the air stream. The power mechanism includes: (1) the diaphragm, (2) the lungs, (3) the bronchi, (4) the windpipe, or trachea. The glottis and the supra-glottal cavities enter into the power mechanism as parts of the respiratory tract. The vibration mechanism consists of the larynx, or voice box, containing the vocal cords. The most important function of the vocal cords is their role in the production of voice. The pharynx, the mouth, and the nasal cavity function as the principal resonators thus constituting the resonator mechanism. The obstruction mechanism (the tongue, the lips, the teeth, and the palate) forms the different types of obstructions.

The organs of speech

All speech organs can be conventionally subdivided into active and passive (the most active are tongue and lips, the most passive are upper teeth and hard palate)

The larynx

The larynx is a box-like structure made up of cartilage, muscle and connective tissue. It is situated at the top of the windpipe (trachea). You can feel the largest cartilage in the larynx, which is known as the thyroid cartilage if you place your

finger lightly on your "Adam's Apple". The larynx contains the **vocal folds**, which are also known as the **vocal cords.** These are two folds of muscle covered in membrane which are attached to the inner surface of the thyroid cartilage at the front and to two small cartilages called the arytenoid cartilages at the back. The arytenoid cartilages are movable and their positioning controls the positioning of the vocal folds. Here is a picture of part of the trachea (windpipe) and the larynx sitting on top of it.

Vocal cords

The pair of elastic, fibered bands inside the human larynx. Vocal folds are located within the larynx at the top of the trachea. Situated above the larynx, the epiglottis acts as a flap which closes off the trachea during the act of swallowing.

The cords are covered with a membrane, the vocal cords act for air regulation and vibrate to produce sounds. Separation, approximation, and alteration of tension are produced by action of muscles. Vibration of the cords produces fundamental sounds and overtones. These can be modified by the strength of the air current, the

size and shape of the glottis (the opening between the cords), and tension in the cords. Physical characteristics of vocal cords (size, mass, length) influence voice characteristics. Men and women have different vocal cords sizes. Adult male voices are usually lower pitched and have larger vocal cords. The male vocal folds are between 17 mm and 25 mm in length.The female vocal folds are between 12.5 mm and 17.5 mm in length. The difference in vocal cords size between men and women means that they have different pitch of voice. Vocal cords vibrate, modulating the flow of air being expelled from the lungs during phonation

Vocal fold structure in adults is quite different from that in newborns. Exactly how the vocal folds mature from an immature monolayer in newborns to a mature three layer tissue in adults is still unknown, however a few studies have investigated the subjects.

Vocal fold vibration

When air is expelled from the lungs it must travel through the larynx. The vocal folds may be **abducted** (held wide apart) so that they do not interfere with the airflow. Alternatively, the vocal folds may be **adducted** (drawn together).
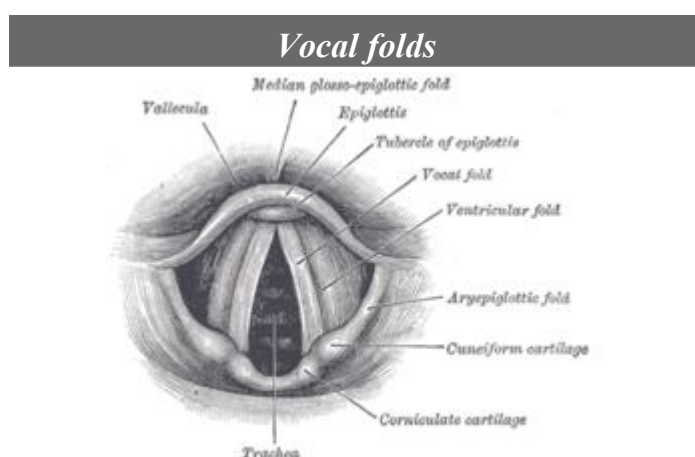
The membranous structures in the throat that produce sound. The inferior cords are called the *true vocal cords,* and the superior cords are called the *false vocal cords*.

Laryngoscopic view of the vocal folds.

Vocal cords
abducted
to breathe

Vocal cords
adducted
to speak
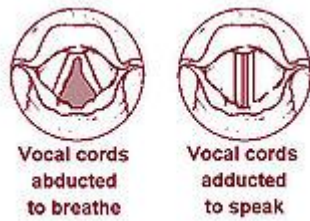
If the vocal folds contact each other firmly, they completely block the passage of air from the lungs. This state of affairs is known as **glottal closure**, because the space between the vocal folds is called the **glottis**.

The Glottis is the opening between the vocal cords at the upper part of the larynx.

If the vocal folds are adducted in such a way that there is a small space between them, when air is pushed up from the lungs the folds begin to vibrate in the airstream. The way this happens is quite complex and we won't bother with the details at the moment. The vibration of the vocal folds is known as **phonation**. You can feel the vibration in the larynx if you put your thumb and forefinger lightly on each side of your Adam's apple and say a long "zzzzzz" sound as if you were imitating the buzzing of a bee.

If you imitate the sound of a snake and say a long "ssssss" sound, you won't be able to feel any vibration, because for this sort of sound the vocal folds are abducted so they do not vibrate.

The tongue

The tongue is muscular organ occupying the floor of the mouth. It is the primary organ of taste, as much of the upper surface of the tongue is covered with taste buds. A secondary function of the tongue is speech, in which the organ assists. It is sensitiveand is richly supplied with nerves and blood vessels to help it move. The tongue extends much further than is commonly perceived, past the posterior border of the mouth. The tongue is a muscle on the floor of the mouth that manipulates food for chewing and swallowing. It is the primary organ of taste, as much of the

upper surface of the tongue is covered in papillae and taste buds. A secondary function of the tongue is speech, in which the organ assists. It is sensitive and kept moist by saliva, and is richly supplied with nerves and blood vessels to help it move.

Structure
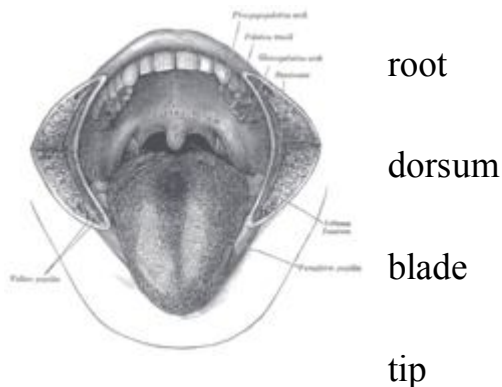
root

dorsum

blade

tip

The tongue extends much further than is commonly perceived, past the posterior border of the mouth and into the oropharynx.

The dorsum (upper surface) of the tongue can be divided into two parts:

- an oral part (anterior two-thirds of the tongue) that lies mostly in the mouth
- a pharyngeal part (posterior third of the tongue), which faces backward to the oropharynx

Other divisions of the tongue are based **on the area** of the tongue:

normal name	anatomical name	adjective
tongue tip	- Apex	- apical
tongue blade	- Lamina	- laminal
tongue dorsum	- dorsum (back)	- dorsal
tongue root -	tongue body (Corpus)	- corporeal

In some animals, such as lizards, anteaters, and frogs, it serves a food-gathering function. In humans, the tongue functions principally in chewing, swallowing, and

speaking. The human tongue is covered by a mucous membrane containing small projections called papillae, which give it a rough surface. Tiny **taste** organs, or buds, are scattered over the surface of three of the four types of papillae, with large numbers concentrated on papillae found on the back and sides of the tongue. The appearance of the tongue is often an indication of body health; a pinkish-red color is normal. In impairment of the digestion and in certain feverish diseases, a yellowish coating forms.

The hard palate

The anterior part of the palate, which is supported by and includes the palatal extensions of the maxillary and palatine bones. The hard palate is a thin horizontal bony plate of the skull, located in the roof of the mouth. It spans the arch formed by the upper teeth. It forms a partition between the nasal passages and the mouth. This partition is continued deeper into the mouth by a fleshy extension called the soft palate. The interaction between the tongue and the hard palate is essential in the formation of certain speech sounds, notably /t/, /d/, /j/

Glottis

Glottis is the opening between the vocal cords at the upper part of the larynx, the vocal apparatus of the larynx.

Sound production involving only the glottis is called *glottal*. English has a voiceless glottal fricative spelled "h". In many accents of English the glottal stop (made by pressing the folds together) is used as a variant allophone of the phoneme /t/ (and in some dialects, occasionally of /k/ and /p/); in some languages, this sound is a phoneme of its own.

The alveolar ridge

A ridge that forms the borders of the upper and lower jaws and contains the sockets of the teeth.

An alveolar ridge is one of the two jaw ridges either on the roof of the mouth between the upper teeth and the hard palate or on the bottom of the mouth behind the lower teeth. The alveolar ridges contain the sockets (alveoli) of the teeth. They can be felt with the tongue in the area right above the top teeth or below the bottom teeth. Its surface is covered with little ridges. Sounds made with the tongue touching the alveolar ridge while speaking are called alveolar. Examples of alveolar consonants in English are, for instance, [t], [d], [s], [z], [n], [l] . There are exceptions to this however, such as speakers of the New York Accent who pronounce [t] and [d] at the back of their teeth. When pronouncing these sounds the tongue touches ([t], [d], [n]), or nearly touches ([s], [z]) the upper alveolar ridge which can also be referred to as **gum ridge**. In many other languages these same consonants are articulated slightly differently, and are often described as dental consonants. In many languages consonants are articulated with the tongue touching or close to the upper alveolar ridge. The former are called alveolar plosives, and the latter alveolar fricatives.

Assignments

Ex.1 Translate and transcribe. Prove that these words possess different phonemes.
Очень-меняться,
патруль-бензин,
мэр-майор,
выносить(терпеть)-пиво,
 год-ухо,
мужество-вагон
заяц- наследник
наливать - бедный

Ex.2 Transcribe, read and translate pairs of words. Single out the sounds which differentiate the meanings of these words.
 Still-steel, pool-pull, ship-sheep, sit-seat, fill-feel, live-leave, ill-eel, slip-sleep, but-bath, diary-dairy, suit- suite, worth- worse, saw-so, model- modal

Ex.3 Read these words and word combinations, put the stresses. Translate them into Russian. Prove that phonetics is connected with lexicology through accent

Redbreast - red breast, bluebell - blue bell, bluestone - blue stone, bluebottle – blue bottle, blackshirt – black shirt, blackface – black face, bread-and-butter – bread and butter, break-promise – break promise, heavy-weight – heavy weight, blue-stocking – blue stocking, blue-bonnet – blue bonnet, black-hole – black hole, black-mass – black mass

Ex.4
Which of the branches of phonetics deals with:
- similarities and differences between two or more languages?
- Language as a whole?
- A particular language?
- Movements and positions of the organs of speech?
- The role of sound phenomena in communication?
- The sound as physical phenomenon?
- Perception of acoustic information?
- Phonetic means used in different situations?
- Evolution of sounds?

Ex.5
Match the organs of speech and the mechanism of speech-production, where they refer: A- power mechanism, B-vibrator mechanism, C- resonator mechanism, D- obstructor mechanism

1) windpipe, 2)the diaphragm, 3)the glottis, 4) the alveolar ridge, 5) the mouth cavity, 6) the lungs, 7) the hard palate, 8) the pharynx, 9) the lips, 10) the vocal cords, 11) the tongue, 12) the nasal cavity, 13) the bronchi, 14) the larynx, 15) the teeth, 16) the soft palate.

A	
B	
C	
D	

Reading list:

Leontyeva, A theoretical course of English phonetics, p.10-20, p.25-29
Бурая, Е. А. Фонетика современного английского языка. Теоретический курс, С. 9-29
Шевченко, Т. И. Теоретическая фонетика английского языка, С.10-17
Sokolova, English phonetics. A theoretical course, p.6-38

2 Chapter II. Phoneme theory

1. Notion of phoneme and allophones. Phonemic family.
2. System of notation. Methods of phonemic analysis.
3. The establishing of phonemic structure of the language. Historic survey of phoneme theory (schools and scholars).
4. Three characteristics of a sound (Acoustic properties of sound).
5. Theory of opposition.
6. Types of English sounds.

Notion of phoneme and allophones. Phonemic family.

The founder of the phoneme theory was Baudouin de Courteney. His theory of phoneme was developed and perfected by Shcherba, who stated that in actual speech we utter a much greater variety of sounds than we are aware of, and that in every language these sounds are united in a comparatively small number of sound types, which are capable of distinguishing the meaning and the form of words. It is these sound types that should be included into the classification of phonemes and studied as differentiatory units of the language. The actually pronounced speech sounds are variants or allophones of phonemes. Allophones are realized in concrete words. They have phonetic similarity, at the same time they differ in some degree and are incapable of differentiating words, e.g. in speech we pronounce not the sound type [t] which is aspirated, alveolar, forelingual, occlusive, plosive, voiceless-fortis – according to the classificatory definition, but one of its variants, e.g. labialized in the word "twice", dental in the word "nineth", post-alveolar in "try" and so on. The number of sound types, or phonemes, in each language is much smaller than the number of sounds actually pronounced (allophones).

The phoneme is a minimal abstract linguistic unit realized in speech in the form of speech sounds which can be opposed to other phonemes of the same language to distinguish the meaning of morphemes and words. Phoneme can perform several functions. Under the function we understand the role of various units of the phonetic system in distinguishing one morpheme from another, one word from another or one utterance from another.

The opposition of phonemes in the same phonetic environment differentiates the meaning of morphemes and words: e.g. **b**ath-**p**ath, ligh**t**-li**k**e.

Sometimes the opposition of phonemes serves to distinguish the meaning of the whole phrases: *He was hear**d** badly - He was hur**t** badly.* So, we may say that the main function of phoneme is the distinctive function.

Secondly, the phoneme is material, real and objective. That means it is realized in speech in the form of speech sounds- its allophones. The phonemes constitute the material form of morphemes, so this function may be called constitutive function.

Besides, the phoneme performs the recognitive function, because the use of the right allophones and other phonetic units facilitates normal recognition. We may add that the phoneme is a material and objective unit as well as an abstract and generalized one at the same time. What's the difference between phoneme and allophone?

Professor Shcherba stated that in actual speech we utter a much greater variety of sounds than we are aware of. The actually pronounced speech sounds are variants or **allophones** of phonemes. Allophones are realized in concrete words. They have phonetic similarity, at the same time they differ in some degree and are incapable of differentiating words.

Phonemic variants or allophones are very important, because they are pronounced in actual speech and though their mispronounciation doesn't influence the meaning, their misuse makes a person's speech sound as foreign.

Allophone is any of various acoustically different forms of the same phoneme

In phonetics, an allophone (from the Greek: ἄλλος, *állos*, "other" and φωνή, *phōnē*, "voice, sound") is one of several similar speech sounds (phones) that belong to the same phoneme. A phoneme is an abstract unit of speech sound that can distinguish words: That is, changing a phoneme in a word can produce another word. Speakers of a particular language perceive a phoneme as a distinctive sound in that language. An allophone is not distinctive, but rather a variant of a phoneme;

changing the allophone will not change the meaning of a word, but the result may sound non-native. Because the choice of allophone is seldom under conscious control, people may not realize they exist. Allophones of English /l/ may be only noticed if, for example, the 'light' [l] of "leaf" is contrasted with the 'dark' [ɫ] of "dull".

For example, [p] as in *pin* and [p] as in *spin* are allophones for the phoneme /p/ in the English language because they cannot distinguish words (in fact, they occur in complementary distribution). English speakers treat them as the same sound, but they are different: the first is aspirated and the second is unaspirated (plain). Because the choice of allophone is seldom under conscious control, people may not realize they exist

Professor Shcherba introduced the notion of phonemic family that is made up of phoneme (head of the family) and it's allophones (family members).

There are several types of allophones. Allophones which preserve practically all features of the phoneme are called *principle*. The variants used in actual speech are called *subsidiary*. Principal are the allophones which don't undergo any changes in the flow of speech, they are the closest to the phoneme. In the articulation of subsidiary allophone we observe predictable changes under the influence of the phonetic context. Susidiary allophones can be divided into positional and combinatory. *Positional* allophones are used in certain positions traditionally, e.g. the Engish [l] is realized in actual speech as a positional allophone: it is clear in the initial position and dark in terminal position, e.g. **l**et and mi**ll**. *Combinatory* allophones appear in the process of speech and result from the influence of the phoneme upon another phoneme.

System of notation. Methods of phonemic analysis.

Phonetic transcription (Notation)

The pronunciation of words in many languages, as distinct from their written form (orthography), has undergone significant change over time. Pronunciation can also

vary greatly among dialects of a language. Traditional orthography in some languages, particularly French and English, often differs from the pronunciation. For example, the words "bough" and "trough" do not rhyme in English, even though their spellings might suggest they do. In French, for example, the 's' at the end of words is usually silent ("militaire" is pronounced the same as "militaires") unless followed by a word beginning in a vowel. In the orthography of most European languages, the fact that many letters are **pronounced or silent** depending **on contexts** causes difficulties in determining the appropriate pronunciation, especially in the cases of English, Irish, and French. However, in other languages, such as Spanish and Italian, there is a more consistent—though still imperfect—relationship between orthography and pronunciation.

Therefore, **phonetic transcription** can provide a function that orthography cannot. It displays a one-to-one relationship between symbols and sounds, unlike the traditional Roman alphabet. Phonetic transcription allows us to step outside of orthography and examine differences in pronunciation between dialects within a given language, as well as to identify changes in pronunciation that may take place over time.

Narrow versus broad transcription

Phonetic transcription may aim to transcribe the phonology of a language, or it may go further and specify the precise phonetic realisation. In all systems of transcription we distinguish between **broad transcription** and **narrow transcription**.

Broad transcription indicates only the more noticeable phonetic features of an utterance, whereas narrow transcription encodes more information about the phonetic variations of the specific allophones in the utterance. The difference between broad and narrow is a continuum. One particular form of a broad transcription is a phonemic transcription, which disregards all allophonic difference. The advantage of the narrow transcription is that it can help learners to

get exactly the right sound, and allows linguists to make detailed analyses of language variation. The disadvantage is that a narrow transcription is rarely representative of all speakers of a language. One more disadvantage is that narrow transcription involves a larger number of symbols which may be unfamiliar to non-specialists. The advantage of the broad transcription is that it usually allows statements to be made which apply across a more diverse language community. It is more appropriate for the pronunciation data in foreign language dictionaries, which may discuss phonetic details in the preface but rarely give them for each entry. A rule in many linguistics contexts is to use a narrow transcription when it is necessary for the point being made, but a broad transcription whenever possible.

Types of notational systems

Most phonetic transcription is based on the assumption that linguistic sounds are segmentable into units that can be represented by symbols. The International Phonetic Alphabet (IPA) is one of the most popular and well-known phonetic alphabets. It was originally created by primarily British language teachers, with later efforts from European phoneticians and linguists. It has changed from its earlier intention as a tool of foreign language pedagogy to a practical alphabet of linguists. It is currently becoming the most often seen alphabet in the field of phonetics.

