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The phonetic phenomenon of reduction and unstressed vocalism in English

Qualification work

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Contents

Introduction

It is known that after gaining the Independence in Uzbekistan much attention was paid in the field of higher education to such problems of education as the implementation of the test systems, the reorganization of the pedagogical Institutes in regional centers into Universities, giving regional educational institutions higher status, sending students and specialists abroad to study and exchange experience on the account of newly established national organizations and international funds, carrying out concrete work intended to retrain specialists and teachers in the field of business and economics.

On December 10, 2012 a decree, signed by our First President I.A.Karimov was published and the decree was about improving the teaching of foreign languages, especially English and increasing the salaries of teachers of foreign languages. It was an unexpected happiness to all teachers of our Republic loaded a great responsibility on them. At present great importance is attached to the teaching of foreign languages. Today, the importance of our people's perfect knowledge of foreign languages can scarcely, exaggerated as our country aspires to win a decent place in the word community, because our people see their great future as a life in mutual accord and cooperation with their foreign partners.

However, it is necessary to remember always that the study of foreign languages should not be carried out at the expense of oblivion to the mother tongue.

It is hard to understand and justify a specialist, especially one holding a high post, who is unable to choose fine and appropriate words to express his idea concisely and precisely, in his mother tongue. In our recent past, in most cases the Russian language but not the mother tongue served as mediator in the study of foreign languages. That is why, in particular, until present, English-Uzbek and Uzbek-English dictionaries had not been available.[1.234]

That is why it is necessary to improve the current situation, to provide students with all the necessary conditions for the access to this amazing world of

foreign languages. It's becoming clear that the acquired profession and preparation of graduates cannot meet the requirements of the market economy.

The main aspect of the development of the national economy should be viewed from both economic and social points of view. All kinds of reinforcement of material and technical bases of the social sphere is one of the most important problems in transition to market relations.

Special attentions attached to the 5 main principle of the building of the sovereign state advanced by our First President I.A.Karimov, that were recognized not only in our country, but also abroad.

These principles are the following: economy should be a priority task over politics, the state should act as the main reformer, leadership of law should be established all spheres of life, strong social policy should be implemented in all spheres of life, transition to market economy should be evolutionary step by step exactly these five principles are at the basis of development of our state and branches of economy[2.201].

Only well-educated and professional person can be economically free and reliable proponents of the crucial economic transformation. Awarding this truth should like in the bases of the whole development process of spiritual and cultural life of the people, in the renewal of the whole system of education.

We should remember that only that country, that nation can advice great future, prosperity and well-being which would be able to train knowledgeable, professional and energetic persons, true patriots of their country, the country which would provide them with huge spiritual legacy of the great national culture and give them access to the world treasure of science and culture.

There is possibility to radically reform the education system, to bring its contents, forms and methods close to the real need of the, to save the high and secondary schools from conservatism and formalities which rooted deeply into the system of education during the former, previous regime.

Educational establishment of a new type, such as professional colleges, lyceums, business schools and academic lyceums have been crated.

During the last years the most important document aimed at creation of favorable condition to form a new highly educated generation and to support gifted children and the youth were adopted. Among these important document are: “The Law of the Republic of Uzbekistan”, “On the National program of training specialists”, “ On education”, the Resolution of the Cabinet of Ministers “ On the organization of general secondary education in the Republic of Uzbekistan”.

“The National program of training specialists” stipulates formation of many-sided individual educated thought the system of continuous education organically connected with intellectual, cultural and moral education of a citizen.

One of the main Constitutional guarantees – the right to receive education, realization of creativity, intellectual development – is realized thought this program. The marked of educational services is being for med thought developing marketing in the sphere of education, and training qualified specialists, the system of governmental and non-governmental education establishments, paid consulting and educational services is being developed.

To provide efficient work of educational establishments of a new type and their efficient functioning, the center of the special secondary professional education was formed, as a part of the Ministry of Higher and Secondary Education.

According to the instructions of our esteemed **President Sh.Mirziyoyev** nowadays much attention is being paid to the problems of the development of scientific and research work because the sate will not have its future without all sided elaboration of science. Taking this into account much attention in the Republic is attached to expansion of research work, efficient application of scientific achievements in various spheres of the national economy.

Alongside with numerous fields of science and due to economic reforms such trends of science as economics, history, philosophy, law, sociology and others

are being developed. Wide and profound research work, both of fundamental and applied nature, is being conducted in subdivisions of the Academy of Sciences and in various educational establishments of Uzbekistan.

In the process of realizing reform in the institutions of higher education, we must pay attention to some faults, proceeding from:

1) We must determine what requirements graduate students should answer.

2) We must select talented children, who are thirsty for knowledge; set an equitable system and order of entrance to the institutions of higher education; to create all necessary conditions for getting enough knowledge by students.

3) Our education programs must be brought in correspondence with the modern requirements and established in accordance with our future. In this case, the weak points of our educational programmer should be taken into consideration. For example, such weak points of young specialists and recent graduates as their lack of ability to organize work, little experience in administrative activity, as well as lack of knowledge in marketing and management, social psychology and sociology, require particular attention.

It is also important that a student can independently think, use obtained knowledge in practice, have required level of special professional and organizational- management competence. The life demands to train professionals at the exact work places considering the specifics of production and technological processes. Today's stage of educational reforms puts forward new objectives, new priorities in the system of continuous education development under realities of globalization, world financial-economic crisis total introduction of information technologies and specific principles of "knowledge economy", modernization of production forces, progressive development of the state and society.

My qualification paper is devoted to the problems of the English vowels and their modifications in connected speech and has the structure, which meets the requirements applied to the works of the type – it consists of an introduction, 2

chapters, a conclusion with some methodic recommendations and the list of literature.

We know that the phoneme is objective real, because it is realized in speech in the material form of speech sounds, its allophones. Speech sounds are necessarily allophones of one of the phonemes of the language concerned. All the allophones of the same phoneme have some articulatory features in common, that is all of them possess the same invariant. Simultaneously each allophone possesses quite particular phonetic features, which may not be traced in the articulation of other allophones of the same phoneme in their modifications in connected speech. So in my qualification paper the problems of vowel modifications in connected speech of English will be analysed.

The actuality of the theme may be defined by the fact that the phonetic system, or structure of English, like that of any language, is a systemic combination of all the 4 components of the sound matter of language and the first and basic component of the phonetic structure of English in the system of its segmental phonemes which are divided into vowels and consonants. The modifications of vowels have not been thoroughly well investigated in English and it is one of the reasons for the choice of the theme.

The aims and the tasks of the work may be formulated in the following way:

a) *To find out the nature of modifications of speech sounds.*
b) *The influence of neighbouring sounds on each other and their character.*
c) *Changes that occur with vowels.*
d) *To establish modification properties of English vowels in connected speech.*
e) *Modifications of vowels in connected speech.*

Object of the research: English vowels, vowel changes and modifications, the phenomenon of reduction, reduced words, and elision in English are the main objects of my research.

Methods of the research: the main method in my research is the method of phonological analysis of vowels and their changes in connected speech.

Investigations have been carried out on a vast language material, based on the literary type of English pronunciation, upon the investigations made by a number of well-known English, Russian and Uzbek linguists as V. A. Vassilyev, A.A. Abduazizov and some others.

The theoretical value of the present paper is that its results may be used in delivering lectures in the theoretical phonetics of modern English.

The practical value of the research is in the fact that its results can serve as the materials in practical lessons of phonetics and at seminars in the theoretical course of English phonetics and can be used:

1. in teaching English phonetics to Uzbek and Russian students.
2. at the lessons of seminars of English phonetics.
3. in delivering lectures in theoretical phonetics.

The expected results of the research work may be formulated in the following way:

a) The nature of modifications of speech sounds and the phenomenon of assimilation will be defined;
b) The change of neighbouring sounds and their influence on each other will be analysed;
c) The most important features of phonetic phenomena that happen with vowels in connected speech will be explained;
d) Characteristic features of assimilation will be described.