Most American dictionaries for native English-speakers—*American Heritage Dictionary of the English Language, Random House Dictionary of the English Language, Webster's Third New International Dictionary*—employ *respelling* systems based on the English alphabet, with diacritical marks over the vowels and stress marks. Another commonly encountered alphabetic tradition is the Americanist phonetic alphabet, originally created for the transcription of Native American and European languages. There exist somewhat similar traditions used by linguists of Indic, Finno-Ugric, Caucasian, and Slavic languages. The difference between these alphabets and IPA is small, although often the specially created

characters of the IPA are often abandoned in favour of already existing characters with diacritics (e.g. many characters are borrowed from Eastern European orthographies).

The International Phonetic Association recommends that a phonetic transcription should be enclosed in square brackets "[ ]". A transcription that specifically denotes only phonological contrasts may be enclosed in slashes "/ /" instead. If one is in doubt, it is best to use brackets, for by setting off a transcription with slashes one makes a theoretical claim that every symbol within is phonemically contrastive for the language being transcribed.

For phonetic transcriptions, there is flexibility in how closely sounds may be transcribed. A transcription that gives only a basic idea of the sounds of a language in the broadest terms is called a *broad transcription*; in some cases this may be equivalent to a phonemic transcription (only without any theoretical claims). A close transcription, indicating precise details of the sounds, is called a *narrow transcription*. These are not binary choices, but the ends of a continuum, with many possibilities in between. All are enclosed in brackets.

Another type of phonetic notation that is more precise than alphabetic notation is *analphabetic* phonetic notation. Instead of both the alphabetic and iconic notational types' general principle of using one symbol per sound, analphabetic notation uses long sequences of symbols to precisely describe the component features of an articulatory gesture. This type of notation is reminiscent of the notation used in chemical formulas to denote the composition of chemical compounds. Although more descriptive than alphabetic notation, analphabetic notation is less practical for many purposes (e.g. for descriptive linguists doing fieldwork or for speech pathologists impressionistically transcribing speech disorders). As a result, this type of notation is uncommon.

Two examples of this type were developed by the Danish Otto Jespersen and American Kenneth Pike. Pike's system, which is part of a larger goal of scientific

description of phonetics, is particularly interesting in its challenge against the descriptional method of the phoneticians who created alphabetic systems like the IPA.

Summing up, phonetic transcription can provide a function that orthography cannot. It displays a one-to-one relationship between symbols and sounds. Phonetic transcription allows us to step outside of orthography and examine differences in pronunciation between dialects within a given language, as well as to identify changes in pronunciation that may take place over time. Phoneticians usually distinguishes two types of phonetic systems of transcription: broad transcription and narrow transcription. Broad transcription indicates only the more noticeable phonetic features of an utterance, whereas narrow transcription encodes more information about the phonetic variations of the specific allophones in the utterance. The difference between broad and narrow is a continuum. One particular form of a broad transcription is a **phonemic transcription,** which disregards all allophonic difference.

The advantage of the narrow transcription is that it can help learners to get exactly the right sound (it is also called **allophonic transcription**), and allows linguists to make detailed analyses of language variation. The disadvantage is that a narrow transcription is rarely representative of all speakers of a language. One more disadvantage is that narrow transcription involves a larger number of symbols which may be unfamiliar to non-specialists.

The International Phonetic Association recommends that a phonetic transcription should be enclosed in square brackets "[ ]". A transcription that specifically denotes only phonological contrasts may be enclosed in slashes "/ /" instead. If one is in doubt, it is best to use brackets, for by setting off a transcription with slashes one makes a theoretical claim that every symbol within is phonemically contrastive for the language being transcribed. Occasionally a transcription will be enclosed in pipes ("| |"). This goes beyond phonology into morphological analysis.

The establishing of phonemic structure of the language.
Historic survey of phoneme theory (schools and scholars).

The establishing of phonemic structure of any language is a difficult thing, because phoneticians face a lot of problems, like kind of material which should be used for phonemic analysis. There are several problems, connected with it.

First of all – the type of phonemic material (should we use the whole body of vocabulary including proper names and borrowed words, which can be pronounced not according to general pronunciational norms, should the type of pronouncing be considered – there are full and non-full types of pronouncing a word, for ex: cat\full\ - lis<u>t</u>en\non-full\).

The opinion of phoneticians is that for phonemic analysis they should use only words and word-combinations which are considered natural by native speakers and only in such case when the phonemic structure of the word is fully realized.

There are many approaches to the study of the phoneme, that's why there are several theories and schools dealing with them.

There exist two approaches/ schools in our country that treat phonetic phenomena in different ways. The approach of the Moscow phonological school is called morphological, because they consider the phoneme from the point of view of its constitutive function (it makes up morpheme and other bigger units). The representatives of this school are: I.A. Bouduin-de-Courteney, R.I. Avanesov, V.N. Sidorov, P.S. Kuznetsov, A.A. Reformatsky, N.F. Yakovlev and others. They maintain that two different phonemes in different allomorphs of the same morpheme may be represented on the synchronic level by one and the same sound, which is their common variant and, consequently, one and the same sound may belong to one phoneme in one word and to another phoneme in another word.

In order to decide to which phoneme the sounds in a phonologically weak (neutral) position belong, it is necessary to find another allomorph of the same morpheme in which the phoneme occurs in the strong position, i.e. one in which it

retains all its distinctive features. The strong position of a Russian consonant phoneme is that before a vowel sound of the same word, whereas the strong position of a vowel phoneme is that under stress. The vowel [A] in *валы* is an allophone of the phoneme /a/ because the phoneme occurs in the strong position in *вал* while the same vowel [A] in *волы* is a variant of the phoneme /o/ because this phoneme is found in the strong position in *вол*.

The second school- Leningrad School, originated by L.V. Shcherba, advocates the autonomy of the phoneme and its independence from the morpheme. Different allomorphs of a morpheme may differ from each other on the synchronic level not only in their allophonic, but also in their phonemic composition. According to the Leningrad (St.Petersburg) phonological school (L.V. Shcherba, L.R. Zinder, M.I. Matusevich), speech sounds in a phonologically neutral position belong to that phoneme with whose principal variant they completely or nearly coincide.

Shcherba was the first to define the phoneme as a real, independent distinctive unit, which manifests itself in the form of allophones.That's why their approach is called allophonic.

There are also several schools abroad. For example, Prague School, according to it there exist types of phonemes higher than the unit phoneme. Different linguists call them differently. One of the terms for them introduced by Prague Linguistic Circle, namely by N.S. Trubetzkoy and R. Jacobson, is archiphoneme. According to them, the archiphoneme is a combination of distinctive features common to two phonemes. It consists of the shared features of two or more closely related phonemes but excludes the feature which distinguishes them.

Daniel Jones -British phonetician, was a founder of London school. A pupil of Paul Passy (who was one of the founders of the International Phonetic Association), professor of phonetics at the École des Hautes Études at the Sorbonne. Daniel Jones is considered by many to be the greatest phonetician of the early 20th century.He briefly took private lessons from the great British phonetician Henry Sweet. In 1909, Jones wrote the short *Pronunciation of English*,

a book which he later radically revised. The *Outline of English Phonetics* which followed in 1918 is the first truly comprehensive description of British Received Pronunciation, and indeed the first such description of the standard pronunciation of any language. Jones became the first western linguist to use the term phoneme in its current sense,   he produced the first edition of his famous *English Pronouncing Dictionary.*.

The problem of the phonetic description of vowels is of long standing, going back to the era of the ancient linguists. Three nineteenth century British phoneticians deserve mention. Alexander Melville Bell (1867) devised an ingenious iconic phonetic alphabet which included an elaborate system for vowels. Alexander Ellis had also suggested vowel symbols for his phonetic alphabets. Henry Sweet did much work on the systematic description of vowels, coming up with what must be considered elaborate system of vowel description involving a multitude of symbols. Jones however was the one who is generally credited with having gone much of the way towards a practical solution through his scheme of 'Cardinal Vowels', a relatively simple system of reference vowels which for many years has been taught systematically to students within the British tradition. It is worth pointing out, however, that much of the inspiration for this scheme can be found in the earlier publications of Paul Passy. Jones employed a dual-parameter system of description of vowels based on the supposed height of the tongue arch together with the shape of the lips. This he reduced to a simple diagram which could be used to help visualize how vowels are articulated. Tongue height (close vs. open) is represented on the vertical axis and front vs. back on the horizontal axis indicates the portion of the tongue raised on the horizontal axis. Lip-rounding is also built into the system, so that front vowels (such as [i, e, a]) have spread or neutral lip postures, but the back vowels (such as [o,u]) have more marked lip-rounding as vowel height increases. Jones thus arrived at a set of "Cardinal Vowels" - the International Phonetic Association still uses a version of Jones's model, and

includes a Jones-type vowel diagram on its influential International Phonetic Alphabet.

Ferdinand de Saussure wasn't really connected with phonetics, but he spoke about form and substance (signified and signifier)- where we can refer sounds (phonemes) and their written symbols (graphemes). According to Saussure phonetic segments (speech sounds) are elements that have no meaning in themselves. But these meaningless elements (phonetic segments) can combine to form meaningful entities i.e. words, which are combinations of phonetic segments (or of phonemes) are meaningful.

There are also several views on nature of the phoneme. One may single out
3 groups of conceptions:

1) the conception that pays special attention to the abstract aspect. This view is called mentalistic or psychological. According to it, the phoneme is the ideal mental image, it doesn't exist objectively, it exists only in the mind of the speaker. Actual speech sounds are an imperfect realization of the phoneme.

2) functional group conception. Special attention is given to the ability of the phoneme to differentiate the meanings. Scholars are particularly interested in distinctive features, while non-distinctive features are often ignored.

The greatest achievement of these scholars was that their theory gave rise to phonology as a linguistic discipline. However it resulted in the separation of phonetics and phonology. They claimed that only phonology was a linguistic discipline, while phonetics should belong to biology. The material aspect was ignored by this theory.

3) the material aspect is exaggerated. This approach is called physical and is represented by D. Johnes and an American scholar B. Bloch. And they regarded the phoneme as the *family* of sounds, i.e. the phoneme is a mechanical sum of its allophones. So, similarity between sounds is considered to be the main criterion for attributing them to a particular phoneme. They ignored abstract and functional aspects.

Three characteristics of a sound (Acoustic properties of sound).

Speech sounds have a number of physical properties. The first of them is **frequency (**the number of vibrations per second). The vocal cords vibrate along the whole of their length, producing fundamental frequency, and all the tones. When the vibrations produced by the vocal cords are regular they produce musical tone. When they are irregular – noise is produced. When tone prevails over noise, sonorants are produced. When noise prevails over tone, voiced consonants are produced.

Perception of the pitch of a speech sound depends upon the frequency of vibration of the vocal cords. The higher the pitch of vibrations, the higher the pitch level. A male voice may have an average pitch level of about 100 and 150 cycles per sec, and a female – 240 cycles per sec.

The frequency of sound depends on certain physical properties of the vibrator, such as length, tension, mass.

The second physical property of sound is **intensity**. The greater the amplitude of vibration, the greater the intensity of a sound; the greater the pressure on the ear drums - the louder the sound. The third characteristic is – **duration**. Any sound has duration, it is its length of time during which the same vibratory motions are maintained.

Theory of opposition

The notion of opposition has come to linguistics from philosophy, and logic in particular, where is has been viewed as Plato's famous method for defining terms by binary **division** (starting from an inclusive class and dividing it into two sub-classes), and from Saussurean linguistics, particularly as this heritage was developed in the phonology of the Prague school. Logically, the important distinction is that between contradictory ("white" vs "non-white") and contrary terms ("white" vs "black").

In linguistics, the opposition in closely connected to the notion of structure. Saussure famously argued that in the language system every element derives its identity from its distinction to other elements in the same system.

The phonemes, for example, Saussure said, are units which are purely oppositive and relative. This conception was brought to its extreme by the Copenhagen school, when Hjelmslev claimed that language could be analysed independently of its "substance", i.e. whether conveyed by speech, writing, or some kind of flags or manual signs.

The Prague school and one of it's founders Trubetzkoy in his study of phonology distinguished different types of oppositions from several points of view. These distinctions are based on his important insight, often forgotten later: that an opposition between several terms must suppose some kind **of similarity**, a base of comparison, as well as properties which are different. Thus, an opposition is one-dimensional, if the base of comparison is only found in two items, but otherwise multi-dimensional, an opposition is proportional if the distinction between the terms is found in other pairs of elements, or else isolated (some irregular plurals, like "goose/geese" and "tooth/teeth" are proportional, as are even more obviously the regular ones).

In privative oppositions, one of the terms simply consists in the absence of the trait found in the other term (in phonetics, unvoiced sounds as opposed to voiced ones). An equipolent opposition, on the other hand, means that both terms are something in themselves (irregular singular/plural modification like "foot" vs "feet", where the singular in not just the absence of plurality marking). In gradual oppositions, finally, some feature is present in different degrees in several terms (a example is the traditional phonetic description of the degree of aspiration).

Roman Jakobson's (1942) heritage is, that he was the first one to show that, at least in phonology, all oppositions may be reduced **to the binary,** privative kind. This supposes the resolution of one non-binary, equipolent opposition into a set of

binary, privative ones, itself based on a redefinition of the categories entering the opposition.

There were many reasons why Jakobson advocated a binary approach. Firstly, as we have seen, this is the most efficient way of reducing the phoneme inventory of a language. Secondly, he argued that most phonological oppositions are binary in nature (e.g. sounds either are or are not produced with a lowered soft-palate and nasalisation). But the binary principal is certainly not adopted by all linguists, and many phoneticians in particular have argued that some features should be binary.

Phonetics studies sounds as articulatory and acoustic units, phonology investigates sounds as units which serve communicative purposes. It is considered that the unit of phonetics is a speech sound, while the unit of phonology is a phoneme. Phonemes can be investigated by the method of minimal pairs. This method consists in finding pairs of words which differ in one phoneme only, e.g.: if we replace [b] by [t] in the word "ban" we produce a new word "tan", so "ban-tan" is a pair of words distinguished in meaning by a single sound change. Two words of this kind form minimal pairs.

With the help of minimal pairs the phonemes of a language form a system of oppositions, in which one phoneme is usually opposed to the other phoneme in at least one feature. Features which differentiate phonemes from each other are called distinctive or relevant.

Minimal distinctive features are discovered through oppositions.

This method helps to prove whether the phonemic difference is relevant or not, whether the opposition is **single, double or multiple**, [d], [t] have only one distinctively relevant feature – voice characteristic, so it is single opposition (one member possesses this feature while the other-lacks it). If there are two distinctively relevant features, the opposition is double , e.g. [p] and [t] are both voiceless, fortis but differ after following lines: [p] – labial, bilabial; [t] – lingual, forelingual, alveolar. The opposition [b], [h] is multiple, because these phonemes

differ along the following lines: [b] - voiced, lenis, labial, bilabial, occlusive; [h] - voiceless, fortis, pharingal, constrictive.

Summing up, the terminology concerning types of opposition differs depending on phonological schools. Beside **single, double or multiple** they single out **private, gradual, multiple types.** In **privative\single** oppositions, one of the members feels the absence of the trait found in the other member (voiced sounds as opposed to voiceless ones). An **equipolent \multiple** opposition, on the other hand, means that members possess more than one distinctive feature or have no common features at all . In **gradual** oppositions, finally, some feature is present in different degree in all members of the opposition (the degrees of aspiration).

The notion of opposition in phonetics takes origin from semiotics, philosophy and logic where it has been used for defining terms by binary division (dividing into two sub-classes), and from Saussurean linguistics, particularly this term was developed in the phonology of the Prague school.

Logically, the important distinction of opposition is that between contradictory and contrary terms. As Saussure said, the phonemes, in particular, are units which are purely oppositive. The Prague school took a less radical point of view - in his pioneering study of phonology Trubetskoy distinguished different types of oppositions, basing main idea in fact , that an opposition between several terms must suppose some **kind of similarity**, a base of comparison, as well as properties which are **different**.

Types of English sounds

There are two major classes of sounds traditionally distinguished in any language - consonants and vowels. The opposition "vowels vs. consonants" is a linguistic universal. The distinction is based mainly on auditory effect. Consonants are known to have voice and noise combined, while vowels are sounds consisting of voice only. From the articulatory point of view the difference is due to the work of speech

organs. In case of vowels no obstruction is made, so on the perception level their integral characteristic is tone, not noise. In case of consonants various obstructions are made. So consonants are characterized by a complete, partial or intermittent blockage of the air passage. The closure is formed in such a way that the air stream is blocked or hindered or otherwise gives rise to audible friction. As a result consonants are sounds which have noise as their indispensable characteristic.

Assignments

Ex.1 Fill in the gaps and decide what function of the phoneme you consider to be primary.
Firstly, the phoneme is a functional unit. The opposition of phonemes in the same phonetic environment _____,
e.g. *ban – man, fill – feel, try – dry*. Sometimes the opposition of _____
serves to distinguish _____, e.g. *He was heard badly. – He was hurt badly*. Thus we may say that the phoneme can fulfil _____ function.
Secondly, the phoneme is material, _____ and _____.
That means it is realized in speech in the material form of _____. The phonemes _____ the material form of morphemes, so this function may be called _____.

Ex.2   One way to think of the concepts of the phoneme and the allophone - is to think of the various allophones of a particular phoneme as all belonging to the same family. *A phoneme* is a family of similar sounds – *allophones* - which a language treats as being "the same". Comment on this idea, proofreading this definition if necessary. Illustrate your answer with "the family of the phoneme [t]". Will you make use of the terms *principal/subsidiary* allophones in your answer?

Ex.3 Which among the following oppositions are single
|v-l|, |z-s|, |g-k|, |b-m|, |s-j|, |m-n|, |t-d|, | ʃ-z|

Ex.4 Which among the following oppositions are multiple
| s-l|,| k-g|,| v-n|,| dʒ -h|,| n-l|,| t-z|,| f-p|, |d-l|

Ex.5 What is the common feature for the English phonemes:

dʒ, tʃ, ʒ

Ex.6 Which distinctive feature is the basis of opposition between the phonemes:
|b-m|, |d-n|

Reading list:

Leontyeva, A theoretical course of English phonetics, p.56-64
Бурая, Е. А. Фонетика современного английского языка. Теоретический курс, С. 29-43
Шевченко, Т. И. Теоретическая фонетика английского языка, С.38
Sokolova, English phonetics. A theoretical course, p.39-60

3 Chapter III. The system of English vowels (Vocalism)

1. **The definition of a Vowel sound.**
2. **The stability of articulation.**
3. **The Vowel length.**
4. **The tongue position.**
5. **The lip position.**
6. **The character of vowel end.**
7. **Degree of tenseness.**
8. **Differences in the systems of English and Russian vowels.**

The definition of a Vowel sound

The word *vowel* comes from the Latin word *vocalis*, meaning "speaking", because in most languages words and speech in general are not possible without vowels. *Vowel* is commonly used to mean both vowel sounds and the written symbols that represent them.

In phonetics, a **vowel** is a sound, such as English *ah!* [ɑ] or *oh!* [oʊ], pronounced with an open vocal tract so that there is no build-up of air pressure at any point

above the glottis. This contrasts it with consonants, such as English *sh!* [ʃ], where there is a constriction or closure at some point along the vocal tract. A vowel is also understood to be syllabic. In all languages, vowels form the nucleus or peak of syllables. However, some languages also allow other sounds to form the nucleus of a syllable, such as the syllabic *l* in the English word *table.*

Vowel is a speech sound in which air from the lungs passes through the mouth with minimal obstruction and without audible friction, like the *i* in *fit*. The word also refers to a letter representing such a sound (*a*, *e*, *i*, *o*, *u*, and sometimes *y*). In articulatory phonetics vowels are classified by tongue and lip position; for example, high vowels like the *i* in *machine* and the *u* in *flute* are both pronounced with the tongue arched high in the mouth, but in *u* the lips are also rounded. Single vowel sounds are monophthongs; two vowel sounds pronounced as one syllable, like the *ou* in *round*, are diphthongs.

In most languages, vowels serve mainly to distinguish separate lexemes, rather than different inflectional forms of the same lexeme. For example, English *man* becomes *men* in the plural, *moon* is not a different form of the same word. Vowels are especially important to the structures of languages where they are very few.

The articulatory features that distinguish different vowel sounds are said to determine the vowel's *quality*.

Phoneticians suggest a classification of vowels according to the following principles/features: 1) stability of articulation; 2) tongue position; 3) lip position; 4) character of the vowel end; 5) length; 6) tenseness.

- **stability of articulation**

According to stability of articulation vowels are traditionally classified into: monophthongs, diphthongs, triphthongs.

A vowel sound whose quality doesn't change over the duration of the vowel is called a monophthong. Monophthongs are sometimes called "pure" or "stable" vowels. A vowel sound that glides from one quality to another and mouth and lips noticebly change their position, is called a diphthong, and a vowel sound that glides successively through three qualities is a triphthong.

All languages have monophthongs and many languages have diphthongs, but triphthongs or vowel sounds with even more target qualities are relatively rare cross-linguistically. English has all three types, compare: *far* [ɑː] -*now* [aʊ]-*flower* [aʊə]

Some linguists use the terms *diphthong* and *triphthong* only in this phonemic sense.

In the International Phonetic Alphabet, pure vowels are transcribed with one letter, as in English *sun*. Diphthongs are transcribed with two letters, as in English *sign*. The two vowel symbols are chosen to represent the beginning and ending positions of the tongue, though this can be only approximate.

It is not possible to say which language has the most vowels, since that depends on **how** they are counted. For example, long vowels, nasal vowels, diphthongs, and various phonations may or may not be counted separately; indeed, it may sometimes be unclear if phonation belongs to the vowel or the consonant.

The Germanic languages have one of the largest inventories of vowels.

The following 20 vowel phonemes are distinguished in BBC English (RP):

iː	uː	ɜː	ɑː	ɔː	ɪ	ʊ	e	ɒ	ʌ
æ	ə	ɪə	eɪ	ʊə	əʊ	eə	aɪ	aʊ	ɒɪ

Diphthongs are single vowels with two targets. In other words the tongue must attempt to move from one position to another in order for the diphthong to be fully pronounced.

In phonetics, a **triphthong** (from Greek "triphthongos", means "with three sounds," or "with three tones") is a vowel combination involving a quick but smooth movement of the articulator from one vowel quality to another that passes over a third. While "pure" vowels, or **monophthongs**, are said to have one target articulator position, diphthongs have two, and triphthongs three.

There is a big discussion concerning the character and status of diphthongs, triphthongs. Most phoneticians argue how to treat the elements of diphthongs, triphthongs. Diphthongs are defined differently by different authors. A.C. Gimson, for example, distinguishes 20 vocalic phonemes which are made of vowels and vowel glides. D. Jones defines diphthongs as unisyllabic gliding sounds in the articulation of which the organs of speech start from one position and then elide to another position.

The English diphthongs are, like the affricates, the object of a sharp phonological controversy, whose essence is the same as in the case of affricates are the English diphthongs biphonemic sound complexes or composite monophonemic entities?

Diphthongs are defined differently by different authors. One definition is based on the ability of a vowel to form a syllable. Since in a diphthong only one element serves as a syllabic nucleus, a diphthong is a single sound. Another definition of a diphthong as a single sound is based on the instability of the second element. The 3d group of scientists defines a diphthong from the accentual point of view: since only one element is accented and the other is unaccented, a diphthong is a single sound.

D. Jones defines diphthongs as unisyllabic gliding sounds in the articulation of which the organs of speech start from one position and then glide to another position.

N.S. Trubetzkoy states that a diphthong should be (a) unisyllabic, that is the parts of a diphthong cannot belong to two syllables; (b) monophonemic with gliding articulation; (c) its length should not exceed the length of a single phoneme.

In accordance with the principle of structural simplicity and economy American descriptivists liquidated the diphthongs in English as unit phonemes.

The same phonological criteria may be used for justifying the monophonemic treatment of the English diphthongs as those applicable to the English affricates. They are the criteria of articulatory, morphophonological (and, in the case of diphthongs, also syllabic) indivisibility, commutability and duration. Applied to the English diphthongs, all these criteria support the view of their monophonemic status.

Diphthongs are also subdivided into:

Falling (or *descending*) diphthongs start with a vowel quality of higher prominence (higher pitch or volume) and end in a sound with less prominence, like [ai] in *eye*, while *rising* (or *ascending*) diphthongs begin with a less prominent vowel and end with a more prominent full vowel. In *closing* diphthongs, the second element is more close than the first (e.g. [ai]); in *opening* diphthongs, the second element is more open (e.g. [ia]). Closing diphthongs tend to be falling ([ai]), and opening diphthongs are generally rising ([ia]), as open vowels are more sonorous and therefore tend to be more prominent. Some languages contrast *short* and *long* diphthongs, the latter usually being described as having a long first element.

The conversion of monophthongs to diphthongs (process called diphthongization) or of diphthongs to monophthongs (process called monophthongization), is a major element of language change and is likely the cause of further changes. Some sounds that may be perceived by native speakers as monophthongs in English are,

in fact, diphthongs; the vowel sound in *pay* — pronounced /pe/ is an example of this. Some dialects of English make monophthongs out of former diphthongs.

Compare: Stability of articulation

a) monophthongs vs. diphthongs

bit - bait, kit - kite, John - join, debt — doubt

b) diphthongs vs. triphthongs

boat — lower, frown –flower

- **vowel length**

Traditionally long and short vowels in English

Traditionally, the vowels   are said to be the "long" counterparts of the vowels which are said to be "short". This terminology reflects their pronunciation before the <u>Great Vowel Shift</u>, rather than their present-day pronunciations. A linguistically more accurate description is that the former are <u>diphthongs</u> in many dialects, while the latter are <u>monophthongs</u> ("pure" vowels).

However, the length of the vowels is not the only distinctive feature of minimal pairs like *Pete -pit, beet - bit,* etc. In other words the difference between i: i. u: - ʋ is not only quantitative but also qualitative, which is conditioned by different positions of the bulk of the tongue. For example, in words *bead- bid* not only the length of the vowels is different but in the [i:] articulation the bulk of the tongue occupies more front and high position then in the articulation of [i].

Qualitative difference is the main relevant feature that serves to differentiate long and short vowel phonemes because quantitative characteristics of long vowels depend on the position they occupy in a word:

(a) they are the longest in the terminal position: *bee, bar, her;*
(b) they are shorter before voiced consonants: *bead, hard, cord;*
(c) they are the shortest before voiceless consonants: *beet, cart.*

- tongue position

 In the articulation of the English vowels the bulk of the tongue plays great role. When the the tongue moves in the *horizontal* direction it may occupy a fully front and a front-retracted, a fully back and a back-advanced position. Each of the three *vertical* positions of the tongue (high, mid, low) in English is subdivided into a narrow and broad variety.

Vowels are classified according to the *vertical* movement of the tongue (height characteristic) into: open -   ,   , mid-open -   ,   and close -   . According to the *horizontal* movement of the tongue vowels may be subdivided into: front -   , central /mix -   and back -   (some phoneticians distinguish variations: fully front and a front-retracted, a fully back and a back-advanced).

1. **low   vowels**: Low sounds are produced by drawing the body of the tongue down away from the roof of the mouth;
2. **high**:High sounds are produced by raising the body of the tongue toward the palate
3. **mid:** Mid sounds are produced with tongue height approximately half way between the tongue positions appropriate for high and low vowels.
4. **back   vowels**: Back sounds are produced with the tongue body relatively retracted
5. **front** : This is an additional vowel feature added to assist in the description of the vowel systems of languages

Height

Vowel height is named for the vertical position of the tongue relative to either the roof of the mouth or the aperture of the jaw. In **high vowels**, such as [i] and [u], the tongue is positioned high in the mouth, whereas in **low vowels**, such as [a], the

tongue is positioned low in the mouth. The IPA (International Phonetic Alphabet) prefers the terms **close vowel** and **open vowel**, respectively, which describes the jaw as being relatively open or closed. However, vowel height is an acoustic rather than articulatory quality, and is defined today not in terms of tongue height, or jaw openness, but according to the relative frequency of the first formant (F1). The higher the F1 value, the lower (more open) the vowel; height is thus inversely correlated to F1. The parameter of vowel height appears to be the primary feature of vowels cross-linguistically -all languages use height contrastively. No other parameter, such as front-back or rounded-unrounded, is used in all languages. Some languages have vertical vowel systems in which, at least at a phonemic level, only height is used to distinguish vowels.

Backness
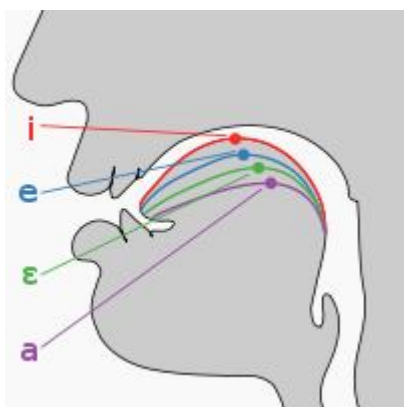
Tongue positions of front vowels with highest point indicated.
The position of the highest point is used to determine vowel height and backness

Vowel backness is named for the position of the tongue during the articulation of a vowel relative to the back of the mouth. In front vowels, such as [i], the tongue is positioned forward in the mouth, whereas in back vowels, such as [u], the tongue is positioned towards the back of the mouth. However, vowels are defined as back or

front not according to actual articulation, but according to the relative frequency of the second formant (F2). The higher the F2 value, the fronter the vowel; backness is thus inversely correlated to F2.

The International Phonetic Alphabet (IPA) identifies five different degrees of vowel backness:

- front vowel
- near-front vowel
- central vowel
- near-back vowel
- back vowel

But in practical phonetics they usually single out 3 common types: front, central (mix), back.

Compare: Position of the tongue

horizontal movement of the tongue

a) front vs. central

cab — curb, bed — bird

b) back vs. central

pull – pearl, cart - curl, call - curl

vertical movement of the tongue

a) close (high) vs. mid-open (mid)

bid — bird, week - work

b) open (low) vs. mid-open (mid)

lark - lurk, call — curl, bard-bird

- **lip position**

Although English has vowels at all five degrees of backness, there is no known language that distinguishes all five without additional differences in height or rounding

Roundedness refers to whether the lips are rounded or not. In most languages, roundedness is a reinforcing feature of mid to high back vowels, and is not distinctive. Usually the higher a back vowel is, the more intense the rounding. However, some languages treat roundedness and backness separately.

Different kinds of labialization are also possible. In mid to high rounded back vowels the lips are generally protruded outward, a phenomenon known as *exolabial rounding* because the insides of the lips are visible, whereas in mid to high rounded front vowels the lips are generally "compressed", with the margins of the lips pulled in and drawn towards each other, a phenomenon known as *endolabial rounding*.

But some phoneticians single out three independent terms, concerning vowel characteristics *rounded* (exolabial), *compressed* (endolabial), and *spread* (unrounded).

In phonetics, **vowel roundedness** refers to the amount of rounding in the lips during the **articulation** of a vowel. That is, it is vocalic labialization. When pronouncing a *rounded* vowel, the lips form a circular opening, while *unrounded* vowels (also called *spread* vowels) are pronounced with the lips relaxed. In most languages, front vowels tend to be unrounded, while back vowels tend to be rounded. But some languages, such as French and German, distinguish rounded and unrounded front vowels of the same height, while, for example, Vietnamese distinguishes rounded and unrounded back vowels of the same height.

In the International Phonetic Alphabet vowel chart, rounded vowels are the ones that occur on the right in each pair of vowels.

There are two types of vowel rounding: **protruded** and **compressed**. In protruded rounding, the corners of the mouth are drawn together and the lips protrude like a tube (see picture 1), with their inner surface visible.

Picture 1
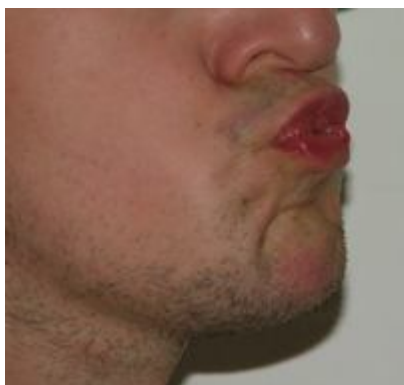
In compressed rounding, the corners of the mouth are drawn together, but the lips are also drawn together horizontally ("compressed") and do not protrude (see picture 2), with only their outer surface visible. That is, in protruded vowels the inner surfaces of the lips form the opening (thus the alternate term *endolabial),* while in compressed vowels it is the margins of the lips which form the opening (thus *exolabial).*

Picture 2

Compare: Position of the lips

rounded vs. unrounded

don — darn, pot – part

- character of the vowel end

According to the character of their end English vowels can be: checked and unchecked.

Character of the vowel end - this quality depends on the kind of the articulatory transition from a vowel to a consonant. This transition (VC – i.e. vowel + consonant) is very closed in English unlike Russian. As a result all English short vowels are checked when stressed. The degree of checkness may vary and depends on the following consonants (+ voiceless - voiced - sonorant -).

The vowel length or quantity has for a long time been the point of disagreement among phoneticians. It is a common knowledge that a vowel like any sound has physical duration. When sounds are used in connected speech they cannot help being influenced by one another. Duration of a vowel 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 in a rhythmic structure; 5) the position in a tone group; 6) the position in an utterance; 7) the tempo of the whole utterance; 8) the type of pronunciation. The problem the analysts are concerned with is whether variations in quantity are meaningful (relevant). Such contrasts are investigated in phonology.

The terms checked vowel and free (unchecked) vowel originated in English phonetics and phonology. They are seldom used for the description of other languages, even though a distinction between vowels that usually have to be followed by a consonant and those that do not have to - is common in most Germanic languages.

The terms checked vowel and free vowel correspond closely to the terms lax vowel and tense vowel respectively, but many linguists prefer to use the terms checked and free as there is no clearcut phonetic definition of vowel tenseness,

In most Germanic languages, lax vowels can only occur in closed syllables. Therefore, they are also known as checked vowels, whereas the tense vowels are called free vowels since they can occur in any kind of syllable.

- **degree of tenseness**

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

Tenseness is used to describe the opposition of *tense vowels* as in *leap, suit* vs. *lax vowels* as in *lip, soot*. This opposition has traditionally been thought to be a result of greater muscular tension, though phonetic experiments have repeatedly failed to show this.

Unlike the other features of vowel quality, tenseness is only applicable to the few languages that have this opposition (mainly Germanic languages, e.g. English), whereas the vowels of the other languages (e.g. Spanish) cannot be described with respect to tenseness in any meaningful way. In discourse about the English language, "tense and lax" are often used interchangeably with "long and short", respectively. This cannot be applied to other languages.

In most Germanic languages, lax vowels can only occur in closed syllables. Therefore, they are also known as checked vowels, whereas the tense vowels are called free vowels since they can occur in any kind of syllable.

In general, tense vowels are more close than their lax counterparts. Tense vowels are sometimes claimed to be articulated with a more advanced tongue root than lax vowels, but this varies, and in some languages it is the lax vowels that are more advanced, or a single language may be inconsistent between front and back or high and mid vowels

In phonology, **tenseness** is a particular vowel quality that is phonemically contrastive in many languages, including English. It has also occasionally been used to describe contrasts in consonants. Unlike most distinctive features, the feature [tense] can be interpreted only relatively, that is, in a language like English

that contrasts [i] (e.g. *beat*) and [□] (e.g. *bit*), the former can be described as a tense vowel while the latter is a lax vowel. Some languages like Spanish are often considered as having only tense vowels, but since the quality of tenseness is not a phonemic feature in this language, it cannot be applied to describe its vowels in any meaningful way.

In many Germanic languages, such as RP English, standard German, and Dutch, tense vowels are **longer in duration** than lax vowels; but in other languages, such as Scots, Scottish English, and Icelandic, there is no such correlation.

Since in Germanic languages, lax vowels generally only occur in closed syllables, they are also called **checked vowel**s, whereas the tense vowels are called **free vowels** (unchecked) as they can occur at the end of a syllable.

tense / lax [tense]: The traditional definition of this feature claims that tense vowels involve a greater degree of constriction then lax vowels.

In most languages they are produced with the same tongue position but differ in duration.

Summing up, The tense/lax distinction in vowels seems to be related to some kind of strong/weak distinction. In English it is a long/short durational distinction, what is often the main acoustic distinction between tense and lax vowels.

Difference in the articulatory bases of English and Russian vowels

1)The principle of the degree of tenseness in vowel classification is connected with the unchecked and checked character of the vowels (this characteristic is absent in Russian).

2) The stability of articulation : there are monophthongs in the Russian vowel system, but there are no diphthongs and triphthongs.

3) There are 6 vowel phonemes in Russian and 20 in English.

4) given below English vowels have no counterparts in Russian:

- long and short vowels /i: — i/, /o: — o/, /u: — u/, /ɜ:- ɜ /, /a: — /ʌ/;

- slightly rounded, but *not protruded* vowels /u:, o:/;

- very low vowels, such as /æ, o, a:/;

- front-retracted /i/ and back-advanced /u, a:/;

- central or mixed / ɜ:/;

An articulating English vowels Russian students can make the following mistakes:

- they do not observe the quantitative character of the long vowels;

- do not observe the qualitative difference in the articulation of such vowels as /i: — i/, /u: — u/, /o:- o/,

- replace the English vowels /i:, o, u, æ, / by the Russian vowels / и, о, у, а, э/;

- soften consonants which precede front vowels

- articulate /o, o:, u, u:, эu/ with the lips too much rounded and protruded;

- make the sounds /æ, o/ more narrow similarly to the Russian /э, о/;

- make both elements of the diphthongs equally distinct;

- pronounce initial vowels with a glottal stop.