The structure of the qualification paper. The structure of the work is constructed to carry out the aims given above and includes an introduction, 2 chapters, a conclusion with methodic recommendations and the list of literature.

Chapter I. The nature of English vowel phonemes.

I.1. Characteristic features of English vowel phonemes

It is actually accepted that a vowel is a speech sound made by allowing breath to flow out of the mouth, without closing any part of the mouth or throat (although the lips may move to create the correct sound, as in creating the sound "o"). Letters of the English alphabet that represent vowels: **a, e, i, o, u,** and sometimes **y**.

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

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

Stability of articulation specifies the actual position of the articulating organ in the process of the articulation of a vowel. There are two possible varieties:

a) the tongue position is stable;

b) it changes, that is the tongue moves from one position to another.

In the first case the articulated vowel is relatively pure, in the second case a vowel consists of two clearly perceptible elements. There exists in addition a third variety, an intermediate case, when the change in the tongue position is fairly weak. So according to this principle the English vowels are subdivided into:

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

This interpretation is not shared by British phoneticians. A.C. Gimson, for example, distinguishes twenty vocalic phonemes which are made of vowels and vowel glides. Seven of them are treated as short phonemes: [i], [e], [æ], [ɒ], [u], [ʌ], [ə] and thirteen as long ones: [a:], [ɔ:], [ɜ:], [i:], [u:], [ei], [ɜu], [ai], [au], [ɒu], [iə], [ɛə], [uə] five of which are considered relatively pure: [a:], [ɔ:] [ɜ:], [i:], [u:]; the rest are referred to long phonemes with different glides: [ei], [ai], [ɒ I] with a glide to [i]; [ɜu], [au] with a glide to [u]; and [iə], [ɛə], [uə] with a glide to [ə]. Diphthongs are complex entities just like affricates, so essentially similar complications are known to exist with them. The question is whether they are monophonemic or biphonemic units. Scholars like V.A. Vasilyev and L.R. Zinger grant the English diphthongs monophonemic status on the basis of articulatory, morphonological and syllabic indivisibility as well as the criteria of duration and commutability.

As to articulatory indivisibility of the diphthongs it could be proved by the fact that neither morpheme nor syllable boundary that separate the nucleus and the glide can pass within it, for example: [ˈsei-iŋ] saying, [ˈkrai-iŋ] crying, [in-ˈʤɔ-iŋ] enjoying, [ˈslɜu-ə] slower, [ˈplɜu-iŋ] ploughing, [ˈkliə-rə] clearer, [ˈɛə-riŋ] airing, [ˈpuə-rə] poorer. The present study of the duration of diphthongs shows that the

length of diphthongs is the same as that that characterizes the English long monophthongs in the same phonetic context, cf. [sait – si:t], [кзut – kɔ:t]. Finally the application of commutation test proves the monophonemic status of diphthongs because any diphthong could be commutated with practically any vowel. It could be exemplified in the following oppositions:

[bait — bit]

bite – bit

[bait—bʌt]

bite – but

[bait — bɔ:t]

bite – bought and so on.

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

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

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

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

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

As to the tongue position in its vertical movement British scholars distinguish three classes of vowels: high (or close), mid (or half-open), and low (or open) vowels. Thus the following six groups of vowels are distinguished:

1. close

a) narrow: [i:] [u:];

b) broad: [i], [u], [i(ə)], [u(ə)];

2. mid

a) narrow: [e], [ɜ:], [ə], [e(i)], [ɜ(u)];

b) broad: [ə], [ʌ];

3. open

a) narrow: [ɛ(ə)], [ɔ:], [ɒ (i)];

b) broad: [æ], [a(i, u)], [ɒ], [a:]

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

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

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

a) short vowels: [i], [e], [æ], [ɒ], [u], [ʌ], [ə];

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

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

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

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

Different scholars attach varying significance to vowel quantity.

The approach of D. Jones, an outstanding British phonetician, extends the principle, underlying phonological relevance of vowel quantity. That means that words in such pairs as [bid] – [bi:d], [sit] – [si:t], [ful] – [fu:d], [ˈfɒ:wə:d] (foreword) – [ˈfɔ:wəd] (forward) are distinguished from one another by the opposition of different length, which D. Jones calls chronemes. The difference in

quantity is considered to be decisive and the difference in quality (the position of the active organ of speech) is considered to be subordinate to the difference in quantity. According to the point of view of V.A. Vassilyev, English is not a language in which chronemes as separate prosodic phonological units can exist. One more articulatory characteristic needs our attention. That is tenseness. It characterizes the state of the organs of speech at the moment of production of a vowel.

Special instrumental analysis shows that historically long vowels are tense while historically short vowels are lax. Summarizing we could say that phonological analysis of articulatory features of English vowels allows to consider functionally relevant the following two characteristics:

a) stability of articulation,

b) tongue position.

The rest of the features mentioned above, that is lip position, character of vowel end, length, and tenseness are indispensable constituents of vowel quality. Though they have no phonological value they are considerably important in teaching English phonetics.It is well-known that a vowel in an unstressed syllable is perceived as very short, weak, and indistinct. The unstressed syllables are usually associated with vowels of central or centralized quality [ə], [i], sometimes [u] and the diphthongs [ɜu], [ai] (or a syllabic consonant), e.g. among [ə'mʌŋ], before [bi'fɔ:], useful ['ju:sful], tomato [tə'ma:tɜu], exercise ['eksəsaiz], sudden ['sʌdn].

Also vowels of full quality sometimes occur in unstressed positions, often in borrowed words of Latin and Greek origin, e.g. architect ['a:kutekt], paragraph ['pærəgra:f], canteen [kaen'ti:n]. These nonreduced vowels in unstressed syllables are typical of all styles of pronunciation. Then again partially reduced sounds are found in unstressed positions. They appear in more formal and careful style of pronunciation instead of the neutral sound used in informal casual speech. Cf.: phonetics [fɜu'netiks – fɜ'netiks – fə'netiks]. Our next point should be made in

connection with the phonemic status of the 50 neutral sound [ə]. The phonological analysis marks the opposition of the neutral sound to other unstressed vowels, the most common among them being [I]. In the minimal pairs: officers [′ɒ fIsəz] – offices [′ɒ fisiz]; accept [ək′sept] – except [ik′sept], armour [′a:mə] – army [′a:mi] the neutral sound is phonologically opposed to the phoneme [i] with its own distinctive features capable of differentiating the meaning of lexical units. So the neutral sound [ə] in officers, accept, armour is an independent phoneme opposed to the [i] phoneme of the minimal pairs given above.

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

[æ] – [ə] man – sportsman

[^] – [ə] some – wholesome

[ɒ] – [ə] combine n – combine v

[ei] – [ə] operation – operative

[ɜu] – [ə] post – postpone

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

I.2. Vowel-consonant distinctions

I just want to tell that it is important to know distinctions between vowels and consonants. We try to show some distinctions between them in this chapter. We discussed about vowels enough above and now we should define what a consonant is. A consonant is a speech sound made by partially or completely blocking the flow of air through the mouth (using the lips, teeth, tongue, and palate). Letters of the English alphabet that represent consonants include all the letters that are not vowels The letter “y” makes a consonant sound when it appears at the beginning of words (examples: yellow, yacht), and it makes a vowel sound when it appears at the end of words (examples: valley, fairy).The distinction between them is discussed below. Consonants and vowels are two different qualities of sounds that are found almost in all languages of the world. The distinctions between them are discussed below.

Consonants are defined as the sounds articulated by temporary obstruction in the air stream which passes through the mouth. The obstruction made by the articulators may be 'total', 'intermittent', 'partial', or may merely constitute a narrowing sufficient to cause friction. In the articulation of consonants almost all articualtors are involved. Especially the position of the soft palate causes the division of consonants into 'oral consonants' and 'nasal consonants'. when the soft palate is raised, 'oral consonants' are produced; the soft palate is lowered, 'nasal consonants' are produced. In English /m/, /n/, and / /are nasal consonants and rest of all are oral consonants. The function of vocal cords also causes the division of consonants as 'voiceless' and 'voiced'. When vocal cords are kept apart, voiceless consonants as /p, t, k, f, s, / are produced whereas their vibrations produce voiced consonants as /b, d, g, v, z/. But vowels are the sounds that are produced with an approximation without any obstruction in the air passage. Among all articulators, only tongue is prominent in their production. All vowel sounds are voiced and all of them are 'oral' as during the

production of them the soft palate is raised and hence the nasal cavity is completely blocked. The examples of the vowels are /i, e, a, u, y, o, /.

Consonants in phonetics are referred to as 'contoids' which often appear as the marginal elements in the 'syllable'. They seldom form nucleus of the syllable except some case. The consonants 'n' and 'l' in the second syllable of the words 'button' and 'apple' form nucleus. But vowels referred to as 'vocoids' in phonetics always form the nucleus of the syllable as in 'bill', 'pill', 'mill', 'heat', etc. Even in their manner of classification, consonants and vowels show apparent distinction. Consonants are identified or classified in terms of 'voicing', 'place of articulation', and 'manner of articulation', whereas vowels in terms of the 'height of tongue', 'part of tongue', which is raised or lowered, and 'lip rounding'.

Classification of consonants

Consonants as discussed above are classified in terms of:

1. voicing
2. place of articulation
3. manner of articulation

Voicing.

On the basis of voicing, consonants are divided into 'voiced consonants' and 'voiceless consonants'. Voiced consonants are those which are articulated with the vibration of the vocal cords. In English voiced consonants are /b, d, g, j, v, , z/. Voiceless consonants are articulated without vibration of vocal cords or it may be said that during the production of voiceless consonants vocal cords are kept apart. Examples: /p, t, k, f, s, h/.

Point of articulation. On the basis of the points of articulation, consonants are divided as:

*Bilabial (*or labial): Both lips as the primary articulators articulate with each other. Examples: /p/, /b/, /m/, /w/.

Labio-dental: The lower lip articulates with the upper teeth. Examples: /f/, /v/.

Interdental: The tip and the rims of the tongue articulate with the upper teeth. Examples: /ð/.

Alveolar: The blade, or top and blade of the tongue articulates with the alveolar ridge (the upper teeth ridge).
Examples: /t/, /d/, /s/, /z/, /n/, /l/, /r/.

Palato-alveolar: The blade, or the tip and blade of the tongue articulates with the alveolar ridge and there is at the same time a raising of the front of the tongue towards the hard palate. Examples: /c/, /j/, /s/, /z/, /j/.

Velar: A glottal obstruction, or a narrowing causing friction and vibration between the vocal cords. However, some consonants in this category may be produced without vibration between the vocal cords. Examples: /k/, /g/, /h/.

Manner of articulation. The manner of articulation describes the different types of obstructions made by the articulators. These obstructions may be total, intermittent, partial or may merely constitute a narrowing sufficient to cause friction. According to the manner of articulation consonants are divided into 'plosives', 'affricates', 'fricatives', 'lateral', 'retroflex', and 'nasals'.

Plosives (stops): For this, there occurs a complete closure at some point in the vocal tract, behind which the air pressure builds up and is released explosively.
Examples: /p/, /t/, /k/, /b/, /d/, /g/.
Affricates: For this, a complete closure appears at some point in the mouth, behind which the air pressure builds up; the separation of the articulators is slow with that of a plosive, so that friction is a characteristic second element of the sound. Examples: /j/.

Fricatives: Two articulators approximate to such an extend that the air stream passes through them with friction. The sounds produced in this way are called fricatives. Fricatives may be voiced as /v/, /f /, /s/, /z/ and voiceless as /f/, /v/, /s/, /s/, /h/. Fricatives differ also in the shape of the narrow opening in which they are produced. In /f/, /v/, /s/, /z / it is relatively wide from side to side but very narrow from top to bottom. Because of this slit like shape of the opening, these sounds are called 'slit fricatives'. In contrast, in /s/, /z/, /c/, /j/, the opening is much narrower from side to side and deeper from top to bottom. These sounds are called 'groove fricative'.

Lateral: For lateral, a partial closure is made at some point in the mouth, the air stream being allowed to escape from one or both sides of the contact. For example, /l/ in 'loud' or 'late'.

Retroflex: In the production of this sound, the tip of the tongue is raised towards the alveolar ridge without touching it. The sides of the tongue are pressed against the upper back teeth. As the sound is produced, air flows out over the tip of the tongue and vocal cords vibrate. Example: /r/.

Nasals: These sounds are produced with a complete closure at some point in the mouth but the soft palate is lowered and hence the oral cavity is blocked and air escapes through nasal cavity. These sounds are continuants. In the voiced form, they have no noise component. They are, to this extent, vowel like. Examples: /m/, /n/ .

I.3. Problems of classification of vowels

While writing my research work I came across different approaches to the classification of vowels and we will look though some of them and try to compare.

Of all the movable organs within the mouth cavity, the tongue is by far the most flexible and is capable of assuming a great variety of positions. Therefore it is the most active resonance-modifier, being responsible for the greatest number of modifications of the shape of the mouth resonator, which ultimately determine different vowel tam- bers.

It is for this reason that the main two principles of all current articulatory classifications of vowels are based on the movements and positions of the tongue. For such classificatory and descriptive purposes, the surface of the tongue is conventionally divided into several parts, although the tongue itself, a complex muscular structure, does not show obvious sections. A convenient basis for such a division is provided by the fixed organs lying opposite the tongue when it is at rest. In describing and classifying vowels the following parts of the tongue are referred to because of their great importance as resonance-modifiers:

(1) the ***front*** of the tongue, which lies opposite the hard palate (in Russian phonetic literature it is called the ***middle*** of the tongue),

(2) the ***back*** of the tongue, which lies opposite the soft palate

(3) the ***centre*** of the tongue, which is the region where the front and the back meet.

The tip and blade of the tongue do not play separate roles in vowel production. As the body, or bulk, of the tongue moves forward or backward, i.e. in a horizontal direction, one of the parts of its surface is usually higher than all the other parts, although its actual height from the lowest position and, therefore, the distance between this highest point and the opposite part of the roof of the mouth, may vary, thus marking the simultaneous movement of the tongue in a vertical direction.

This complex movement of the tongue provides a convenient articulatory basis for classifying vowels according to two important principles:

(1) according to the horizontal (or, to be more exact, forward-backward) movement of the tongue, or, as D. Jones puts it "according to the part of the tongue which is raised highest"

(2) according to the simultaneous vertical movement of the tongue or, as D. Jones puts it "according to the height to which the tongue is raised"

These two main principles of vowel classification are generally accepted, although they may be, as we have seen, expressed in different ways, and there may be, as we shall see later, differences of opinion as to how many classes of vowels should be distinguished according to these principles, by what terms these classes should be designated and which vowels should be assigned to this or that class.

When the bulk of the tongue moves forward, it is usually its *front* part which is raised highest, towards the hard palate. Vowel sounds produced with this tongue position are called *front* vowels, e.g. the English [i:, i, e, ae] and the nuclei of the English diphthongs [ta, ei, ea, ai, au].

The English front vowels [i:] and [i] actually differ from each other not only in length, but also in quality.

One of the causes of the latter difference is the difference in the parts of the tongue which are raised highest in pronouncing [i:] and [i]. In the case of [i:] the highest part of the tongue is defined by D. Jones as the centre of the front, whereas in the case of [i] it is defined by him as the hinder part of the front.