Assignments

Vowels as well as consonants have **no meaning of their own** but they **can render communicative meaning**.

A: Study some **vowel interjections** with communicative meaning in English and transcribe them.

VOWELS WITH COMMUNICATIVE MEANING IN ENGLISH

Ahhh! [α] Meaning: Satisfaction, relaxation (Possible situation: You step into a nice hot tub./You take a sip of refreshing iced tea on a hot day.)

Aw. [o:] Meaning: Sympathy, disappointment (Possible situation: "My dog just died.")

Ow! [aw] Meaning: Pain (Possible situation: A door slams on your finger.)

Oh? [ow] Meaning: Mild surprise, interest (Possible situation: "The new Woody Allen movie is opening tonight.")

Oh. [ow:] Meaning: Comprehension (Possible situation: "You have to plug it in before it'll work.")

Uh-oh. [?ʌ? - ow] Meaning: Trouble (Possible situation: You're driving over the speed limit and you see a police car in your rear-view mirror.)

Ooh! [uw:] Meaning: Disgust / Excitement (Possible situation: "Look! There's a fly in your soup!")

Oops! [uwps] Meaning: Recognition of problem (Possible situation: You spill your coffee while pouring.)

Aha! [əha] Meaning: Discovery (Possible situation: You finally understand the math problem you've been working on.)

Huh? [hʌ] (nasal) Meaning: Lack of understanding (Possible situation: You don't hear what someone says to you, or you think you heard incorrectly.)

Boo! [buw] Meaning: Frightening someone (Possible situation: You sneak up behind someone and want to scare him or her.)

Uh-uh. [?ʌ?ə] (nasal) – Meaning: No (Possible situation: "Have you ever read this book?")

Uh-huh [ənʌ] (nasal) – Meaning: Yes (Possible situation: "Can I call you?")

B: Practice using these simple interjections as an efficient means of conveying emotions and feelings.

A
What would you say if …
1) you sat down to relax in a big comfortable chair
after standing all day?
2) you didn't hear what one of your friends just said
to you?
3) you saw your teacher coming toward you and you
had skipped his class twice this week?
4) you dropped the coin while paying in the shop?
5) your boyfriend had just dumped you?

6) your friend had swallowed a bug?

7) the examiner had caught you cheating in the test?

Respond to this:

Example:

Ahh!

B

What situations cause the following responses?

Example:

1) You quietly walked up behind a friend to scare
her?

2) _____

3) _____

4) _____

5) _____

Responses

Boo!

Oops! *or* Uh-oh!

Aw.

Huh?

Reading list:

Leontyeva, A theoretical course of English phonetics, p.41-51, 75-79

Бурая, Е. А. Фонетика современного английского языка. Теоретический курс, С. 67- 80

Шевченко, Т. И. Теоретическая фонетика английского языка, С.41, 48

Sokolova, English phonetics. A theoretical course, p.78-100

4 Chapter IV. The system of English consonants (Consonantism)

1. **The definition of a Consonant sound.**
2. **The work of vocal cords**
3. **The active speech organ**
4. **The place of obstruction**
5. **The manner of articulation**
6. **The manner of production of noise/degree of noise/**
7. **Differences in the system of consonants in English and in Russian**

The definition of a Consonant sound

In articulatory phonetics, a **consonant** is a speech sound that is articulated with complete or partial closure of the vocal tract.

The word *consonant* comes from Latin term *cōnsonant-,* from *cōnsonāns (littera)* "sounding-together (letter)".

Consonant is a speech sound characterized by an articulation in which a closure or narrowing of the vocal tract completely or partially blocks the flow of air; also, any letter or symbol representing such a sound.

The word **consonant** is used to refer to a letter of an alphabet that denotes a consonant sound. Consonant letters in the English alphabet are B, C, D, F, G, H, J, K, L, M, N, P, Q, R, S, T, V, X, Z, W and sometimes Y: The letter Y stands for the consonant [j] in "yoke", and for the vowel [i] in "myth", for example).

As the number of consonants in the world's languages is much **greater** than the number of consonant letters in any one alphabet, linguists have devised systems such as the International Phonetic Alphabet (IPA) to assign a unique symbol to each attested consonant. In fact, the Latin alphabet, which is used to write English, has fewer consonant letters than English has consonant sounds, for example, *digraphs* like "ch", "sh", "th", and "zh" are used to extend the alphabet, and some letters and digraphs represent more than one consonant. For example, many speakers are not aware that the sound spelled "th" in "this" is a different consonant than the "th" sound in "thing". (In the IPA they are transcribed [ð] and [θ], respectively).

The phonological analysis of English consonants helps to distinguish 24 phonemes:

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

Each consonant can be distinguished by several phonetic *feature /characteristics*:

- work of vocal cords
- active speech organ
- place of obstruction
- manner of articulation
- manner of production of noise/degree of noise/

- **work of vocal cords**

- According **to the work of vocal cords** (force of exhalation) consonans are divided into **voiced** and **voiceless.**

It has long been considered that from articulatory point of view - the only difference between such pairs of consonants as [p-b], [t-d], [s-z] is based on the presence or absence of vocal cords vibrations. However, experimental works on acoustic and physiological aspects of such sounds showed that it is not the only difference between them. It is obvious that there is also the energy difference between them (all voiced consonants are weak, while all voiceless are strong). In linguistics, **fortis** and **lenis** are terms generally used to refer to groups of consonants that are produced with greater and lesser energy, respectively, such as in energy applied, articulation, etc. "Fortis" and "lenis" were considered as less misleading terms to refer to consonantal contrasts in languages that don't employ actual vocal fold vibration in their "voiced" consonants but instead involved greater "articulatory strength." For example, Germanic languages like English, Dutch, and German have "fortis" consonants (as exhibited in *come, komen,* and *kommen,* respectively) that exhibit a longer stop closure and shorter preceding vowels than their "lenis" counterparts

Voiced sounds are produced with a laryngeal configuration permitting periodic vibration of the vocal cords; voiceless sounds lack such periodic vibration.

Compare: work of the vocal cords

Voiceless/ fortis vs. voiced /lenis

pen — Ben, ten - den, coat - goal

- active speech organ

-According **to the   ative speech organ** consonans are divided into: labial (lips are active, sound involves rounding or constriction at the lips), ligual (tongue –is active speech organ) and   glottal (glottis is involved in production of sound).

This principle of consonant classification is rather universal. The only difference is that V.A. Vassilyev, G.P. Torsuev, O.I. Dikushina, A.C. Gimson give more detailed and precise enumerations of active organs of speech than H.A. Gleason, B. Bloch, G. Trager and others. There is, however, controversy about terming the active organs of speech. Thus, Russian phoneticians divide **the tongue** into the following parts: (1) front with the tip, (2) middle, and (3) back. Following L.V. Shcherba's terminology the front part of the tongue is subdivided into: (a) apical, (b) dorsal, (c) cacuminal and (d) retroflexed according to the position of the tip and the blade of the tongue in relation to the teeth ridge. A.C. Gimson's terms differ from those used by Russian phoneticians: apical is equivalent to forelingual; frontal is equivalent to mediolingual; dorsum is the whole upper area of the tongue. H.A. Gleason's terms in respect to the bulk of the tongue are: apex - the part of the tongue that lies at rest opposite the alveoli; front - the part of the tongue that lies at rest opposite the fore part of the palate; back, or dorsum - the part of the tongue that lies at rest opposite the velum or the back part of the palate.

Compare: active speech organ:

a. labial vs. lingual

pain — cane

b. lingual vs. glottal

foam — home, care — hair,

<center>**- place of obstruction**</center>

The **place of place of obstruction** (also point of articulation) of a consonant is the point of contact, where an obstruction occurs in the vocal tract between an active articulator (usually some part of the tongue) and a passive articulator (usually some part of the roof of the mouth). Together with the manner of articulation this gives the consonant its distinctive sound.

A **place of obstruction** is defined as both the active and passive articulators. For instance, the active lower lip may contact either a passive upper lip (bilabial, like [m]) or the upper teeth (labiodental, like [f]). The hard palate may be contacted by either the front or the back of the tongue. If the front of the tongue is used, the place is called retroflex; if back of the tongue ("dorsum") is used, the place is called "dorsal-palatal", or more commonly, just palatal.

Places where the obstruction may occur

- Bilabial: between the lips
- Labio-dental: between the lower lip and the upper teeth
- Dental: between the front of the tongue and the top teeth
- Alveolar consonant: between the front of the tongue and the ridge behind the gums (the alveolus)
- Post-alveolar consonant: between the front of the tongue and the space behind the alveolar ridge
- Retroflex: the tongue curls back so the underside touches the palate
- Palatal: between the middle of the tongue and the hard palate
- Velar: between the back of the tongue and the soft palate (the velum)
- Uvular: between the back of the tongue and the uvula (which hangs down in the back of the mouth)
- Pharyngeal: between the root of the tongue and the back of the throat (the pharynx)

- manner of articulation

Manner of articulation describes how the tongue, lips, jaw, and other speech organs are involved in making a sound make contact. Usually the concept is only used for the production of consonants.

G.P. Torsyev, V.A. Vassilyev and other Russian scholars consider the principle of classification according to the manner of articulation to be one of the most important and classify consonants very accurately, logically and thoroughly. They suggest a classification from the point of view of the closure. It may be: (1) complete closure, then **occlusive** (stop or plosive) consonants are produced; (2) incomplete closure, then **constrictive** consonants are produced; (3) the combination of the two closures, then occlusive-constrictive consonants, or affricates, are produced; (4) intermittent closure, then rolled, or trilled consonants are produced.

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

a) **occlusive**, in the production of which a complete obstruction is formed;

b) **constrictive**, in the production of which an incomplete obstruction is formed.

Each of two classless is subdivided into noise consonants and sonorants.

- manner of production of noise/degree of noise

This characteristic leads to dividing English consonants into two kinds:

a) noise consonants; b) sonorants.

The term "degree of noise" belongs to auditory level of analysis. But there is an intrinsic connection between articulatory and auditory aspects of describing speech sounds. In this case the term of auditory aspect defines the characteristic more adequately.

Sonorants are sounds that differ greatly from other consonants. This is 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 sonorants sound more like vowels than consonants. 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.

There are no sonorants in the classifications suggested by British and American scholars. Daniel Jones and Henry A. Gleason, for example, give separate groups of nasals [m, n, ŋ], the lateral [1] and semi-vowels, or glides [w, r, j (y)]. Bernard Bloch and George Trager besides nasals and lateral give trilled [r]. According to Russian phoneticians sonorants are considered to be consonants from articulatory, acoustic and phonological point of view.

Sonorant sounds are produced with vocal tract configuration that permits air pressure on both sides of any constriction to be approximately equal to the air pressure outside the mouth.

In phonetics and phonology, a sonorant is a speech sound that is produced without turbulent airflow in the vocal tract.

A typical sonorant inventory found in English comprises the following phonemes: /m/, /n/, /w/, /j/, /l/, /r/.

Occlusive noise consonants are divided into: **plosives** and **affricate**s.

Plosive, (or oral stop), where there is complete occlusion (blockage) of both the oral and nasal cavities of the vocal tract, and therefore no air flow. Examples include English /p t k/ (voiceless) and /b d g/ (voiced). If the consonant is voiced, the voicing is the only sound made during occlusion; if it is voiceless, a plosive is completely silent.

Affricate begins like a plosive, but this releases into a fricative rather than having a separate release of its own. The English "ch" and "j" represent affricates. Affricates are quite common around the world, though less common than fricatives.

There is a problem of phonological character in the English consonantal system; it is the problem of affricates - their phonological status and their number. The questions are: whether the English [/] sounds are monophonemic entities or biphonemic combinations (clusters) and how many of them are there in English?

If they are monophonemic, how many phonemes of the same kind exist in English, can such clusters as [tr, dr] and [tθ, dð] be considered affricates?

It's not easy to answer these questions. One thing is clear: these sounds are complexes because articulatory we can distinguish two elements. Considering phonemic duality of affricates, it is necessary to analyze the relation of affricates to other consonant phonemes to be able to define their status in the system.

The problem of affricates is a point of considerable controversy among phoneticians. According to Russian scholars, there are two affricates in English: [tʃ,]. D. Jones points out there are six of them: [tʃ,], [ts, dz], and [tr, dr].

A.C. Gimson increases their number adding two more affricates: [tθ, tð]. 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.

Before looking at these complexes from a functional point of view it is necessary to define their articulatory indivisibility.

According to N.S. Trubetzkoy's point of view a sound complex may be considered monophonemic if:

a) its elements belong to the same syllable;

b) it is produced by **one** articulatory effort;

c) its duration should not exceed normal duration of elements.

Let us apply these criteria to the sound complexes.

1). Syllabic indivisibility

butcher [butʃ -ə]	*lightship* [lait-ʃip]
mattress [mætr-is]	*footrest* [fut-rest]
curtsey [kɜ:-tsi]	*out-set* [aut-set]
eighth [eitθ]	*whitethorn* [wait-θɔ:n]

In the words in the left column the sounds [tʃ], [tr], [ts], [tθ] belong to one syllable and cannot be divided into two elements by a syllable dividing line.

2). Articulatory indivisibility.

Special instrumental analysis shows that all the sound complexes are homogeneous and produced by one articulatory effort.

3). Duration.

With G.P. Torsuyev we could state that length of sounds depends on the position in the phonetic context, therefore it cannot serve a reliable basis in phonological analysis. He writes that the length of English [tʃ] in the words *chair* and *match* is different; [tʃ] in *match* is considerably longer than |t| in *mat* and may be even longer than [ʃ] in *mash*. This does not prove, however, that [tʃ] is biphonemic.

According to *morphological criterion* a sound complex is considered to be monophonemic if a morphemic boundary cannot pass within it because it is generally assumed that a phoneme is morphologically indivisible. If we consider [tʃ], [   ] from this point of view we could be sure in their monophonemic status, since they are indispensable. As to [ts], [dz] and [tθ], [dð] complexes their last elements are separate morphemes [s], [z], [θ], [ð] - so these elements are easily singled out by the native speaker in any kind of phonetic context. These complexes do not correspond to the phonological models of the English language and cannot exist in the system of phonemes. The case with [tr], [dr] complexes is still more difficult.

Summing up, we could say that the two approaches have been adopted towards this phenomenon are as follows: the finding that there are eight affricates in English [tʃ], [   ], [tr], [dr], [ts], [dz], [tð], [dθ] is consistent with articulatory and acoustic point of view, because in this respect the entities are indivisible. This is the way the British phoneticians see the situation. On the other hand, Russian phoneticians are consistent in looking at the phenomenon from the morphological and the phonological point of view which allows them to define [tʃ], [   ] as monophonemic units and [tr], [dr], [ts], [dz], [tð], [dθ] as biphonemic complexes. However, this point of view reveals the possibility of ignoring the articulatory and acoustic indivisibility.

It was mentioned above that o**cclusive noise** consonants are divided into: **plosives** and **affricate**s. If the phonemic character of affricates is more or less clear now, the features of plosive sounds need to be considered.

A plosive is a speech sound which is produced by completely closing the vocal tract at some point. During this period of closure the air being forced up the vocal tract by the lungs is prevented from escaping and the air pressure inside the vocal tract rises rapidly. The air is also prevented from leaving via the nasal cavity because the soft palate is raised and closes off the airway.

Plosive sounds can be made at many places of articulation. Those that are fairly commonly encountered in languages of the world include: bilabial, dental, alveolar, palatal, velar, uvular.

Here is a picture of a typical plosive. It is an alveolar. Notice that the tongue is in firm contact with the alveolar ridge and the soft palate is in contact with the rear wall of the pharynx.

Picture: Plosive: articulatory aspect
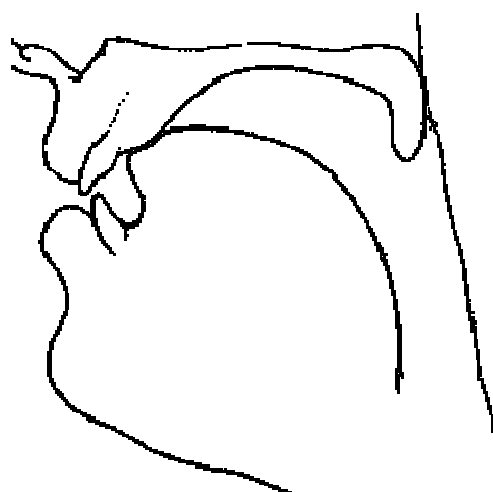
Usually three stages are recognised for the production of a plosive sound. The first is when the active articulator (that is the one that moves) is approaching the passive articulator (the one that stays where it is). This is stage is the approach stage. The next stage is when the two articulators are in firm contact. During this stage the air pressure rises in the vocal tract. This is called the hold stage or the compression stage. Finally, the active articulator breaks contact with the passive articulator and moves away. The compressed air is released with an explosive noise. This stage is called the release stage**.**

Constrictive sonorant sounds are divided into: median and lateral.

Lateral sounds, the most familiar of which is [l], are produced with the tongue placed in such a way as to prevent the airstream from flowing outward through the centre of the mouth, while allowing it to pass over one or both sides of the tongue.

In **laterals**, the air is released past the tongue sides and teeth rather than over the tip of the tongue. English has only one lateral, /l/, but many languages have more than one, e.g. Spanish written "l" vs. "ll".

One more possible characteristic of consonants is according to the **position of the soft palate** all consonants are

subdivided into *oral and nasal*. When the soft palate is raised oral consonants are produced; when the soft palate is lowered nasal consonants are produced.

In **nasals**, the velum is lowered to allow air to pass through the nose (technically a place   generally considered as a manner of articulation). **Nasal stop**, usually shortened to **nasal**, where there is complete occlusion of the oral cavity, and the air passes instead through the nose. The shape and position of the tongue determine the resonant cavity that gives different nasal stops their characteristic sounds. Examples include English /m, n/. Nearly all languages have nasals.

Compare: position of the soft palate

oral vs. nasal

pit — pin, seek — seen

Differences in the system of consonants in English and in Russian:

1) The English forelingual consonants are articulated with the apico-alveolar position of the tip of the tongue. The Russian forelingual consonants are mainly dorsal: in their articulation the tip of the tongue is passive and lowered, the blade is placed against the upper teeth. The Russian forelingual apical consonants are only: [л, л', ш,ш', ж, ж`].

2) Russian students often use the hard /ш, ж/ phonemes instead of the soft English /ʃ, ʒ/. Palatalization is a phonemic feature in Russian. There is no opposition between palatalyzed — non-palatalyzed consonants in English. The soft colouring of the English /ʃ,tʃ,   , l, ʒ/ is non-phonemic and non-distinctive

3) In the articulation of /w/ the primary focus is formed by the lips, which are rounded but not protruded, as it happens when the Russian /y/ is pronounced. The bilabial /w/ which is pronounced with a round narrowing is very often mispronounced by Russians. They use the labiodental /в/ which is pronounced with a flat narrowing instead of the English /w/.