This difference in tongue position necessitates the subdivision of the English front vowels into *fully front* ([i:, e, ae] and the nuclei of [ei, ea, ai]) and *front-retracted* ([i] and the nucleus of [au]).

This subdivision is especially necessary since the vowels [i:] and [i] represent different phonemes in English mainly because of a difference in quality and not in quantity (although D. Jones considers them variants of one phoneme, both of which he designates by the symbol i).

The term *front vowels* are rather misleading because it is not the front of the tongue that is directly responsible for their production. As a matter of fact, they are produced by the action of the mouth resonator which is divided into two parts by the raised front of the tongue, and the higher it is raised, the larger is the empty space left in the back part of the mouth cavity and the greater is the role of this back resonator in producing front vowels.

When the bulk of the tongue moves backwards, it **is** usually its ***back*** part which is raised highest, towards the soft palate. Vowel sounds produced with this tongue position are called *back* vowels, e.g. the English [a:, o, o:, u:, u, A] and the nuclei of [aa, ou, ua], as well as the Russian [o, y].

The English back vowels [u:] and [is], like [i:] and [i], actually differ from each other not only in length, but also in quality. As in the case of [i:] and [i], one of the causes of this qualitative difference is the difference in the parts of the tongue which are raised highest in pronouncing [u:] and [u]. In the case of [u:] the highest part of the tongue is defined by D. Jones as the back, whereas in the case of [«] it is defined by him as the fore part of the back. This difference in tongue position necessitates the subdivision of the English back vowels into *fully back* ([d, d:, u:]) and *back-advanced,* [a:, A, U] and the nuclei of the diphthongs ou, ua]). This subdivision is especially necessary since the vowels [u:] and [15] represent different phonemes in English mainly because of a difference in quality and not in quantity.

Authorities differ as to which of the two subclasses of the English back vowels the principal variant of the phoneme /a:/ and the nucleus of the diphthong [ou] should be assigned. G. P. Torsuyev assigns [a:] to the subclass of fully back vowels, whereas A. L. Trakhterov places it among back-advanced vowels. D. Jones defines the part of the tongue which is raised highest as “a point somewhat in advance of the centre of the back” in pronouncing [a:], and as “the back”. From a phonological point of view there is also more reason to regard [a:] as a back-advanced vowel. The nucleus of the diphthong [ou] is traditionally defined as a

back-advanced vowel, but the authors of some of the latest works on English phonetics, for instance, A. C. Gim- son regard it as a variety of the neutral vowel and designate the diphthong by the symbol [au]. This is, probably, too bold a departure from the tradition, considering that in the pronunciation of many RP speakers there is just the opposite tendency, *viz.,* to pronounce the nucleus of the diphthong [ou] as a fully back vowel approximating in quality to the Russian [o], but this is rather convenient from a pedagogical point of view.

Although we speak of *back* vowels, it should be borne in mind that they are actually produced mainly by the action of the resonator in the *front* part of the mouth cavity since it is there that an empty space is formed as the result of raising the back part of the tongue.

When the centre of the tongue is raised towards the junction between the hard and soft parts of the palate, vowels are produced which are called *central,* e.g. the Russian [а].

British phoneticians consider the English vowels [a] and [a:] also as *central.* Thus, D. Jones defines the part of the tongue which is raised highest in pronouncing [**ɜ**:] as "the central part culminating at the junction between "front" and "back" He also regards [**ɜ**:] and [a] as variants of one phoneme both of which he designates by the symbol a.

Thus further investigations are apparently necessary to resolve this moot point. The classification of the English vowels according to the vertical movement of the tongue worked out by Soviet phoneticians is also different from the traditional classifications by British and American phoneticians. Applied to RP English, the above classifications (both British and American) suffer from one serious drawback: they do not reflect the qualitative differences between the vowels in the pairs [i: — i], [u: — u], [d — a:], [a — a:] since both vowels are placed in one class. But these differences are extremely important, because it is due to their qualitative differences, and not quantitative ones, that the vowels in the above pairs function as different phonemes in RP English. True, D. Jones

himself considers the vowels in the above pairs as variants of one and the same phoneme and thus ignores the distinctive relevance of their qualitative differences, but most of his British colleages do not share his opinion and consider those vowels as different phonemes; and yet they accept Jones' classification.

In order to eliminate this shortcoming Soviet phoneticians have elaborated a more exact classification. In it the English vowels are first divided into three classes according to the three main heights of the tongue: (1) ***high,*** or c/ose, vowels; (2) ***mid*** or ***half-open***, vowels, and (3) ***low,*** or ***open,*** vowels. Then each of these three classes is further divided into two subclasses according to the two variations of the three main tongue-heights;

(a) vowels of the narrow variation,

(b) vowels of the broad variation.

P. Torsuyev and A. L. Trakhterov differ in classifying the principal variant of the [a]-phoneme according to the height of the tongue: the former places it among mid-broad vowels, i.e. together with [a], while the latter assigns it to low-narrow vowels, together with [o:]. D. Jones places **[a],** in his vowel chart, below [a], but above [o:], right on the border line between half-open and open vowels and defines it as half-open. Since both decisions are possible without violating linguistic reality, it is preferable, from the viewpoint of structural symmetry, to assign the English /A/-phoneme to ***low-narrow*** vowels because that would bring out the same relationship between the vowel phonemes in the pairs /i: — i/, /u: — ***is/, h:***—a/, /a:—a/, /d: — d/, ***viz.,*** that they belong to the same class according to the three main heights of the tongue, but to two different subclasses of the same class according to the variation of tongue-height. Another common feature is that, with the exception of **/a — *a:/,*** the historically long vowels belong to the narrow variety, whereas the historically short vowels belong to the broad variety within one and the same class.

Thus, the symmetry is as perfect as linguistic reality would have it.

Summing up different vowel classifications according to tongue positions

we are justified in concluding that the classification offered by Soviet phoneticians is more de-tailed and exact than that used by their British and American colleagues.

The more detailed classification reflects more exactly the distinctively relevant qualitative differences between the historically long and historically short vowel phonemes belonging to the same vertical class, but to different subclasses within it. It is hardly necessary to prove that such a detailed and exact classification provides a better articulatory basis for a phonemic analysis of the English vowel sounds.

The particular quality, or tamber,-of a vowel sound is determined not only by the position of the tongue, but also and simultaneously by that of the lips.

The lips perform a double function in determining the resonances of the mouth cavity. To understand this double function it is necessary to know that the natural resonance of the air enclosed in a resonance chamber depends not only on the shape and volume of the chamber, but also on the size (cross-section area) of its orifice. When the lips are spread or in the neutral position, the front boundary of the mouth resonator is formed by the teeth; when the lips are rounded and protruded the role of the front boundary is assumed by them. The result is that the mouth resonator is lengthened, i.e. its shape and volume are changed.

At the same time the lips form the front opening of the mouth resonator. By rounding the lips to different degrees, it is possible to vary the cross-section area of this orifice. Since the lips, like the tongue, perform the function of a resonance-modifier, their positions also serve as an important principle in articulatory classifications of vowel sounds. Usually the following lip positions are distinguished;

(1) spread,

(2) rounded,

(3) neutral (neither spread, nor rounded).

D. Jones also suggests two ***degrees*** of lip-rounding, if desired, ***viz., close lip-***

rounding and ***open lip-rounding.*** But the differentiation of the degrees of lip-rounding, as well as the differentiation between the spread and neutral positions of the lips, are necessary' only for descriptive purposes, for instance, for an exact description of the quality of a vowel sound, especially, variants of one and the same phoneme, but for purposes of vowel classification it is sufficient to distinguish between two lip-positions: (1) ***unrounded,*** which includes both spread and neutral positions, and (2) ***rounded,*** which includes different degrees of lip-rounding.

B. Bloch's & G. Trager's classification of vowel sounds.

B. Bloch's & G. Trager's classification is quite different. Thus, ***unrounded*** in English are all the front, central (mixed), and back-advanced vowels [i:, **i,** e, ae, **ɜ:, ɜ, a, a:],** whereas all the fully back vowels are rounded, and the degree of their lip-rounding is increased with the increase in the height to which the back of the tongue is raised. Cf.

[o] — open lip-rounding;

[o:] — lip-rounding between open and close;

[u] — fairly close lip-rounding;

[u:] — close lip-round- ing.

Different degrees of lip-rounding may be, and usually are, combined with different degrees of lip-protrusion. Thus, the English rounded, or labialized, vowels are pronounced with less lip-protrusion than the similar Russian vowels. A description or classification of the vowel sounds of a given language in the above classificatory terms denoting tongue and lip-positions will be unambiguous, accurate enough, intelligible and useful to those for whom it is intended (mainly linguists, students of linguistics and lan- guage-learners) only on one condition: that both the author and users of such a description or classification associate with those classificatory labels the ***same*** tongue and lip-positions and the ***same*** acoustic qualities. The English [i:], the Russian [и], and the French [i] are all defined as

front high (-narrow) vowels, but in reality each of them slightly differs from any of the.other two in tongue-height and, therefore, in acoustic quality, even if the position of the lips is the same. It follows from this that, knowing the meaning of the terms ***front*** and ***high (-narrow),*** an Englishman will pronounce his own [i:] if he is asked to reproduce the Russian [и] or the French [i] only on the basis of its definition as a ***front high (-narrow)*** vowel, a Russian will likewise pronounce his own [и] instead of the English [i:] or French [i], and a Frenchman will replace both English [i:] and Russian [h] by his [i]. All this will inevitably happen because the Englishman, the Russian and the Frenchman associate the labels ***front, high*** only-with-their own type of vowel.

One way out of the difficulty is that the foreign vowels may be described and classified with reference to one's mother tongue. For instance, a Russian student of English may be told that the English [i:] is a little more open, or lower, than the Russian [и], or that the English [e] is a little closer, or higher, than the Russian [a].

But this way out is not quite satisfactory because it is a well-known fact that no two native speakers of a language pronounce one and the same sound absolutely alike and that an identical sound may be produced by two speakers with more or less different tongue and lip-positions.

The definition of the English [i:], the Russian [и] and the French [i], as front high-narrow vowels gives an Englishman, a Russian, and a Frenchman at least some idea of the similarity between those vowels and, therefore, a general idea of their character, although it is somewhat ambiguous because it does not express the points of difference between them, and, to eliminate this ambiguity, additional explanations of the type described above are necessary. But a classificatory label even with such additional explanations may be quite unintelligible and useless if there is no sound in one's mother tongue even remotely similar to the one denoted by that label. For instance, the definition of the French and German [y] as a front high-narrow ***rounded*** vowel will be unintelligible and useless to a Russian student

of French or German because there is no vowel in Russian more or less similar to [y].

Comparative descriptions and classifications even with additional explanations will be quite unintelligible and useless to those who know neither of the languages whose sounds are compared in articulatory or acoustic classificatory terms. For instance, a Russian student of English who does not know French will gain little, if any, information about the character of the nucleus of the English diphthong [ai] if he is told that it is a ***front low-broad*** vowel fully coinciding with the French [a] in the word ***patte*** (jiana).

Thus, in order to be intelligible and useful to a speaker of any language, a description or classification of the vowel sounds of a given language in terms denoting tongue and lip-positions must be made in relation and with reference to a set of vowel sounds whose tongue and lip-positions with the resulting perceived acoustic qualities are ***known*** to ***all*** for whom such a description or classification is intended ***irrespective*** of their mother tongue. Clearly, it is impossible to take the vowel system of any language for such an international standard set of vowels because of two simple reasons: (1) there is no language in the world which (or whose vowel system) is known to all the speakers of all the other languages; (2) even if such a language (or vocalic system) were chosen (which is highly improbable) it would not contain all the vowel types existing in all the other languages of the world. Consequently, the only way out is to ***invent*** such an international standard set of artificial vowels, a kind of vocalic Esperanto, with easily explained and learned tongue and lip-positions and the resulting acoustic qualities, in relation and with reference to which the vowel sounds of any real language of the world may be described and classified. If a linguist or language-learner masters these vowels first and then studies the vowels of any real language from their description and classification made with reference to these artificial vowels such a description or classification will become immediately intelligible and useful to him.

The first to think of this idea and materialize it was D. Jones, who devised the system of ***Cardinal Vowels*** on an articulatory and auditory basis, which can easily be learned. This system is now accepted by linguists of all countries as an international standard. Jones' Cardinal Vowels are represented in the International Phonetic Alphabet by the letters i, e, e, a, o, o, u.

Front

In spite of the theoretical soundness of the Cardinal Vowels idea and the excellent way in which D. Jones materialized it, its practical application has turned out to be limited only to that field where no comparison with one's mother tongue is possible at all, ***viz.*** in descriptions and classifications of the vowel systems of individual languages to be read by linguists of different nationalities, or,, in other words, in purely scientific linguistic work.

As for language-teaching, the Cardinal Vowels practically failed to play the role their author hopefully assigned to them. This is due to the factors which D. Jones himself unwittingly explained in the following words: "The values of cardinal vowels cannot be learned from written descriptions; they should be learned by oral instruction from a teacher who knows them."

D. Jones' cardinal vowels have been recorded on gramophone discs by the author himself for the benefit of the "student who has not access to a teacher familiar with the cardinal vowels."

"Those who have access neither to a qualified teacher, nor to a gramophone cannot expect to learn the values of these or any other cardinal vowels with accuracy. In view of what D. Jones said about learning the cardinal vowels, the query naturally arises in the minds of both language-teachers and language-learners alike: "What is the use of learning Mr. Jones' (in more senses than one) cardinal vowels and spending a lot of precious class-room time and effort on that if the vowels of the foreign language in question can be learned, as D. Jones admits himself, by exactly the same methods as those which are indispensable to learning the cardinal vowels?"

Language-teaching practice has proved that it is quite possible for any language-learner to master the vowels of a foreign language without previously learning the cardinal vowels. Therefore the latter can nowadays be confined only to purely linguistic descriptive and classificatory work for international use.

There are some principles of vowel classification which are not singled out as such by British and American phoneticians, although all linguists distinguish the categories of vowels themselves into which the latter are divided according to these principles. One of these is the principle of the ***stability of articulation,*** or, in other words, the stability of the shape, volume and orifice-size of the mouth resonator. According to this principle, the English vowels are divided into (1) ***monophthongs,*** or ***simple vowels.*** (2) ***diphthongs***, or complex vowels, and (3) ***diphthongoids,*** or diphthongized vowels.

During the pronunciation of a monophthong the tongue and the lips do not noticeably change their position, with the result that the shape, volume and size of the mouth resonator remain more or less stable, or unaltered, throughout the whole duration of the vowel within one and the same syllable, and the vowel tamber remains the same, as in the English vowels **[i,** e, æ, **a:, i:,** o:].

During the pronunciation of a diphthong the tongue and the lips move from one vowel position to another within one and the same syllable, thus changing the shape, volume and orifice-size of the resonator, and, consequently, the quality of the vowel. There are several kinds, or types, of diphthongs distinguished according to the following main principles. Depending on which vowel element of the diphthong is stronger, longer and, therefore, more definite in tamber, prominent and syllabic, i.e. forming the nucleus (peak, crest) of the syllable, diphthongs are divided into (1) ***falling,*** and (2) ***rising.***

A falling diphthong begins with the nucleus, i.e. its stronger, longer, more definite, prominent and syllabic element, and ends in a glide, a weak and short element with an indefinite tamber vagiiply-rpspmhling but not coinciding with a vowel of full formation and, therefore, non-syllabic. Thus, the formula of a falling

diphthong is “nucleus-f glide”. It is called falling because the total amount of articulatory effort and energy, or force of utterance, decreases, or falls, in the pronunciation of such a diphthong as the tongue and lips start at a very definite and longer-held vowel position and then move towards the position of another vowel, holding it an extremely short time or even without actually reaching it at all. All the English diphthongs are traditionally defined as falling, with a glide towards [i], [u] and [a].