4) The primary focus in the articulation of "dark" **[l]** is formed by the tip of the tongue pressed against the teethridge in the initial position.

5) English voiceless plosives /p, t, k/ are aspirated, when followed by a stressed vowel and not preceded by /s/. There is no such feature as aspiration for Russian consonants.

6) The English voiceless fortis /p, t, k, f, s, ∫, t∫ / are pronounced more energetically than similar Russian consonants.The English voiced consonants /b, d, g, v, d, z,   ,   / are not replaced by the corresponding voiceless sounds in final positions and before voiceless consonants.

In English voiced-voiceless opposition is also based on fortis-lenis distinction, it is not so in Russian, where the voiceless-voiced opposition is based only on presence or absence of voice.

7) Consonant phonemes in English which have no counterparts in Russian are the following:

1. the bilabial sonorant /w/,

2. the dental consonants /ð,θ /,

3. the voiced affricate /   /,

4. the post-alvcolar sonorant /r/,

5. the backlingual nasal sonorant /ŋ/,

6. the glottal /h/.

Consonant phonemes in Russian which have no counterparts in English are the following;

1. the palatalized consonants /п`, б', т', д `/.

2. the voiceless affricate /ц/,

3. the rolled sonorant /p/,

4. the backlingual voiceless /x/.

8) The most common mistakes are the following:

- dorsal articulation of the English /t, d/,

- the use of the Russian rolled /p/ instead of the English /r/,

- the use of the Russian /x/ instead of the English glottal /h/,

- mispronunciation of the English interdental [ð, θ]

- the use of the forelingual /n/ instead of the backlingual velar / ŋ /.

- the use of the Russian dark /ш , ж/ instead of the soft English /ʃ, ʒ/,

- the use of the labio-dental /v, в/ instead of the bilabial /w/,

- weak pronunciation of voiceless fortis /p, t, k, f, s, ʃ , tʃ/,

- devoicing of /b, d, g, v, ð, z, ʒ,   / in the terminal position

Assignments on Vowels and Consonants

Ex.1. Sort out the oppositions under the headings
   a) occlusive vs. constrictive
   b) noise vs. sonorant
Pine-fine, fare-chair, boat-moat, seek-seen, kick-king, work-jerk, deed-need, vain-lane, came-lame, fame-same, sick-sing

Ex.2. Transcribe and state what principles of vowel classification they illustrate.
Cod-cord, end-and, fir-for, fool-full, am-aim, law-low.

Ex.3 Match the type of vowels and the principles of their classifications.

A – diphthongs, monophthongs, triphthongs(diphthongoids)	1- Vertical movements of the tongue
B – unrounded, rounded	2- Length
C – front, mix(central), back	3 – Stability of articulation
D – close, open, mid-open	4- Lip position
E – short, long	5 – Horizontal movements of the tongue

Ex.4 Transcribe and state what principles of consonant classification they illustrate. Decide which distinctive features make the consonants in these minimal pairs different phonemes.
Cat-catch
Sin-sing
Deaf-death
Hot-got
Port-bought

Ex.5 Say in which of the languages – Russian or English:
- the lips are more rounded and protruded
- there is no opposition of long and short vowels
- there are more vowels
- there are variations within vertical and horizontal tongue positions
- voiced consonants are weak and voiceless- are strong
- fricatives and affricates are whispered

Give examples

Ex.6 Explain the articulation of [w,j, h] from the viewpoint of active organ of speech

Ex.7 Explain the difference in the articulation of [b,v, tʃ]

Ex. 8   What are the main principles of classifying consonants? Are there any differences when considering the problem among Russian, British and American linguists? Make a list of of differences.

Ex. 9 What is a sonorant? There has traditionally been a lot of debate about this class of consonants or vowels? Why do some of the British and American phoneticians refer some of the sonorants to the class of semivowels?

Ex. 10 Study the information about basic principles of classifying vowels and answer the following questions:
1. What is the most common vowel sound in English?
2. What are the typical difficulties concerning vowels for native speakers of your language?
3. What do you consider to be the greatest challenges in teaching English vowels?

Ex. 11 Vowels as well as consonants have no meaning of their own but they can render communicative meaning. Do you know any vowels with communicative meaning in English (interjections)?

Ex. 11 Give the appropriate term for sound:

1) articulated with the two lips close together or touching;
2) articulated with the lower lip touching the upper teeth;
3) articulated with the tip of the tongue between the upper and lower teeth;
4) articulated with the tip or blade of the tongue close to or touching the ridge behind the upper teeth;
5) articulated with the tongue raised toward the center of the roof of the mouth.

Ex. 12   **Now see if you can recognise the place of articulation for some plosives from a diagram of their articulation. Just choose an appropriate place of articulation name from the list that follows each picture**:
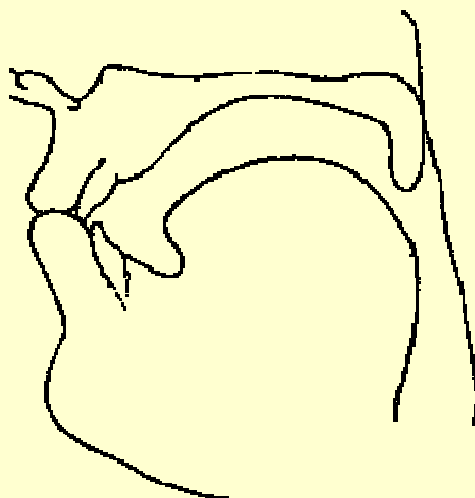
What is the place of articulation of this plosive?

☐   bilabial

☐   dental

☐   palatal

☐   uvular

Reading list:

Leontyeva, A theoretical course of English phonetics, p.30-39, 41- 52
Бурая, Е. А. Фонетика современного английского языка. Теоретический курс, С. 52- 66
Шевченко, Т. И. Теоретическая фонетика английского языка, С.40, 44
Sokolova, English phonetics. A theoretical course, p.60-78

5   Chapter V. Sounds in a speech-flow (phonetic processes)

1. **Modifications of sounds in English. The notion of phonetic processes. Stages of pronouncing a sound.**
2. **Assimilation**
3. **Other phonetic processes (accomodation, elision, reduction, aspiration, nasalization, labialization, palatalization).**

Modifications of sounds in English. The notion of phonetic processes.

In connected speech the phonemes are not produced independently as when we pronounce separate sounds. To pronounce a word consisting of several sounds we must join the sounds together. In connected speech the character of the phonemes differs from that of separate sound, because in speech sounds influence each other. To pronounce a word consisting of more than one sound, it is necessary to join the sounds together in the proper way. There exist several types of junction, some of which are common to all or many languages, while others are characteristic of individual languages. In order to master these specific types of junction it is necessary to understand the mechanism of joining sounds together. This mechanism can only be understood after analyzing the stages in the articulation of a speech-sound pronounced in isolation.

Stages of pronouncing a sound.

Every **speech-sound pronounced in isolation** has three stages of articulation. They are: 1) the on-glide (or excursion), or the initial stage, 2) the retention-stage (stop- stage), or the medial stage, and 3) the off-glide (recursion), or the final stage.

The *on-glide, or the beginning* of a sound, is the stage during which the organs of speech move away from a neutral position to take up the position necessary for the pronunciation of a consonant or a vowel. The on-glide produces no audible sound. The *retention-stage/ hold or the middle o*f a sound is the stage during which the organs of speech are kept for some time either in the same position necessary to pronounce the sound (in the case of non-complex sounds) or move from one position to another (within complex sounds, such as diphthongoids, diphthongs and affricates). For the retention-stage of a stop consonant the term stop-stage may also be used. The *off-glide, or the end of a sound*, is the stage during which the organs of speech move away to a neutral position. The off-glide

of most sounds is not audible (the exception is plosives whose off-glide produces the sound of plosion before a vowel and in a word-final position before a pause).

It is obvious that in rapid speech all these stages can not be observed for each individual sound, bacause of lack of time. That's why some stages can be not realized while pronouncing sounds in rapid speech. In English there are two principal ways of linking two adjacent speech sounds: 1) merging of stages and 2) interpenetration of stages. The type of junction depends on the nature of the sounds that are joined together.

Merging of stages, as compared with interpenetration of stages, is a simpler and looser way of joining sounds together. It usually takes place if two adjacent sounds of a different nature are joined together. In this case the end of the preceding sound penetrates into the beginning of the following sound. In other words, the end of the first sound and the beginning of the second are articulated almost simultaneously.

Interpenetration of stages usually takes place when consonants of a similar or identical nature are joined. In this case the end of the first sound penetrates not only into the beginning but also into the middle part of the second sound, as in [ækt] act, [begd] begged.

The modifications of sounds are observed both within words and word boundaries. These modifications of sounds under the influence of each other are usually called **phonemic processes**.   There are the following types of modification: assimilation, accommodation, reduction, elision, etc. The adaptive modification of a consonant by a neighbouring consonant in a speech chain is assimilation (consonant + consonant influence). Accommodation is used to denote the interchanges of VC or CV types (interaction of consonant + vowel). Reduction is actually qualitative or quantitative weakening of vowels in unstressed positions. Elision is a complete loss of sounds, both vowels and consonants. Now let us consider the processes in detail.

Assimilation

Assimilation is a process when two neighbouring consonants within a word or at the word-boundaries influence each other so that one of them becomes similar to the other. Assimilation can be of several types.

According to *historical development* assimilation can be: modern (living) and historical. Assimilation which occurs in everyday speech in the present-day pronunciation is called living. Assimilation which took place at an earlier stage in the history of the language is called historical.

According to direction assimilation can be:

- *progressive*, when the first of the two sounds affected by assimilation makes the second sound similar to itself, e. g. in *desks* the sounds /k/ make the plural inflection *s* similar to the voiceless /k/.

- *regressive*, when the second of the two sounds affected by assimilation makes the first sound similar to itself, e. g. in the combination *at th*e the alveolar /t/ becomes dental, assimilated to the interdental / ð / which follows it;

- *double*, when the two adjacent sounds influence each other, e.g. *twice* /t/ is rounded under the influence of /w/ and /w/ is partly devoiced under (he influence of the voiceless /t/.

According to degree assimilation can be:

- *Complete* (when the assimilated sound fully coincides with assimilating one), for example: hor**se**-**sh**oe [ho ʃ-ʃu]
- *Partial/ incomplete* (when the assimilated sound only partially resembles the assimilating one), for example: **tr**ee

When the two neighbouring sounds are affected by assimilation, it may influence: 1) the work of the vocal cords; 2) the active organ of speech; 3) the manner of noise production; 4) both: the place of articulation and the manner of noise production.

l) Assimilation affecting the work of the vocal cords is observed when one of the two adjacent consonants becomes voiced under the influence of the neighbouring

voiced consonant, or voiceless — under the influence of the neighbouring voiceless consonant.

In the process of speech the sonorants /m, n, 1, r; j, w/ are partly devoiced before a vowel, preceded by the voiceless consonant phonemes /s, p, t, k/, e. g. *plate, slowly, twice, ay*. This assimilation is not observed in the most careful styles of speech.

2) The manner of noise production is affected by assimilation in cases of

a) lateral plosion and b) loss of plosion or incomplete plosion.

The lateral plosion takes place, when a plosive is followed by /1/. In this case the closure for the plosive is not released till the off-glide for *the second [l]*. Incomplete plosion takes place in the clusters a) of two similar plosives like /pp,pb, tt, td, kk, kg/, or b) of two plosives with different points of articulation like:/kt/,/dg/, /db/, /tb/. So there is only one explosion for the two plosives.

3) Assimilation affects the place of articulation and the manner of noise production when the plosive, alveolar /t*l* is followed by the post-alveolar /r/. For example, in the word *trip* alveolar *1t1* becomes post-alveolar and has a fricative release.

So, assimilation is a modification of a consonant under the influence of a neighbouring consonant.

When a consonant is modified under the influence of an adjacent vowel or vice versa this phenomenon is called adaptation or **accommodation**, e. g. *tune, keen, lea, cool*.

For ex: the fully back /u:/ becomes back-advanced under the influence of the preceding mediolingual sonorant /j/ in the words *tune, nude*. In the word *keen* /k/ is not so back as its principal variant, it is advanced under (be influence of the fully front /i;/ which follows it.

When one of the neighbouring sounds is not realized in rapid or careless speech this process is called elision, e. g. *a box of matches* may be pronounced without [v].

Other phonetic processes

There are also some other phonemic processes:

Labialization is rounding the lips while producing the obstruction, as in English /w/.

Labialisation is a secondary articulatory feature of sounds in some languages. Labialised sounds involve the lips while the remainder of the oral cavity produces another sound. The term is normally restricted to consonants. When vowels involve the lips, they are called rounded.

The most common labialised consonants are labialised velars. Most other labialised sounds also have simultaneous velarisation, and the process may then be more precisely called **labio-velarisation**. Labialisation may also refer to a type of assimilation process.

Palatalization is raising the body of the tongue toward the hard palate while producing the obstruction, as in Russian /tj /.

Palatalization generally refers to two phenomena:

1) As a *process* or the *result of a process*, the effect that front vowels and the palatal approximant [j] frequently have on consonants;

2) As a *phonetic description*, the secondary articulation of consonants by which the body of the tongue is raised toward the hard palate during the articulation of the consonant. Such consonants are *phonetically palatalized*, and in the International Phonetic Alphabet they are indicated by a superscript 'j', as [tj] for a palatalized [t]. The second may be the result of the first, but they often differ. A vowel may "palatalize" a consonant, but the result might not be a palatalized consonant in the phonetic sense, or the phonetically palatalized consonant may occur irrespective of front vowels. Phonetically palatalized consonants may vary in their exact

realization. Some, but not all languages add offglides or onglides. Typically, the vowel following a palatalized consonant has a palatal offglide.

Palatalization may be a synchronic phonological process, i.e., some phonemes are palatalized in certain contexts, typically before front vowels or especially high front vowels, and remain non-palatalized elsewhere. This is usually phonetic palatalization, as described above, but need not to be. It is usually allophonic and it may go unnoticed by native speakers. As an example, compare the /k/ of English *key* with the /k/ of *coo*, or the /t/ of *tea* with the /t/ of *took*. The first word of each pair is palatalized, but few English speakers would perceive them as distinct.

Palatalization may be a diachronic phonemic split, that is, a historical change by which a phoneme becomes two new phonemes over time through phonetic palatalization. Old historical splits have frequently drifted since the time they occurred, and may be independent of current phonetic palatalization

Such phonemic splits due to historic palatalization are common in many other languages. Some English examples of cognate words distinguished by historical palatalization are *church* vs. *kirk, witch* vs. *wicca, ditch* vs. *dike,* and *shirt* vs. *skirt*

Palatalization has played a major role in the history of the Romance, Slavic, Korean, Japanese, Chinese and Indic languages, among many others throughout the world.

Velarization is raising the back of the tongue toward the soft palate (velum), as in the English dark/ l /.

Pharyngealization, constriction of the throat (pharynx), such as Arabic "emphatic" [t]

Nasalization is the production of a sound while the velum is lowered, so that some air escapes through the nose during the production of the sound by the mouth. An archetypal nasal sound is [n]. In the International Phonetic Alphabet nasalization is

indicated by printing a tilde above the symbol for the sound to be nasalized: [ã] is the nasalized equivalent of [a].

Nasal vowels are found in many languages, and in a large subset, such as French, Portuguese, Breton, Polish, as well as in several other language families outside Europe, they contrast with oral vowels. Many languages, however, only have oral vowels.There are occasional cases where vowels show contrasting degrees of nasality.

By far the most common nasalized sounds are nasal stops such as [m], [n] or [ŋ]. They may be called stops because airflow through the mouth is blocked, though air flows freely through the nose. Their non-nasal articulatory counterparts are the oral stops.

Diachronic nasalization

Nasal stops frequently nasalize surrounding vowels. Not infrequently, this can result in the addition of nasal vowels to a language. This happened in French, where most final consonants disappeared, but where in the case of final nasals, the preceding vowels became nasal, introducing a new distinction into the language. An example is *vin blanc* - "white wine", ultimately from Latin *vinum* and *blancum.*

Elision   is omission of a final or initial sound in pronunciation, omission of an unstressed vowel or syllable

Elision is the slurring or suppression of a vowel sound or syllable, usually by fusing a final unstressed vowel with a following word beginning with a vowel or mute *h*, as in French *l'homme* or in Shakespeare's 'Th'expense of spirit'. In poetry, elision is used in order to fit the words to the metre of a verse line (see synaeresis). Another form of contraction sometimes distinguished from elision is syncope, in which a letter or syllable within a word is omitted (e.g. *o'er* for over, *heav'n* for heaven).

The elided form of a word or phrase may become a standard alternative for the full form, if used often enough. In English, this is called a contraction, such as *can't* from *cannot.* Contraction differs from elision in that contractions are set forms that have morphologized, but elisions are not.

Even though the effort that it takes to pronounce a word does not hold any influence in writing (*labor**at**o**ry, temp**e**rature,*), a word or phrase may be spelled the same as it is spoken, for example, in poetry or in the script for a theatre play, in order to show the actual speech of a character. It may also be used in an attempt to transcribe non-standard speech. Also, some kinds of elision (as well as other phonological devices) are commonly used in poetry in order to preserve a particular rhythm.

In some languages employing the Latin alphabet, such as English, the omitted letters in a contraction are replaced by an apostrophe.

The omission of a word from a phrase or sentence is not elision but ellipsis or, more accurately, elliptical construction.

Aspiration is the strong burst of air that accompanies either the release or, in the case of preaspiration, the closure of some obstruents. To feel or see the difference between aspirated and unaspirated sounds, one can put a hand or a lit candle in front of one's mouth, and say *pack* and then *speak*. One should either feel a puff of air or see a flicker of the candle flame with *pack* that one does not get with *speak*.. In most dialects of English, *p,t, k* are aspirated in initial position and unaspirated in final

Aspiration – strong explosion of breath. In English a voiceless plosive that is p, t or k is aspirated whenever it stands as the only consonant at the beginning of the stressed syllable or of the first, stressed or unstressed, syllable in a word.

Assignments

Ex.1 Say which of the processes:

-exist both in English and in Russian,
- are (is) never observed in Russian

Aspiration, nasalization, elision, palatalization, assimilation

Give examples

Ex.2 Read pairs of words, characterize subsidiary variants of vowel phonemes due to adaptation

a)   booty /'bu:ti/ -beauty /'bju:ti/
moon /mu:n/ - music /'mju:zik/

b)   bed /bed/ -bell /bel/
wet /wet/-well /wel/

c)   coop /ku:p/ -keep /ki:p/
peel /pi:l/- Paul/po:l/

Ex.3 Transcribe the given words. Single out the consonants that may be elided in these words.