Thus, according to the vowel-position in whose direction the tongue glides the English falling diphthongs may be divided into three groups:

(1) the [i]-glide diphthongs: [ei, ai, ɔɪ];

(2) the [u]-glide diphthongs: [au, ou];

(3) the [a]-glide diphthongs: [iə, eə, oə, uə].

The [i]-glide and [u]-glide diphthongs are sometimes called ***normal***, since they are similar to diphthongs normally occurring in other languages.

The [a]-glide diphthongs are sometimes called ***murmur*** diphthongs, but British and Americans phoneticians call them ***centering diphthongs*** since they consider the neutral vowel, towards which the tongue glides, to be a central vowel. In the pronunciation of the diphthongs [oi, ay, ou, oa, ua] the change in the position of the tongue is accompanied by a marked change in lip-position.

A rising diphthong begins with a glide and ends in a nucleus diphthongs are common in Italian and some other languages, but not in English. D. Jones points out, however, that the sequence [i] -j- [a] may not always constitute the falling diphthong described above, i.e. with prominence on the first element. In unaccented syllables the [i]-element may be the weaker of the two, non-syllabic, and designated by the symbol [y], as in the words ***period, serious, happier*** and many others of a similar kind, which D. Jones transcribes only as ['piaryad], ['giartas] and ['hæpya] respectively in the latest editions of his ***Outline...*** and ***Pronouncing Dictionary...,*** whereas in the early editions of these works (as in all English dictionaries and works on English phonetics) the diphthong [iə] in unstressed

syllables is traditionally treated as a falling one. Similarly, instead of the falling diphthong [ua] in unstressed syllables of many English words, the rising diphthong [ua] actually occurs, because its second element is more prominent, i.e. ['inflans] (influence). According to the distance covered by the tongue in its movement from the nucleus to the glide, diphthongs may be divided into (1) ***narrow,*** as the English [ei, ou, ia, ea, oa, ua] and (2) ***wide,*** as the English [ai, au, oi].

According to whether the tongue glides upwards or downwards from the nucleus diphthongs may be divided into (1) ***narrowing,*** as the English [ei, ai, oi, ou, au, oa] and (2) ***widening,*** as the English [ia, ua] respectively. ***j*** 3.50. According to their length, diphthongs are divided into ***long*** and ***short*** ones. The length oi all the English diphthongs is considered to be equal to that of the historically long monophthongs in identical phonetic contexts.

A diphthongoid is a vowel sound intermediate in character between a monophthong and a full-fledged diphthong. The elements of a diphthongoids are extremely close to each other, and the tongue and/or the lips move an extremely short distance between them. The English vowels /i:/ and /u:/ are pronounced by many, if not most, native RP speakers as narrowing diphthongoids, although D. Jones points out that they may be pronounced as monophthongs and recommends this pronunciation to foreign learners of English. During the pronunciation of the vowel /i:/ as a diphthongoid the front of the tongue starts at the [i] position and glides up and forward to the [i] position, sometimes even overshooting it and ending up in the [j] position. Thus, this diphthongoid may be represented in allophonic transcription as follows: [i].

During the pronunciation of the vowel /u:/ as a diphthongoid the back part of the tongue starts at the [u] position and glides up and backwards to the [u] position. At the same time the lips are increasingly rounded, often ending up in the [w] position. Thus this diphthongoid may be represented in allophonic transcription as follows: [uu].

Thus, according to D. Jones, only the long [i:] and [u:] may be

considered as tense. G. P. Torsuyev, however, defines ***all*** the long English vowels, as well as [ae], as tense, whereas all the short vowels are characterized by him as lax.

It is believed that the greater tenseness of long vowels is closely connected with their length. In pronouncing a long vowel the organs of speech are held in a certain position for a longer time than in the case of a short vowel. Therefore, retaining the speech organs in a more or less unchanged position to ensure the unaltered quality of a long vowel requires greater muscular tension on the part of the speech organs than in the production of a short vowel.

However, the problem of "tenseness" and "laxness" of English vowels, another moot point, can apparently be solved only with the help of electromyography. Russian vowel phonemes are not differentiated according to their tenseness, but one and the same vowel phoneme manifests itself in the form of a more tense vowel sound in a stressed syllable than in an unstressed one.

There is another principle of vowel classification which is not singled out as such by British and American phoneticians, although some of them mention the two categories of vowels distinguishable according to this principle. This principle is based on variations in the distribution of all-round force of articulation in the pronunciation of long and short vowels, especially when they are under stress, or, in other words, on the ***character of the end*** of a vowel. All the English long monophthongs and diphthongs both stressed and unstressed, as well as the short unstressed vowels are pronounced in an open syllable with a diminution in the force of articulation towards their end. They are said to have a ***fading*** character. Since they may occur in an open syllable, i.e. they are not ***checked*** by a following consonant sound, they are called ***free.***

The "English short vowels, when stressed, are pronounced without any decrease in the force of articulation towards their end. They are immediately followed by a consonant which "sticks" to them, so to speak, or ***checks*** them. For this reason they are called ***checked.***

There is no differentiation of Russian vowels according to this principle. All the Russian vowels are considered to be free since they always occur in an open syllable when separated from a following vowel by a single consonant, whereas an English short stressed vowel is checked in this position.

Chapter II. English vowel phonemes in connected speech.

II.1. Modifications of Vowels in Connected Speech

While learning modification of the vowel phonemes I came across different approaches to the modification of vowels and their scientific problems in learning and some of them we have discussed below.

The modifications of vowels in a speech chain are traced in the following directions: they are either quantitative or qualitative or both. These changes of vowels in a speech continuum are determined by a number of factors such as the position of the vowel in the word, accentual structure, tempo of speech, rhythm, etc.The decrease of the vowel quantity or in other words the shortening of the vowel length is known as a quantitative modification of vowels, which may be illustrated as follows:

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

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

Is →he or she to blame?ˎ– [hi:]

But: At → last he has comeˎ. – [hi]

2. The length of a vowel depends on its position in a word. It varies in different phonetic environments. English vowels are said to have positional length, e.g.

knee – need – neat (accommodation). The vowel [i:] is the longest in the final position, it is obviously shorter before the lenis voiced consonant [d], and it is the shortest before the fortis voiceless consonant [t].

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

1. In unstressed syllables vowels of full value are usually subjected to qualitative

changes, e.g. man [mæn] – sportsman ['spɔ:tsmən], conduct ['kɒndəkt] – conduct [kən'dʌkt]. In such cases the quality of the vowel is reduced to the neutral sound [ə]. These examples illustrate the neutralized (reduced) allophones of the same phonemes as the same morphemes are opposed. Nearly one sound in five is either [ə] or the unstressed [i]. This high frequency of [ə] is the result of the rhythmic pattern: if unstressed syllables are given only a short duration, the vowel in them which might be otherwise full is reduced. It is common knowledge that English rhythm prefers a pattern in which stressed syllables alternate with unstressed ones. The effect of this can be seen even in single words, where a shift of stress is often accompanied by a change of vowel quality; a full vowel becomes [ə], and [ə] becomes a full vowel. Compare: analyse ['ænəlaiz] – analysis [ə'nælisis].

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

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

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

Has he done it?

[hæz hi· ˌdʌn it]

[həz hI ˌdʌn it]

[əz i ˌdʌn it]

[z i ˌdʌn it]

3. Sound Alternations

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

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

1. Vowel Alternations

1. Distinction of irregular verbal forms:

[i: – e – e]: mean – meant – meant

[i – ʌ– ʌ]: dig – dug – dug.

[ai – ɜu – i]: write – wrote – written

[i – æ – ʌ] : sing – sang – sung

[ɛə – ɔ: – ɔ:]: wear – wore – worn

[ai – i – i]: hide – hid – hidden

[i: – ɜu – ɜu]: speak – spoke – spoken

[ɜu – u: – ɜu]: know – knew – known

[i – ei – i]: give – gave – given

[e – ɒ – ɒ]: get – got –got

[i: – ɔ: – ɔ:]: teach – taught – taught

[æ – u – u]: understand – understood – understood

[ei – u – ei]: take – took – taken

[ei – ɜu – ɜu]; wake – woke – woken

[u: – ʊ – ʊ]: shoot – shot – shot

[e – ɜu – ɜu]: tell – told – told

[i – æ – æ]: sit – sat – sat

[i – ɔ: – ɔ:]: think – thought – thought

[ʌ – ei – ʌ]: become – became – become

[ai – ɜu – i]: rise – rose – risen

[ɜu – u: – ɜu]: grow – grew – grown

[u: – ɜu – ɜu]: choose – chose – chosen

[ai – u: – ɜu]: fly – flew – flown

[ai – ɔ: – ɔ:]: fight – fought – fought

[ai – au – au]: find – found – found

[i: – ɔ: – i:]: see – saw – seen

[iə – ɜ: – ɜ:]: hear – heard – heard

and some other less common verbal alternations of this type.

2. Distinction of causal verbal forms:

[i – e]: sit – set

[ai – ei]: rise – raise [ɔ: – e] fall – fell

3. Distinction of singular and plural forms of nouns:

[æ – e]: man – men

[u – i:]: foot – feet

[u: – i:]: tooth – teeth

[au – ai]: mouse – mice

[u – i]: woman – women

[ai – i]: child – children

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

[i: – e]: feast – festive

[a: – æ]: class – classify

[ɒ – e]: long – length

[ɔ: – e]: broad – breadth

[ei – æ]: nation – national

[ai – i]: wise – wisdom

[ɒ – i:]: hot – heat

This type of alternation is often strengthened not only by suffixation but also by the shifting of stress like in: part– particular, 'climate – cli'matic.53

2. Consonant Alternations

1. Distinction of irregular verbal forms:

[d – t]: send – sent, lend – lent

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

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

[s – d]: defence – defend

[t – d]: intent – intend

[k – t ʃ]: speak – speech

[t – s]: important – importance

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

[i – ai] + [v – f]: live – life

[a: – ei] + [θ – ð]: bath – bathe

[e – i:] + [θ – ð]: breath – breathe

[ɒ – u:] + [s – z]: loss – lose

Sound alternations are also widely spread on the synchronical level in the presentday English and are known as contextual. In connection with contextual sound alternations there arises a problem of phonemic identification of alternated sounds. The functioning of sounds in different grammatical forms and derivatives of words seems very complicated and flexible. The study of the relationship

between phonemes and morphemes is called morphophonemics. The interrelation of phonology and morphology in linguistic investigations is also known as morphophonology or morphonology which is actually the phonology of morphemes. Morphonology studies the way in which sounds can alternate as different realizations of one and the same morpheme. A morpheme is a minimal unit of meaning. We would all agree that such words as windy, dusty, sunny consist of two morphemes. Similarly, demonstration, alternation have two component morphemes. The meanings of wind, dust, sun as well as of demonstrate, situate are obvious. But what function do the morphemes -y and -ion perform? On the basis of the examples, it appears that the function of -y is to convert a noun into an adjective. Similarly -ion converts a verb into a noun. These morphemes have a grammatical meaning, their main purpose is to convert one part of speech into another. Each set of data below exemplifies a sound alternation in one and the same morpheme of two different parts of speech.

malice ['mælis] – malicious [mə'liʃəs]

active ['æktiv] – activity [ək'tiviti]

abstract ['æbstrækt] – abstract [æb'strækt]

conduct ['k ɒ ndəkt] – conduct [kən'dʌkt]

contrast ['k ɒ ntræst] – contrast [kən'træst]

We are interested now in the sound in its weak position. Vowels are said to be in their strong position when they are in stressed syllables and in the weak position when they are in the unstressed ones. Consonants may well be said to be in their strong position before vowels and in the intervocalic position; they are in weak positions when they are word final or precede other consonants.

There may be different solutions to the problem of phoneme identification in weak positions of alternated words. The question arises whether the sound [ə] in the words activity and con'trast is a neutral phoneme or it is an allophone of the [æ] or [ɒ] phonemes (as in active, 'contrast) which loses some of its distinctive features in

the unstressed position. The difference is quite essential as in the first case the neutral sound is identified as an independent neutral phoneme, in the second – it is a neutralized allophone of the [æ] or [ɒ] phonemes of the corresponding alternated words. The loss of one or more distinctive features of a phoneme in the weak position is called phonemic neutralization. In English, the voicing opposition is neutralized after the initial [s]. We are well aware of the fact that the phonemes [t] and [d], for example, contrast in most environments: initially (tick —Dick), finally (bid – bit); after nasals (bend – bent), after [l] (cold – colt). But after [s], no contrast between [t], [d] is possible, nor, similarly, is there a contrast between [p], [b] and [k], [g] in this environment. The voicing contrast is neutralized after initial [s].

II.2. Changes of the vowel phonemes in connected speech

This chapter is devoted to the Changes of the vowel phonemes in connected speech. So we will try to investigate by some active methods.

So far we have given a lot of attention to the classification of vowels. Vowels as units of system of sounds were analyzed as if pronounced in the stressed position in the word. At this point we should discus characteristics of vowels in the unstressed position in the word. It is well-known that a vowel in the unstressed position is short, weak and undistinguished. Unstressed vowels are usually associated with:

among [əmoːŋ]

before [bif ɔː]

useful [juːzful]

tomato [təmətəu]

exercise [eksəsaz]

sudden [sədən]

Also vowels of full quality sometimes appear in unstressed positions. It happens in borrowed words of Latin and Greek origin: archit**e**ct [əːkitekt], paragr**a**ph [pærəraːf], canteen [kæntiːn].

The phonemic status of the neutral sound [ə].

At this point we should discuss the phonemic status of the neutral sound [ə]. The phonological analysis is made with the help of oppositions of the words. If sounds (two variants of one sound) change the meaning of the words then a sound is a separate phoneme:

officers – offices

accept – except

armour – army

In these examples the neutral sound [ə] is opposite to the phoneme [ɪ] It differentiates the meaning of the words so in these examples [ə] is a separate phoneme. But there are some other examples:

man – businessman

board – blackboard

post – postpone

These sounds are allophones of one and the same phoneme [ə].

In discussing vowels we should turn to vowel reduction. The modifications of vowels in speech are traced in the following directions: quantitative, qualitative or both these changes of vowels of speech are determined by many factors:

1. position in the word
2. accentual structure
3. tempo of speech
4. rhythm and so on

The decrease of the vowels quantity (shortening of the vowels length) is known as quantitative modification of vowels and can illustrated as follows:

1) the shortening of vowel occurs in the unstressed position:

board - blackboard

In this case reduction affects the quantity and the quality of the vowel.

2) the length of the vowel depends on its position of the word:

kn**ee** [i:] – n**ee**d – n**e**at

It is only quantitative change.

Unstressed vowels lose their quality:

1) in unstressed syllables

man –sportsman

conduct [kəndakt] – conduct [kəndəkt]

The neutral sound [ə] is the most frequent sound of English: about 11% of all English sounds, in combination with [ə] – about 20%.