Handbag	postman	last Saturday
Next time	humpty-dumpty	attempt
Empty	night time	crumbs
Landscape	next stop	punctual

Ex.4 Transcribe the given words. Single out the vowels that may be elided in these words.

| Nursery | temporary | potato |
| Phonetically | buffalo | parliament |

Reading list:

Leontyeva, A theoretical course of English phonetics, p.174-182
Бурая, Е. А. Фонетика современного английского языка. Теоретический курс, С. 88- 100
Sokolova, English phonetics. A theoretical course, p.90-111

6   Chapter VI. Syllable theory

1. **The definition of syllable. Combinability of syllable-forming elements.**
2. **Theories of syllable formation and syllable division.**
3. **Functional and graphic characteristics of syllable**

The definition of syllable. Combinability of syllable-forming elements

Speech sounds show a tendency **to group** into clusters, that's why speech can be broken into **minimal pronounceable units** (which are syllables). Being the smallest pronounceable units, syllables form morphemes and words. The syllable is a complicated phenomenon and like a phoneme it can be studied on four levels - articulatory, acoustic, auditory and functional.

The syllabile as a unit is difficult to define, though native speakers of a language are usually able to state how many syllables there are in a definite word.

According to J. Kenyon the syllable is one or more speech sound, forming a single uninterrupted unit of utterance. The syllable can be a single word: *hair,* a part of a word: *ta-ble*, a part of the grammatical form of a word: *dis-able.*

As it was mentioned above, the syllable can be analysed from the acoustic and auditory, articulatory and functional points of view. Acoustically and auditorily the syllable is characterized by the force of utterance, or accent, pitch of the voice, sonority and length, that is by prosodic features. Auditorily the syllabic is the smallest unit of perception.

The formation of syllable in English is based on the phonological opposition vowel - consonant. Vowels are usually syllabic while consonants are not (with the

exceptions of sonorants [l], [m], [n], which become syllabic in a final position preceded by noise consonant: *bottle* [bσ-tl], *bottom* [bσ-tm], *button* [b/\-tn]).

The structure of English syllables can be summarized as following:

- Many syllables have one or more consonants preceding the nucleus. These make up the syllable **onset**: *me*, *so, plow.*

- Many syllables have one or more consonants, following the nucleus. They make up the syllable **coda**. They are traditionally known as closed syllables: *cat*, *jump.*

- The combination of **nucleus and coda** has a special significance, making up the rhyming property of a syllable.

The English language has developed the closed type of syllable as the fundamental one while in Russian it is the open type that forms the basis of syllable formation.

A syllable can be formed by a vowel: (V); by a vowel and a consonant: (VC); by a consonant and a sonorant (CS).

There are the following types of syllables:

V type of syllable (consists only of vowel/ vowels) — called uncovered open, for ex: *ear, I, or.*

VC type of syllable (consists of vowel and consonant) - called uncovered closed, for ex: *eat, on, out.*

CVC type of syllable (consists of consonant + vowel + consonant) - called covered closed, for ex: *look, mate, si.t*

CV type of syllable (consists of consonant + vowel) - called covered open, for ex: *go, tea, more.*

There is one more type of syllable peculiar for English, that is:

CS type (consisting of consonant + sonorant). Syllable-forming sonorants in the combinations of the CS type are terminal /m, n, l/, for ex: *bottle* [bo-tl].

If we compare it with Russian syllabic structure, G. P. Torsuyev suggests a differentiation of the following Russian types of syllabic structures: V type- fully open, CVC type - fully closed, CV type- initially covered, VC type- finally covered. The structure of English and Russian syllables is similar.

The peak of the syllable is usually formed by a vowel or a sonorant. The consonants which precede the peak and follow it are called slopes.

There are some **peculiarities**, concerning the syllable structure in English, for example:

- syllables of CV type and CCV are common in English (for ex: *go, stick, grow*), while syllables of **CCCV** type are already very rare (for ex: *street, split*), syllables of initial **CCCCV** type can not be found in English, but constitute syllables in Russian (for ex: всплакнуть, встрепенуться).

- In English final clusters of consonants are more complex than initial ones, because they usually bear grammatical meanings, for example, CV<u>CCCC</u> type: *texts* [te<u>ksts</u>].

- The consonant [ŋ] never begins, [w] never terminates the syllable.

- The combinability of syllable - forming sonorants is the following: [l] combines with all consonants, except for [Ө,ð].

- The sound [n] combines with all consonants, except [m,ŋ, n], sound [m] combines only with [s,z,p, Ө,ð].

The complexity of the syllable as phenomenon gave rise to many theories, concerning the formation of syllable and division into syllables.

Theories of syllable formation and syllable division

There are different points of view on syllable formation which are the following.

The most ancient theory is called **vowel theory**, it states that there are as many syllables in a word as there are vowels. This theory is considered to be primitive and insufficient as it does not take into consideration consonants which also can form syllables in some languages, neither does it explain the boundary of syllables.

One more theory is the so-called **expiratory** (chest pulse or pressure) theory by R.H. Stetson. 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 the number of syllables in an utterance is determined by the number of expirations made in the production of the utterance. This theory was strongly criticized by

Russian and foreign linguists. G.P. Torsuyev, for example, wrote that in a phrase a number of words and consequently a number of syllables can be pronounced with a single expiration.

Another theory of syllable offered by O. Jespersen is generally called the **sonority theory**. According to Otto Jespersen, each sound is characterized by a certain degree of sonority which is understood us acoustic property of a sound. According to this sound property, a ranking of speech sounds could be established in the form of scale of sonority: from the least sonorous sounds: voiceless plosives → voiced fricatives →voiced plosives → voiced fricatives → sonorants → close vowels → to open vowels as the most sonorous.

According to V.A. Vasssilyev the most serious drawback of this theory is that it fails to explain the actual mechanism of syllable formation and syllable division. Besides, the concept of sonority is not very clearly defined.

Further experimental work gave birth to a lot of other theories.

However the question of articulatory mechanism of syllable in a still an open question in phonetics. We might suppose that this mechanism is similar in all languages and could be regarded as phonetic universal.

In Russian linguistics there has been adopted the theory of syllable by LV Shcherba. It is called the theory of **muscular or articulatory tension / arc of loudness theory**. In most languages there is the syllabic phoneme in the centre of the syllable which is usually a vowel phoneme or, in some languages, a sonorant. The phonemes preceding or following the syllabic peak are called marginal and constitute an arc. So, the syllable is represented in the form of arc. The tense of articulation increases within the range of prevocalic consonants (slopes of arc) and then decreases within the range of postvocalic consonants (slopes of arc).

Russian linguist and psychologist N.I. Zhinkin has suggested the so-called loudness theory which seems to combine both production and perception levels. The experiments carried out by N.I. Zhinkin showed that the arc of loudness of perception level is formed due to variations of the volume pharyngeal passage which is modified by contractions 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 syllabic. So the syllable is the arc of loudness which correlates with the arc of articulatory effort on the speed production level since variations in loudness are due to the work of all speech mechanisms.

The other questionable aspect of these theories is pointof <u>syllable division</u> (where the boundary between the syllables falls?). According to Shcherba's theory: the point of syllable division is where one arc of loudness ends and the other - begins.

The problem of syllable division in case of intervocalic consonants and their clusters, like in such words as *city, extra, standing* et*c*.

Let us consider the first word ['sit.i]. There exist two possibilities:

a) the point of syllable division is after the intervocalic consonant:

b) the point of syllable division is inside the consonant.

In both cases the first syllable remains closed because the shot vowel should remain checked. The results of instrumental analysis show, that the point of syllable division in such words is inside the intervocalic consonant.

The second case. There are two syllables in the word *extra* but where should the boundary between them stand?

1) [e - kstrə]. It is unlike that people would opt for a division between [e] and [kstrə] because there are no syllables in English which begin with consonant sequence [kstr].

2) Similarly, a division between [ekstr] and [ə] would be unnatural.

3) [ek - strə], [eks - trə], [ekst - rə] are possible. People usually prefer either of the first two options here, but there are no obvious ways of deciding between them.

In some cases we may take into account the morphemic structure of words. For example, *standing* consists of two syllables; on phonetic grounds [stæn - diŋ). on grammatical grounds [stænd - iŋ].

Summing up, it is obvious that no phonetician has succeeded so far in giving an adequate explanation of what the syllable is. The difficulties seem to arise from the various possibilities of approach to the unit. There exist two points of view:

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 ground that the boundaries of syllables do not always coincide with those of morphemes.

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

Trying to define the syllable from articulatory point of view we may talk about universals. When we mean the functional aspect of the syllable it should be defined with the reference to the structure of one particular language.

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

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

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

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

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

The functional and graphic characteristics of the syllable.

There are two main functions of the syllable: constitutive and distinctive.

The first is constitutive function. It consists of its ability to be a part of a word. The syllables form larger language units that is morphemes, words and utterances. In this respect two things should be emphasized. First, the syllable is the unit within which the relations between distinctive features of phonemes and their acoustic correlates are revealed. Second, within a syllable (or syllables) prosodic characteristics of speech are realized, which form the stress pattern of a

word and the intonation structure of the utterance. To sum up, the syllable is a specific minimal structure of both segmental and suprasegmental levels.

The other function of the syllable is distinctive. In this respect the syllable is characterized by its ability to differentiate words and word-forms. To illustrate the word distinctive function of the syllable we can give the following examples: *nitrate — night-rate, lightning- lightening* (the existance of one more syllable in the second member of the pair illustrates the difference in meanings). There analogical distinction between word combinations can be illustrated by many more examples: *an aim - a name; an ice house - a nice house, etc.* Sometimes the difference in syllable division may be the basic ground for differentiation in such pairs as *I saw her rise.- I saw her eyes; I saw the meat — I saw them eat.*

The auditory image of the syllable can be shown **graphically** in the form of transcription. Syllables in writing are called syllabographs. It should be mentioned that orthographic and phonetic syllables may not coincide. Sometimes it is very important to observe the correct sillabic division which is usually based on morphological criteria. Morphological criterion of word division states that a part of word, which is separated must be prefix, suffix or root.

However, there are several rules how to divide a word in writing:
- we never divide a word within a syllable
- we never divide an ending, consisting of two syllables (for ex: -able,-fully)
- we never divide a word so that one part of it is a single letter

Assignments

Ex.1 Provide the terms for the following:
- a consonant which is syllable-forming in English
- a theory which describes a syllable as expiratory pulse
- a theory which is based on the concept of sonority of sounds
- a syllable phenomenon which helps to differentiate syllabic boundary

Ex.2 Think of examples to illustrate:
- whispered pronunciation of consonant clusters,
- the ability of consonant clusters to be associated with certain meanings,
- a syllable as a single word,
- that initial CCC-type of syllable is more often met in Russian than in English

Ex.3 Give the syllabic structural patterns of the following words; characterize them from viewpoint of their structure: open, covered etc.

- pit, bet, top, book
- fact, must
- taken, region, bacon
- rhythm, listen, lemon
- depths, lapsed, boxed, lifts
- plan, shriek, smoke, twice
- do, he, dew, pie
- spy, stay, ski
- ought, eat, oak, eight, art
- straw, spray,
- вскользь, всласть, вдрызг
- монстр, царств, ханств, чувств
- servants, serpents, patients

Ex.4 Read these examples to prove the semantic importance of the correct syllabic boundary.

A nation- an Asian
A nice house – an ice house
The tall boys- that all boys
Хлеб с ухой- хлеб сухой
По машинам- помаши нам

Reading list:

Leontyeva, A theoretical course of English phonetics, p. 205-215
Бурая, Е. А. Фонетика современного английского языка. Теоретический курс, С. 103- 115
Шевченко, Т. И. Теоретическая фонетика английского языка,С.64 -71
Sokolova, English phonetics. A theoretical course, p.112-120

7 Chapter VII. Suprasegmental features of speech

Definition of word- stress (accent)

The sequence of syllables in the word is not pronounced identically. The syllable or syllables which are uttered with more prominence than the other syllables of the word are said to be stressed or accented. Stress in the isolated word is called word stress; stress in connected speech is called sentence stress.

Any word spoken in isolation has at least one prominent syllable. We perceive it as stressed. Stress is indicated by placing a stress mark before the stressed syllable: /'/.

Stress is defined differently by different authors. B. A. Bogoroditsky, for instance, defined stress as an increase of energy, accompanied by an increase of expiratory and articulatory activity. D. Jones defined stress as the degree of force, which is accompanied by a strong force of exhala tion and gives an impression of loudness. H. Sweet also stated that stress is connected with the force of breath. According to A.C. Gimson, the effect of prominence is achieved by any or all of four factors: force, tone, length and vowel colour. The English linguists D. Crystal, A.C. Gimson agree that in English word stress or accent is a complex phenomenon, marked by the variations in force, pitch, quantity and quality.

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.

Stress is a relative emphasis given in pronunciation to a syllable, in loudness, pitch, or duration (or some combination of these). The term is usually interchangeable with term accent.

If we compare stressed and unstressed syllables in a word we may see that in the stressed syllable:

- the force is greater, which is connected with more energetic articulation;

- the pitch of voice is higher, which is connected with stronger tenseness of the vocal cords and the walls of the resonance chamber;

- the quantity of vowel in stressed syllable is greater, the vowel becomes longer.

From auditory point of view, stressed syllable is the part of the word which has a **special prominence.** It is produced by a greater loudness and length, modifications in the pitch and quality. The physical correlates are: intensity, duration, frequency and the formant structure. All these features can be analyzed on the acoustic level.

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. 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.

Types of word - stress

Stress can be characterized by several criteria, such as: position, degree, etc.

In different languages one of the factors constituting word stress is usually more significant than the others. According to predominating feature the following types of word stress are distinguished: dynamic (force) and musical (tonic).

1) If special prominence in a stressed syllable or syllables is achieved mainly through the intensity of articulation, such type of stress is called **dynamic** or force stress.

2) If special prominence in a stressed syllable is achieved mainly through the change of pitch, or musical tone, such accent is called **musical** or tonic. It is characteristic of the Japanese, Korean, Chinese and other Oriental languages.

English word stress is traditionally defined as dynamic, but in fact, the special prominence of the stressed syllables is manifested in the English language not only through the increase of intensity, but also through the changes in the vowel quantity, consonant and vowel quality and pitch of the voice.

Stress difficulties peculiar to the accentual structure of the English language are connected with the vowel special and inherent prominence. In identical positions the intensity of English vowels can be different (the highest in intensity is /a:/).

All English vowels can occur in stressed position, except for   , which is nevr stressed. Syllables, formed by sonorants /1, m, n/ are never stressed. Unstressed diphthongs may partially lose their glide quality.

Russian word stress is not only dynamic but mostly quantitative and qualitative. The length of Russian vowels always depends on the position in a word.

- If special prominence in a stressed syllable is achieved through the changes in the quantity of the vowels, which are longer in the stressed syllables than in the unstressed ones, such type of stress is called **quantitative**.

- **Qualitative** type of stress is achieved through the changes in the quality of the vowel under stress.

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.

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 **fixed stre**ss and those with **free stress**.

In languages with a **fixed stress** the occurrence of the word stress is limited to a particular syllable in a polysyllabic 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.

Some languages are said to have fixed stress. That is, stress is placed always on a given syllable, as in Finnish and Hungarian (stress always on the first syllable) or Polish (stress always on one syllable before the last). Some languages have stress placed on **different syllables** but in a **predictable way**, as in Classical Arabic and Latin (where stress is conditioned by the structure of the syllables, their number in word). They are said to have a regular stress rule.

French words are sometimes said to be stressed on the final syllable, but some phoneticians say French has no word stress at all. Rather, it has a prosody whereby the final or next-to-final syllable of a *string* of words is stressed. This string may be equivalent to a clause or a phrase. However, when a word is said alone, it receives the full prosody and therefore the stress as well.

There are also languages like English, Italian, Russian and Spanish, where stress is unpredictable. Rather, it is lexical: it comes as part of the word and must be memorized, although orthography can make stress unambiguous for a reader, as is

the case in Spanish and Portuguese. In such languages, otherwise homophonous words may differ only by the position of the stress (e.g. *incite* and *insight* in English), and therefore it is possible to use stress as a grammatical device.

English does this to some extent with noun-verb pairs such as *a récord* vs. *to recórd*, where the verb is stressed on the last syllable and the related noun is stressed on the first. The German language does this with certain prefixes – for example úm-schrei-ben (to rewrite) vs. um-schréi-ben (to paraphrase, outline) – and in Russian this phenomenon often occurs with different cases of certain nouns (земли́- genitive case of the *Earth*, *land* or *soil*) and зе́мли - *soils* or *lands* – plural form)).

It is common for **dialects** to differ in their **stress placement** for some words. For example, in British English, the word "laboratory" is pronounced with primary stress on the second syllable, while American English stresses the first.

In languages with a **free stress** its place is *not limited 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 free placement of stress is exemplified in the English and Russian languages.

The word stress in English as well as in Russian *is not only free* but it may also be *shifting*, performing the semantic function of differentiating lexical units, parts of speech, grammatical forms.

In English word stress is used as a means of word-building (defining patrs of speech, for ex: **'im**port — im**'po**rt, 'present –pre'sent, **'ha**bit — ha'**bi**tua)l*; in Russian it marks both word-building and word formation, distinguishes different meanings within one part of speech (for ex: *дома — дом**а**; чудная — чудн**ая**, воды — вод**ы**, кружки-кружк**и**, замок –зам**ок**).

One of the most questionable points, concerning word-stress, is number of stresses in a word.

The opinions of phoneticians differ as to how many degrees of stress are linguistically relevant in a word. The British linguists usually distinguish three degrees of stress in the word. A.C. Gimson, for example, shows the distribution of the degrees of stress in the word *examination.* The **primary** stress is the strongest, it is marked by number 1, the s**econdary** stress is the second strongest marked by 2. 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. Other American linguists also distinguish four degrees of word stress but call them: primary stress, secondary stress, tertiary stress and weak stress. The difference between the secondary and tertiary stresses is very subtle and seems subjective. Some phoneticians think there are actually as many degrees of stress in a word as there are syllables.

There are several systems of notation for *marking stress* in a written word that can make the concept visual for the language users: CAPitals, **bold**face, *grave,* áccents and 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 o before the appropriate syllable.

But generally, The International Phonetic Alphabet symbol for primary stress is **indicated** by a high vertical line before the syllable, for secondary stress is a short vertical line preceding and at the foot of the stressed syllable

The stress marks in Russian phonetic tradition are placed above the stressed vowels which are the nuclei of the syllable.

Functions and main tendencies of the English word- stress

Word stress in a language performs three main functions.

1. Word stress constitutes a word, it organizes the syllables of a word into a language unit, having a definite accentual structure, a word does not exist without the word stress. So, the word stress performs the **constitutive** function.

Sound continuum becomes a phrase when it is divided into units organized by word stress into words.

2. 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, while the distorted accentual pattern of words, misplaced word stresses prevent normal understanding.

3. 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, e.g. *'import — im'port, 'billow — below.*

There is also a group of accentuation oppositions where compound nouns are opposed to free word combinations, for ex:

a 'blackboard - a 'black 'board

a 'dancing-teacher(учитель танцев) - a 'dancing 'teacher (танцующий учитель)

There are also several **tendencies**, concerning word stress in English.

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**. Most English words of Anglo-Saxon origin as well as the French borrowings (dated back to the 15th century) are subjected to this recessive tendency. Unrestricted recessive tendency is observed in the native English words having no prefix, e.g. *mother, daughter, brother, swallow,* ,in assimilated French borrowings, e.g. *reason, colour, restaurant.*

Restricted recessive tendency marks English words with prefixes, *e.g. foresee, begin, withdraw, apart.* A great number of words of Anglo-Saxon origin are monosyllabic or disyllabic, both notional words and form words. They tend to alternate in the flow of speech, e.g. *'don't be'lieve he's 'right.*

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. *revolution, organi'sation, assimilation,* 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 interrelation of both the recessive and the rhythmical tendencies is traced in the process of accentual assimilation of the French-borrowed word *personal* on the diachronic level, e.g. *perso'nal — 'perso'nal — 'personal.*

The appearance of the stress on the first syllable is the result of the recessive tendency and at the same time adaptation to the rhythmical tendency. The recessive tendency being stronger, the trisyllabic words like *personal* gained the only stress on the third syllable from the end, e.g. *'family, 'library, faculty, 'possible.*

The accentual patterns of the words *territory, dictionary, necessary* in American English with the primary stress on the first syllable and the tertiary stress on the third are other examples illustrating the correlation of the recessive and rhythmical tendencies. Nowadays we witness a great number of variations in the accentual structure of English multisyllabic words as a result of the interrelation of the tendencies. The stress on the initial syllable is caused by the diachronical recessive tendency or the stress on the second syllable under the influence of the strong rhythmical tendency of the present day, e.g. *'hospitable — ho'spitable, 'distribute — dis'tribute, 'aristocrat — a'ristocrat, 'laryngoscope — la'ryngoscope.* A third tendency was traced in the instability of the accentual structure of English word stress, the **retentive** tendency: a derivative often retains the stress of the original or parent word, e.g. *'similar — as'simitate, recom'mend — recommen 'dation.*

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, for ex:

- compound adjectives: *hard-working, blue-eyed,*

- verbs with post positions : *sit down, take off,*

- numerals from 13 to 19**.** *fourteen, sixteen.*

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.

So, 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 the following information:

- whether the word is morphologically simple, or whether it is complex containing one or more affixes (prefixes or suffixes) or a compound word;

- the grammatical category to which the word belongs (noun, verb, adjective, etc.)

- the number of syllables in a word;

- the phonological structure of the syllables;

- the 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,*

- if the final syllable contains a short vowel and one final consonant, the first syllable is stressed: *open, enter,*

- any two-syllable verbs with prefixes of Germanic and Latin origin have the root syllable stressed,

Two-syllable simple **ADJECTIVES** are stressed according to the same rule as two- syllable verbs: *'lovely, 'even, 'hollow;* vs.: *di'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, balloon.*

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

Lexical stress of three-syllable simple words.

If the last syllable of a three-syllable verb:

- contains **a short vowel** and ends with not more than one consonant, that syllable will be unstressed, and will be placed on the preceding syllable, for ex: *de'termine,en'counter.*

- contains **a long vowel** or a diphthong, or ends with more than one consonant, that final syllable will be stressed, for ex: *enter'tain, under'stand.*

If the final syllable of a three-syllable simple **noun** contains:

- **a long vowel** or **a diphthong** and/or ends with more than one consonant, the stress will usually be placed on the first syllable, for ex: *'intellect,'marigold.*

- 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, for ex: *'quantity, 'cinema.*

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 third from the end syllable**, for ex: *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.

Stress in compounds and phrases.

Compounds are composed of more than one root morpheme but function grammatically or semantically as a single word. Compounds may be written as one word, for ex: *dishwasher,* or with a hyphen, for ex.: *user-friendly,* or with a space between the two elements, for ex.: *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. 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), for ex.: *„polished 'wood, „interesting 'book, „funning 'water, „hard 'work, „difficult 'course.*

There are some guidelines for defining stress placement in **compounds** and **phrases** :

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.*

- 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 noun l and noun 2 are equally referential: *acid 'rain, aroma 'therapy, fridge-*

'freezer;

- when noun 1 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.*

Intonation

Difference between word-stress and sentence-stress

The variability of the word accentual structure is multiplied in <u>connected speech</u>.

The accentual structure of words may be <u>altered under the influence of rhythm,</u> for ex: An **'un**polished 'stone. But: The 'stone was un**'pol**ished.

'Find 'page four'**te**en. But: We 'counted '**fou**rteen '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.

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, for ex.:

I **'do**n't think he is 'right.

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

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.

In linguistics, **intonation** is variation of pitch while speaking which is not used to distinguish words. Intonation and stress are two main elements of linguistic prosody.

Intonation is a language universal. There are no languages which are spoken without any change of prosodic parameters but intonation functions in various languages in a different way.

There are two main approaches to the problem of intonation in Great Britain. One is known as a contour analysis and the other may be called grammatical.
The first is represented by a large group of phoneticians: H. Sweet, D. Jones, G. Palmer, L. Armstrong, I. Ward, R. Kingdon, J. O'Connor, A. Gimson and others. It is traditional and widely used. According to this approach the smallest unit to which linguistic meaning can be attached is a **tone-group** (sense-group). Their theory is based on the assumption that intonation consists of basic functional "blocks". They pay much attention to these "blocks" but not to the way they are connected. Intonation is treated by them as a layer that is superimposed on the lexico-grammatical structure. In fact, the aim of communication determines the intonation structure, not vice versa.

The grammatical approach to the study of intonation was worked out by M. Halliday. The main unit of intonation is a clause. Intonation is a complex of three systemic variables: tonality, tonicity and tone, which are connected with grammatical categories. Tonality marks the beginning and the end of a tone-group. Tonicity marks the focal point of each tone-group. Tone is the third unit in Halliday's system. Tones can be primary and secondary. They convey the attitude of the speaker. Hallyday's theory is based on the syntactical function of intonation.

The founder of the American school of intonation K. Pike in his book «The Intonation of American English» considers «pitch phonemes» and «contours» to be the main units of intonation. He describes different contours and their meanings, but the word «meaning» stands apart from communicative function of intonation.

Rssian linguists agree that on perception level - intonation is a complex, formed by significant variations of pitch, loudness and tempo closely related.

M. Sokolova and others write that the term **prosody** embraces the three prosodic components and substitutes the term **intonation**. It is widely used in linguistic literature, it causes no misunderstanding and, consequently, it is more adequate. Many foreign scholars (A. Gimson, R. Kingdon) restrict the formal definition of intonation to pitch movement alone, though occasionally allowing in variations of loudness as well. According to D. Crystal, the most important prosodic effects are those conveyed by the linguistic use of pitch movement, or melody. It is clearly not possible to restrict the term intonation by the pitch parameters only because generally all the three prosodic parameters function as a whole, though in many cases the priority of the pitch parameter is quite evident.

The functions of Intonation.

There is no general agreement about the functions of intonation (their number and names) which can be proved by the difference in the approach to the subject. T.M. Nikolayeva names three functions of intonation: delimitating, integrating and semantic. L.K. Tseplitis suggests the semantic, syntactic and stylistic functions the former being the primary and the two latter being the secondary functions. N.V. Cheremisina singles out the following main functions of intonation: communicative, distinctive (or phonological), delimitating, expressive, appellative, aesthetic, integrating. Other Russian and foreign phoneticians also display some difference in heading the linguistic functions of intonation.

Intonation organizes a sentence, determines communicative types of sentences and clauses, divides sentences into intonation groups, gives prominence to words and phrases, expresses contrasts and attitudes.

One of the most important functions of intonation is distinctive. The distinctive function of intonation is realized in the opposition of the same word sequences which differ in certain parameters of the intonation pattern. Intonation patterns

make their distinctive contribution at intonation group, phrase and text levels. Thus in the phrases:

- *казнить нельзя помиловать,*

- *there was no love lost between them.*

D. Crystal distinguishes the following functions of intonation.

- Emotional function's most obvious role is to express **attitudinal** meaning (sarcasm, surprise, impatience, shock, anger, interest).

- Grammatical function helps to identify grammatical structure in speech, performing a role similar to punctuation. Units such as clause and sentence often depend on intonation for their spoken identity, and several specific contrasts, such as question/statement, make systematic use of it.

- Informational function helps to draw attention to what is new in an utterance. The word carrying the most prominent tone in a contour signals the part of an utterance that the speaker is treating as new information.

- Textual function helps larger units of meaning than the sentence to contrast and cohere. In radio news-reading, paragraphs of information can be shaped through the use of pitch. In sports commentary, changes in prosody reflect the progress of the action.

- Psychological function helps us to organize speech into units that are easier to perceive and memorize. Most people would find a sequence of numbers, for example, difficult to recall. The task is made easier by using intonation to put the sequence into two units.

- Indexical function, along with other prosodic features, is an important marker of personal or social identity. Lawyers, preachers, newscasters, sports commentators, army sergeants, and several other occupations are readily identified through their distinctive prosody.

Components of intonation

Intonation is a complex unity of non-segmental features of speech: melody (pitch of the voice); temporal characteristics (duration, tempo, pausation); rhythm; tamber.

Intonation encompasses the changes in pitch, intensity, and speed of an utterance over time. In tonal languages, in most cases the tone of a syllable is carried by the vowel, meaning that the relative pitch or the pitch contour that marks the tone is superimposed on the vowel. If a syllable has a high tone, for example, the pitch of the vowel will be high. If the syllable has a falling tone, then the pitch of the vowel will fall from high to low over the course of uttering the vowel.

In non-tonal languages, like English, intonation encompasses *lexical stress*. A stressed syllable will typically be pronounced with a higher pitch, intensity, and length than unstressed syllables.

Now we shall consider the components of intonation.

In the pitch component we may consider the distinct variations in the direction of pitch, pitch level and pitch range.

Pitch of voice (melody) – is one of the main components of intonation. All languages use pitch semantically, that is, as intonation, for instance for emphasis, to convey surprise or irony, or to put a question. Tonal (tonic) languages such as Chinese use pitch to distinguish words in addition to intonation.

Pausation. Any stretch of speech can be split into smaller portions, i.e. phonetic wholes, phrases, intonation groups by means of pauses. By **'pause'** here we mean a complete stop of phonation.

The number and the length of pauses affect the general tempo of speech. A slower **tempo** makes the utterance more prominent and more important.

Pauses made between two sentences are longer than pauses between sense-groups and are marked by two parallel bars /||/. Pauses made between sense-groups are shorter /|/.

Pauses are usually divided into filled and unfilled, corresponding to voiced and silent pauses. Pauses are distinguished on the basis of relative length: unit, double and treble. Their length is relative to the tempo and rhythmicality norms of an individual.

Another subdivision of pauses is into breathing, syntactic, emphatic and hesitation. Syntactic pauses separate phonopassages, phrases, and intonation groups. Emphatic pauses serve to make especially prominent certain parts of the utterance. Hesitation pauses are mainly used in spontaneous speech to gain some time to think over what to say next.

Pauses show relations between utterances and intonation groups, performing a constitutive function. Attitudinal function of pausation can be affected through voiced pauses, which are used to signal hesitation, doubt, suspence.

Loudness. Each syllable of the speech chain has a special pitch colouring. Some of the syllables have significant moves of tone up and down. Each syllable bears a definite amount of loudness. Pitch movements are inseparably connected with loudness.

Loudness is used in a variety of ways. Big differences of meaning (such as anger, menace, and excitement) can be conveyed by using an overall loudness level.

Rhythm and tempo are two more components of intonation. Under the influence of rhythm words which are normally pronounced with two equally strong stresses may lose one of them, or may have their word stress realized differently, for ex.:

,Picca'dilly — ,Piccadilly 'Circus — 'close to ,Picca'dilly

Rhythm is the regular alternation of stressed and unstressed syllables. It is so typical of an English phrase that the incorrect rhythm betrays the non-English origin of the speaker.

The units of the rhythmical structure of an utterance are stress groups or rhythmic groups. The perception of boundaries between rhythmic groups is associated with the stressed syllables or peaks of prominence.

Unstressed syllables have a tendency to cling to the preceding stressed syllables — enclitics, or to the following stressed syllables — proclitics. In English, as a rule,

only initial unstressed syllables cling to the following stressed syllable, non-initial unstressed syllables are usually enclitics.

Each sense-group of the sentence is pronounced at approximately the same period of time, unstressed syllables are pronounced more rapidly. Proclitics are pronounced faster than enclitics.

The tempo of speech is the next component of intonation. The term **tempo** implies the rate of the utterance and pausation. The rate of speech can be normal, slow and fast. The parts of the utterance which are particularly important sound slower. Unimportant parts are commonly pronounced at a greater speed than normal.

All these components function together and can't be separated from each other. All together they form an **intonation pattern** which is the basic unit of intonation.

The notion of tone- group (intonation group). It's structure

The tone unit is one of the most important in intonation theory. The interval between the highest and the lowest pitch syllable is called the range of a sence group. The higher the pitch, the wider the range. The change of pitch within the last stressed syllable of the tone group is called a nuclear tone. It may occur not only in the nucleus, but extend to the tail terminal tone.

Sweet distinguishes 8 tones: level, high rising, low rising, high falling, low falling, compound rising, compound falling, rising – falling- rising. Palmer has 4 basic tones, 2 additional and describes coordinatory tonal sequences and subordinating tonal sequences. Vasiliev gives 10 tone units. He distinguishes moving and level tones. Moving tones can simple, complex, compound. Level tones can be pitched at high, mid and low level.

The tone units, that constitute the total tone pattern are the following: unstressed and half stressed syllables preceding the 1st stressed syllable constitute the **prehead** of the intonation group; stressed and unstressed syllables up to the last stressed syllable constitute the **head**, **body** or scale of the intonation group; the last stressed syllable, within which fall or rise in the intonation group is accomplished,

is called the **nucleus**; the syllable marked with the nuclear tone may take a level stress; the syllables (syllable), that follow the nucleus, constitute the **tail.**

The most important part of the intonation group is **the nucleus**, which carries nuclear stress. According to the changes in the voice pitch **preheads** can be following: rising, mid and low. **Scales/head** can be: descending, ascending and level.

If one of the words in the descending scale is made specially prominent, a vertical row is placed before word made specially prominent in the text - accidental rise. This type of scale is called upbroken descending scale.

The falling tones convey completion and finality, they are categoric in character. The rising tones are incomplete and non – categoric. Of all level tones mid level is used most frequently. The level tones may express hesitation and uncertainty.

According to R. Kingdon the most important nuclear tones in English are: Low Fall, High Fall, Low Rise, High Rise, and Fall-Rise.

The meanings of the nuclear tones are difficult to specify in general terms. Roughly speaking the falling tone of any level and range expresses certainty, completeness, and independence. A rising tone on the contrary expresses uncertainty, incompleteness or dependence. A falling-rising tone may combine the falling tone's meaning of assertion, certainty with the rising tone's meaning of dependence, incompleteness. At the end of a phrase it often conveys a feeling of reservation; that is, it asserts something and at the same time suggests that there is something else to be said. At the beginning or in the middle of a phrase it is a more forceful alternative to the rising tone, expressing the assertion of one point, together with the implication that another point is to follow. The falling-rising tone, as its name suggests, consists of a fall in pitch followed by a rise. If the nucleus is the last syllable of the intonation group the fall and rise both take place on one syllable. In English there is often clear evidence of an intonation-group boundary, but no audible nuclear tone movement preceding. In such a circumstance two courses are open: either one may classify the phenomenon as a

further kind of head or one may consider it to be the level nuclear tone. Low Level tone is very characteristic of reading poetry. Mid-Level tone is particularly common in spontaneous speech functionally replacing the rising tone. There are two more nuclear tones in English: Rise-Fall and Rise-Fall-Rise. But adding refinement to speech they are not absolutely essential tones for the foreign learner to acquire. Rise-Fall can always be replaced by High Fall and Rise-Fall-Rise by Fall-Rise without making nonsense of the utterance.

Rising intonation means the pitch of the voice increases over time; falling intonation means that the pitch decreases with time. A dipping intonation falls and then rises, whereas a peaking intonation rises and then falls.

The classic example of intonation is the question-statement distinction. For example, English, like very many languages, has a rising intonation for echo or declarative questions (*He found it on the street?*), and a falling intonation for *wh-*questions (*Where did he find it?*) and statements (*He found it on the street.*). Yes or no questions (*Did he find it on the street?*) often have a rising end, but not always. Some languages have the opposite pattern: rising for statements and falling with questions.

Dialects of British and Irish English vary substantially, with rises on many statements in urban Belfast, and falls on most questions in urban Leeds.

In the International Phonetic Alphabet (IPA), rising and falling intonation are marked with a diagonal arrow rising left-to-right and falling left-to-right, respectively.

Assignments

Ex.1 Provide the terms for the following:
-   stress achieved by pronouncing a syllable with greater force
-   words with two stresses
-   stress that may fall on any syllable in a word
-   stress that brings out a word in the sentence

Ex. 2 Work in pairs. One and the same text is presented in two versions: Text A was punctuated by the author, in Text B punctuation marks are omitted. One of the students will read text A observing the prosody of each punctuation mark. The other student will listen to the partner and punctuate Text B according to prosody observed in Text A. Compare the results.

Text B

Thus to understand the purpose of this or that sentence we must be able to hear it it is the prosodic pattern with which the utterance is actually pronounced that ensures proper understanding of utterances if one is saying something with a falling tone one's intention is to convey the idea of completeness to the listener a rising tone keeps the listener in suspense these are the elements of syntactic prosody they remain true not only for the interpretation of tones at the end of the sentence and as a means by which to distinguish between questions and statements they also serve as the prosodic expression of the second syntactic opposition namely finality versus non-finality it naturally follows from what has just been said that cases of finality will be arranged prosodically by means of a falling tone with the second member of the opposition with cases of non-finality that is with the so-called non-terminal syntagms the situation is much more complex.

Ex.3 Read the following sentences. What is the syntactic function of phrase "without her man" in sentence 1? What syntactic relationships are realized between words "her" and "man" in this sentence? What is the function of the pause that corresponds to the comma in sentence 2? Explain the connection between the syntactic relationships realized in these sentences and the prosody.

1) A woman, without her man, is nothing.
2) A woman: without her, man is nothing.

Ex. 4 Read the text. Which tendency does it illustrate - understopping or overstopping? Find the sentences in which, according to Russian punctuation and grammar commas must\can be omitted. Explain how the dash, double commas should be read. Read the text aloud following the punctuation marks. Remember not to make pauses unless a punctuation mark is used.

In writing essays, there are two things one has difficulty with – spelling and stops. Nearly everybody says it is the spelling that matters.

Now spelling is one of the decencies of life, like the proper use of knives and forks. It looks bad and nasty if you spell wrongly, like trying to eat your soup with a fork.

But, intellectually, spelling – English spelling - does not matter. Shakespeare spelt his own name at least four different ways, and it may have puzzled his cashiers at the bank.

Intellectually, stops matter a great deal. If you are getting your commas, semicolons, and full-stops wrong, it means that you are not getting your thoughts right, and your mind is mudded.

Reading list:

Leontyeva, A theoretical course of English phonetics, p. 220-228, 242- 254

Бурая, Е. А. Фонетика современного английского языка. Теоретический курс, С. 117- 148, 183-190

Шевченко, Т. И. Теоретическая фонетика английского языка, С. 73 -122

Sokolova, English phonetics. A theoretical course, p.121- 185

8   Chapter VIII. Territorial varieties of English pronunciation

1. English-speaking nations and their pronunciation norms
2. Types of Standard English pronunciation
3. Changes in the standard (within English-based subgroup)
4. Principal differences in American English pronunciation
a) The system of American English consonants
b) The system of American English vowels

Language has always been viewed as a social phenomenon, that's why it is obvious that language is connected with society. Varieties of language are conditioned by language communities, ranging from small groups to nations. In our case, speaking about nations we refer to national variants of the language. Under the national variant we understand – the language of a nation, standard of its form, language of nation's literature.

Practically all languages exist in two forms: written and spoken. Literary spoken form has its national pronunciation standard. Standard is defined as "socially accepted variety of language, established by a codified norm of correctness" (Gimson).

Sometimes one may meet a term "orthoepic norm", which means- standard national pronunciation. But general, most spread term for it is – "literary pronunciation".

We shall focus our attention on territorial modifications of English pronunciation.

Nowadays English-speaking nations have their own national variants of pronunciation with their peculiar features, which distinguish one variant of English from another.

To the English-based group we refer the following variants: British English, Welsh English, Australian English, Scottish, New Zealand English, Northern Ireland English…

To the American –based group: United States English, Canadian English.

Irish English is supposed to be somewhere in between.

It is generally accepted that "English English" is considered to be **"Received Pronunciation" (RP)**, in so-called "American English"- the main variant is **"General American" (GA**).

There are countries with more than one national language, for example Canada, in such case scientists speak about bilingualism in contrast to monolingualism (typical to countries with one national language). In the first case (with bilingualism) appears the so- called " problem of interference"- linguistic disturbance which results from two languages, coming into contact.." (Crystal)

We кnow that language is a living body, and it develops as well, so pronunciation undergoes constant changes. It should be mentioned that national variants of English differ mainly in sound, stress, and intonation.

If we look better at the English-based group, we would see that:

Every national variety of language falls into territorial or regional dialects. Sometimes due to some economic, political, cultural reasons one of the dialects may become standard language of the nation. This is what happened to London dialect, which became national standard.

Dialects differ from each other in pronunciation, vocabulary, grammar. But when we speak only of pronunciational differences, we use the term"accent". Local accents are grouped into **area accents**.

For example, in Britain: Yorkshire and Lancashire accents form "Northern accent".

Received Pronunciation (RP) is believed to be a social marker, because since 19 century RP was understood as "accepted in the best society". The speech of the upper class and the court was that of London area, later it lost its local characteristics and was fixed as a ruling accent, referred to as 'King's English'. It was also the accent taught at public schools. Now we may say that London accent (or London dialect) became regionless accent within Britain.

Coming back to the sound metter of language, we should mention that

There are two more terms which are worth mentioning- they are diglossia and bilingualism, these terms shouldn't be viewed as synonyms, because..sometimes people are bilingual in the meaning that they use the standards of RP with their teachers or at work, but plunge into their native local accent when at home, among themselves. In such a case linguists use the term "diglossia" to denote a state of linguistic duality, where one and the same individual uses standard literary form of language and one of its regional dialects depending on social situation. So don't mix this term with bilingualism- which means "the good command of two different langauges".

Changes within RP

It should be mentioned that RP nowadays is not homogeneous phenomenon, phoneticians distinguish several types within it: the Conservative form of RP (used by older generation, or certain social group), the General form of RP (so-called BBC pronunciation), the Advanced form of RP (used by young people, it reflects the changing tendencies in pronunciation). So changes in the standard may be observed in the speech of younger generation of native RP speakers. These changes affect all features of articulation of vowels, consonants and prosodic system of language.

But the most essential changes can be observed in sound system of Advanced form of RP .

The variability concerns mainly vowels, because majority of English vowels have undergone definite qualitative changes. For example, historically long vowels such as |i:|, |u:| are becoming diphthongized (are called diphthongoids). From the definition of a monophthong we remember that it is characterized by stability of articulation. And as for diphthongoids the organs of speech slightly change their articulation by the end of pronunciation, becoming more fronted, so that kind of glide appears.

At the same time there is a tendency for some of the existing diphthongs to become shorter, so that they resemble pure vowels (for ex. General RP: |ai|, |au| in words *tie, found* |tai|, |faund| tend to |a:| in Advanced RP |ta: | |fa: |).

Diphthong | | tends to monophthongisation | u: | like in words: *sure, poor*, which in Advanced RP get the form | ʃ |, | |.

However this tendency of contraction doesn't concern the diphthong | | when in final position, like in word *dear* | |.

Speaking about monophthongs, vowel phoneme | | is often replaced by | |, like in word *have*.

Back vowels | |, | | are fronted in Advanced RP: but [b t]- [b t] and good [g d]- [g d]

More than that there is a tendency for all short vowels to be pronounced near the centre of the mouth, so that they resemble | |, like in honest [onist] - [on st].

Changes in combinations |j+u:|, |l+u:|- there is a tendency in Advanced RP to omit | j| before |s | like in *suit, student* | sju:t|=|su:t|, | stju:d nt|=|stu:dnt| but there is visa versa process concerning |l+u:|- it is possible now to pronounce *illusion* |i'lu:zn|= |il**ju**:zn|.

As for the consonants, there is a tendency in rapid speech to omit initial |h| and as some phoneticians say it tends to die out from language. The phrases: **_H_**_e wants_ _**h**er to come, we **h**ave a deal, time **h**as come_ .

 One more consonant sound- final |k'| becomes palatalized like in: *week, quick* |wi:k'|, |kwi:k'|.

 The main difference concerns cacuminal |r|, because all English accents are divided into "rhotic" (where |r| is pronounced at the word boundaries) and "non-rhotic" (where orthographic |r| is not pronounced|). RP in general is non-rhotic accent, but some speakers do pronounce it word-finally before a vowel. For ex: *fa**r** **aw**ay country, in **or o**ut,   befo**re a** test*.

It is known as linking "r". But what is more interesting, linking "r" got further development and sometimes "r" may be inserted before a vowel even if there is no "r" in spelling. Such case is called "**intrusive "r**"", in Advanced RP speaker usually put it after neutral | |, like in: *ide**a** (r) **of**, Chin**a** (r) **and** USA*.

Besides we have learned that due to historical assimilation clusters or combination

|tj|, |dj|, |sj| turned   in

    , but now in Advanced RP there is a back tendency and they are used again and words like: actual –graduate- issue can be pronounced both like: |tj|, |dj|, |sj|

and   ,   ,

American English

The literary standard or literary pronunciation in the USA is called : GA (General American), it is regionally neutral, used by radio and TV and is spoken by educated Americans.

The total number of GA consonants differ in one phoneme, it is | ᴧ |. This symbol represents the pronunciation of words, spelt with initial – *wh*- as in *where, why, when*… some phoneticians even consider there is | ᴧ |- as an aspirated on-glide to the sound |w|: |**hw**en, hwai|

| | - is considered to be voiceless, fricative, and according to place of obstruction-labiovelar.

|r| - is the most characteristic sound of GA pronunciation. In its articulation the tip and the blade of tongue are turned upward to the hard palate. In pronunciation it is accompanied by some slight protrusion of lips. GA |r| is pronounced not only initially,   but   also   word-final   even   before   a   consonant

[   ]. |.

It is known that there are two variants of phoneme |l|- dark and light, and we also know that dark-l is usually pronounced word-finally and doubled like in: *dull, small..*etc As for GA most speakers us only dark |l| in all positions: initially, medially, finally. Dark |l| is pronounced with major part of the tongue raised to the velar part of mouth cavity.

As for glottal, whispered |h| - it has several variants in GA:

-it is voiced in intervocalic position like in: *perhaps*

-it is lost, when initially in unstressed form, like in: *where **has** he gone*.

|tj|, |dj|- in GA are assimilated into | || | in ***tu**ne, **du**e, e**du**cation*

After | | instead of usual |u |, a fronted variant of |u| or |iu| is used, like in *sh**oe**, ch**ew**, bl**ue**, J**u**ne*.

Nasals are one more point of difference between RP and GA. A common characteristic of GA is so-called "American twang". In GA a vowel before a nasal consonant is also nasalized which results from lowering the soft palate while vowel is pronounced, like in: *c**an**dy,   m**an**ner*. Besides conjunction "and" in homogeneous members is also nasalized, like in: *ba**g and** baggage*.

GA vowels

In GA | |- is long, tense and nasalized before |d,n,m,l|, like in: ***an**swer, h**a**lf, **aun**t* .

Vowel sound | | may be replaced by | |, like in: *s**u**bscribe, h**u**rry, fr**o**m*.

The distinction between diphthong and monophthong in GA is not consistent, because diphthongs are pronounced with weakening the glide, so they tend to diphthongoids or clear monophthongs: |ai|-|a:| - *die*

Though every national variant of English has some essential differences in pronunciation, grammar and lexics- they all still have much in common, so we can't speak of different languages: the British language and the American language but of one and the same language - the English language.

Assignments

Ex.1 Enumerate the countries, where English is native tongue, differentiate these countries according to whether they tend to British or American pronunciational standards.

British English	American English

Ex.2
Give the main peculiarities of American English (GA) comparing with British English (RP) concerning:
  - vowels
  - consonants
  - intonation

	vowels	consonants	intonation
American English			
British English			

Ex.3
Give examples of regional variations within British English, enumerate their main phonemic peculiarities.

Reading list:

Leontyeva, A theoretical course of English phonetics, p. 261-274
Бурая, Е. А. Фонетика современного английского языка. Теоретический курс, С. 200- 226
Шевченко, Т. И. Теоретическая фонетика английского языка, С. 124 - 152
Sokolova, English phonetics. A theoretical course, p.247- 282

9   Требование к результатам освоения содержания дисциплины

Процесс изучения дисциплины направлен на формирование элементов следующих компетенций в соответствии с ФГОС ВПО по данному направлению подготовки :
а) общекультурных :
– владение культурой мышления; способность к восприятию, анализу, обобщению информации, постановке цели и выбору путей ее достижения;
б) профессиональных:
–   способность демонстрировать знание основных положений и концепций в области теории и истории основного изучаемого языка (языков) и литературы (литератур), теории коммуникации, филологического анализа и интерпретации текста, представление об истории, современном состоянии и перспективах развития филологии;
– владение базовыми навыками сбора и анализа языковых и литературных фактов с использованием традиционных методов и современных информационных технологий;
–   способность применять полученные знания в области теории и истории основного изучаемого языка (языков) и литературы (литератур), теории коммуникации, филологического анализа и интерпретации текста в собственной научно-исследовательской деятельности;
– способность проводить под научным руководством локальные исследования на основе существующих методик в конкретной узкой области филологического   знания   с   формулировкой   аргументированных умозаключений и выводов.
В результате освоения дисциплины студент должен:

Знать: фонетическую базу изучаемого языка и ее компоненты, фонемный состав изучаемого языка, виды ударения и их функцию в структуре высказывания, интонацию и просодию, фоностилистику, речевой этикет.

Уметь: использовать приемы фонетического анализа, использовать основные положения теоретической фонетики в практике преподавания английского языка при обучении произношению, использовать речевой этикет в ситуациях общения, применять на практике теоретические знания.

Владеть: основными методами и приемами исследовательской и практической работы в области фонетического анализа явлений изучаемого языка; речевым этикетом в ситуациях повседневного и профессионального общения,

Приобрести опыт применения на практике теоретических знаний при классификации лингвистического материала и выполнении научных исследований по данной проблематике, а также опыт анализа звучащего текста.

Оценочные средства для текущего контроля успеваемости и промежуточной аттестации

Для организации текущего и промежуточного контроля по разделам дисциплины предполагается использование таких форм как контрольная работа и коллоквиум.

10 Образцы контрольных работ

Контрольная работа № 1 (образец):

1. Give the term to the appropriate definition.
1) articulated with the two lips close together or touching;
2) articulated with the lower lip touching the upper teeth;
3) articulated with the tip of the tongue close to or touching the upper teeth, or between the upper and lower teeth;
4) articulated with the tip or blade of the tongue close to or touching the ridge behind the upper teeth;
5) articulated with the front of the tongue close to or touching the hard palate;
6) articulated with the back of the tongue close to or touching the soft palate;
7) articulated in the opening between the vocal cords;
8) articulated with the blade of the tongue close to or touching the place where the ridge behind the upper teeth meets the hard palate;
9) articulated with the tongue raised toward the center of the roof of the mouth.

2. Study the information about basic principles of classifying vowels and answer the following questions:

1. What is the most common vowel sound in English?
2. How are English vowels classified on the articulatory and acoustic levels?
3. What does stability of articulation specify? How are vowels subdivided according to this principle?

3. Give the pronunciation forms for RP and Gen Am.

№	Word	RP/BBC English	GenAm
1	address, n		
2	advertisement		
3	adult, adj, n		
4	ate (past form of eat)		
5	attitude		
6	borough		
7	cigaret, cigarette		
8	complex, adj		
9	costume		
10	courage		
11	depot		
12	direct		
13	docile		
14	encourage		
15	erase		
16	education		
17	figure		
18	hero		
19	herb		
20	inquiry		
21	laboratory		
22	leisure		
23	lieutenant		
24	luxury		
25	massage		
26	neither /either		
27	resource		
28	schedule		
29	vase		
30	tomatoes		
31	forehead		
32	year		
33	with		
34	fragile		
35	zebra		

36 Z
37 vehicle
38 vacation
39 rune
40 syrup

4. **Read this Australian dialogue and give the British English equivalents to Australian words and word combinations.**

A – **G'day, mate.** Are you playing **footy** today?
B – No. I'm going to **a barbie at a bush station.** There'll be plenty of the **amber fluid, and the tucker's**
bonzer. Why don't you come too?
A – Ta, I'm busy in the **arvo.** Г going to see my **sheila.** She's **crook.**
B – **Well, good on yer, mate.**
    A – G'bye.

Контрольная работа № 2   (образец):

1. **How would you treat the following?**
a) a student constantly pronounces "cart" as [kat], "part" as [pat], etc. substituting the English [a:] for the Russian [a];
b) a student pronounces "campus" as [ˈkæmpus];
c) a student cannot distinguish "pill" and "peel" and pronounces [pil] for both;
d) a student pronounces [mu:f] instead of [mu:v]; [set] instead of [sed]; [dis] instead of [ðis].

2. **Comment on the parameters below, illustrating them with examples.**
Sonorants vary:

• in the manner of articulation;
• in the place of articulation;
• in the position of the soft palate;
• in the direction of the air stream.

3. Give examples to the following speech phenomena:
1. Linking r
2. Intrusive r
3. Elongated articulation of the consonant
4. Progressive assimilation
5. Regressive assimilation
6. Coalescent (reciprocal) assimilation
7. Deletion (elision = ellipsis)
8. Reduction

9. Loss of plosion
10. Palatalization.

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

5. **Match the given utterances with the adequate**
 a) nuclear tone and b) attitude.
a. FALL b. RISE c. FALL-RISE d. RISE-FALL
finality, general questions, uncertainty, doubt, surprise, being impressed, definiteness, listing- "more to follow", requesting, encouraging

____1. It's possible.
____2. It won't hurt.
____3. I phoned them right away (and they agreed to come).
____4. Red, brown, yellow or....
____5. She was first!
____6. I'm absolutely certain.
____7. This is the end of the news.
___8. You must write it again (and this time get it right).
___9. Will you lend it to me?
___10. It's disgusting!

6. **Divide the sentences into rhythmic groups attaching the unstressed syllable to the preceding stressed syllable rather than the following one**.

Thank you for the **pre**sent**.**
Somebody **called** you when you were **out.**
I would have **tried** to **see** his **point** of **view.**
Per**haps** we might **go** to the movie to**gether** for once.
I should **think** it would be **bet**ter to **wait** till tomorrow.

11 Перечень вопросов для зачета
List of Test questions

1. The term "phonetics", it's origin and subject, difference between phonetics and phonology
2. Three functions of the brain, speech production chain
3. The Mechanism of speech production
4. The connection of phonetics with other linguistic and non-linguistic disciplines
5. The main aspects of phonemic study. Branches of phonetics
6. The notion of phonemic system of the language
7. Methods of phonemic analysis
8. The system of notation
9. Phoneme as a language unit: definition, functions
10. The notion of the allophone, difference between phoneme and allophone
11. Types of allophones
12. The notion of opposition
13. The establishing of phonemic structure
14. Phoneme theory and its historic survey, main phonological schools
15. Types of English sounds
16. System of consonantism
17. System of vocalism (vowels)
18. The problem of English diphthongs and triphthongs
19. Stages of pronouncing a sound in isolation. Phonemic processes.
20. Notion of assimilation
21. Other phonemic processes
22. The notion of syllable. Types of syllables
23. Theories of syllable formation and syllable division
24. Functions of syllable
25. Graphical characteristics of syllable
26. Notion of word-stress. Types of word-stress
27. Sentence-stress: components
28. English-speaking nations and their pronunciation norms
29. Types of Standard English pronunciation. Changes in the standard (within English-based subgroup)
30. Principal differences in American English pronunciation

Список использованных источников

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2   Бурая, Е. А. Фонетика современного английского языка. Теоретический курс: учеб. для вузов / Е. А. Бурая, И. Е. Галочкина, Т. И. Шевченко.- 2-е изд., испр. - Москва: Академия, 2008. - 272 с. - (Высшее образование). - Библиогр.: с. 266-272. - ISBN 978-5-7695-4791-1.

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4   Леонтьева, С. Ф. Теоретическая фонетика современного английского языка = A Theoretical Course of English Phonetics: учеб. для студ. пед. вузов / С. Ф. Леонтьева.- 3-е изд., испр. и доп. - М. : Менеджер, 2004. - 336 с. : ил. - (Языки и культуры) - ISBN 5-8346-0179-0.

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6 Торсуев, Г. П. Проблемы теоретической фонетики и фонологии/ Г. П. Торсуев; предисл. И. Г. Торсуевой.- 2-е изд., доп. - М. : ЛКИ, 2008. - 100 с. - Библиогр. в подстроч. примеч. - ISBN 978-5-382-00614-7.

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9   Ladefoged, Peter (2006) A Course in Phonetics (Fifth Edition), Boston: Thomson Wadsworth, p. 189.