2) slight degree of nasalization occurs when a vowel is followed or preceded by nasal consonants [m] [n]:

never – no – then – man

The relation of reduction as well as assimilation and accommodation is greatly connected with the style of speech. In colloquial speech reduction may even result in vowel elision.

hist**o**ry – fact**o**ry – lit**e**rature – territ**o**ry – c**o**rrect – b**e**lieve – s**u**ppose – p**e**rhaps

Sound alternations

In the previous section we saw how the pronunciation of sounds can vary according to the position in the word and this change is quite regular. These changes are very predictable. Now we'll discuss different modifications of sounds which don't depend on assimilation or accommodation due to position in the word but depend on some greater factors:

Some sound alternations depend on the history of English and are called historical. The influence both vowels and consonants:

Vowel alternations

Changes of irregular verbal forms:

1.	[i:-e-e]	feed-fed-fed
2.	[i- ɔ - ɔ]	win-won-won
3.	z[ai- ɔ u-i]	write-wrote-written
4.	[i-æ-a:]	begin-began-begun
5.	[iə- ɔ:- ɔ:]	wear-wore-worn
6.	[ai-i-i]	hide-hid-hidden
7.	[i:- ɔ u- ɔ u]	steal-stole-stolen
8.	[ou-u:-ou]	blow-blew-blown
9.	[i-ei-i]	give-gave-given
10.	[e−ɔ - ɔ]	get-got-got
11.	[i:- ɔ:- ɔ:t]	teach-taught-taught
12.	[i̇-e- ɔ:]	become-became-become

13. [ai-ou- i̇] rise-rose-risen

14. [u:-ou-ou] choose-chose-chosen

15. [ai-u:- ɔ u] fly-flew-flown

16. [aə- ɔ:- ɔ:] fight-fought-fought

17. [ai-au-au] find-found-found

18. [i:- ɔ:- i:] see-saw-seen

19. [iə-a:-a:] hear-heard-heard

Changes of verbal forms:

[i-e] sit-set

[ai-ei] rise

Changes of singular and plural forms of nouns:

[æ-e] man-men

[u-i:] foot-feet

[u:-i:] tooth-teeth

[au-ai] mouse-mice

[u-i] woman-women

[ai-i] child-children

Changes of parts of speech in etymologically connection speech:

[i:-e] feast-festive

[ə:-æ] class-classify

[ɔ:-e] long-length

[ɔ:-e] broad-breadth

[ei-æ] nation-national

[ai-i] wise-wisdom

[ɔ:-i:] hot-heat

Consonant alternations

Changes of irregular verbs:

[d-t] send-sent

Changes of part of speech in etymologically connected words:

[s-z] advi**s**e *(n)*-advi**s**e *(v)*; hou**s**e *(n)*-hou**s**e *(v)*; u**s**e *(n)*-u**s**e *(v)*

[s-d] defence-defend

[t-d] intent-intend

[k-t] sreak-speech

[t-s] important-importance

Vowel + consonant alternations

[ɪ-ai] + [v-f] live-life

[a:-e] + [θ-ð] bath-bathe

[e-i:] + [θ-ð] breath-breathe

[ɔ-u:] + [s-z] loss-lose

In the Russian language there numerous types of vowel + consonant alternations:

сидеть – сядь – сел – сажать

плыть – пловец – сплав

судить – сужу

резать – режу

лететь – лечу

плакать – плачу

Except historical sound alternations can also be modern and known as contextual. They depend on the style of speech, the tempo of speech and the situation.

II.3. The phenomenon of reduction, vowel harmony and elision in English and methodical recommendations on teaching them

Having analyzed English vowels and their modification we can say that reduction is most active process in vowel change.

In phonetics, vowel reduction is any of various changes in the acoustic quality of vowels, which are related to changes in stress, sonority, duration, loudness, articulation, or position in the word, and which are perceived as "weakening". It most often makes the vowels shorter as well. Such a vowel may be called reduced or weak. An unreduced vowel may be contrasted as full or strong.

The unstressed vocalism of English

The phonemic analysis of the RP vowels ıs based on the assumption that they occur under stress in monosyllabic, disyllabic and polysyllabic words and their grammatical forms, with the exception of the neutral vowel phoneme /э/ which can occur, of course, only in unstressed syllables and can perform its distinctive function only when opposed to other unstressed vowels, e.g. /э— i/ in accept — except, or /o — э:/ in forward —foreword. These and many other examples show that English is a language in which vowels of more or less full formation occur not only in stressed, but also in unstressed syllables. The English vowels occurring in unstressed syllables also form a definite system, called unstressed vocalism, which also requires a phonemic analysis, although not such a detailed one as that of the stressed vocalism of English. The purpose of such an analy¬sis is to establish the distribution and phonemic status of vowels occurring in unstressed syllables.

A vowel in a stressed syllable is stronger and has a more definite, distinct tamber than an unstressed vowel. This is due to the fact that during the production of a stressed vowel the muscles of the organs of speech forming the resonator mechanism are tenser and the shape of the resonator remains constant for a longer

time than in the case of an unstressed vowel. This gives rise to very distinct high-frequency formants, or overtones, which are characteristic of stressed vowels.

A vowel in an unstressed syllable is shorter, weaker, less distinct, i.e. it is reduced, or obscured. Reduction is the weakening of a sound due to a decrease in the tenseness of the speech organs resulting in the loss of some essential characteristics by the sound. Re-duction is one of the phonetic changes taking place in the historical development of a language. The final stage of this process of reduction is the dropping out of the sound (zero reduction).

Vowel reduction is a characteristic feature of Russian, English and some other languages, but there are languages in which there is no vowel reduction, such as Japanese, Italian, Polish.

The core of the unstressed vocalism of English is formed by the neutral vowel phoneme /ə/, which has several allophones, different varieties of the neutral vowel sound known in linguistics as schwa-vowels,

The indistinct tamber of the neutral vowel is due to the following factors:

(!) The active speech organs are extremely lax, which results in the absence of high-frequency formants so character¬istic of stressed vowels.

(2) Because of its brevity (its duration is 30-40 msecs) it consists almost entirely of the on-glide and the off-glide. This means that throughout its duration the volume of the resonators changes so quickly that no definite distinct tamber is created. But however short and indistinct this vowel may be, it is capable of variation in different positions.

The neutral vowel sound in English has its independent phonemic status is proved by numerous minimal pairs in which the neutral vowel is opposed to other unstressed vowels. But not all English vowels are opposed to the neu-tral vowel phoneme; the most common opposition is /ə — i/, e.g. armour — army, officers — offices, accept — except, allu¬sion—illusion.

The phoneme /э/ may also be opposed to the diphthong /ou/ (/эи/), e.g. temper-—tempo, solar — solo.

In addition to the neutral vowel, there are in English the so-called semi-weak vowels occurring in unstressed syllables. I. Ward defines a semi-weak vowel as "a vowel that lies in an intermediate position between the strong vowels and the neutral semi-weak vowels such words as obey /o'bei/, November /no'vemba/, to protest /pro'test/, phonetics /fo'netiks/ instead of the neutral vowel pronounced in such words in rapid colloquial style (/a'bei, ns'vemba, pr9'test, fa'netiks/) and instead of the whole diphthong /ou/ pronounced in full style (/ou'bei, nou'vemba, proy'test, fou netiks/).

G. P. Torsuyev regards semi-weak vowels as products of partial reduction and points out that in a careful and slow style of pronunciation, as well as in recitation, the vowels which commonly undergo this partial reduction are [e], [as], [a:], [p], [э:], [Ɜ:] and the diphthong [ou]. In transcription they may be designated by putting a raised small-type sym-bol [э] after the symbol of the corresponding vowel of full formation, e.g. [e*], [ae9], etc.

Thus, in partition the tamber of [a:] may be partially preserved: [pa9'tijn]; collect may sound [kDa'lekt], the verb to abstract will be pronounced [aeab'str£ekt], November may have the semi-weak vowel [o] indicated also by [o9]: [no'vemba] or [поэЧетЬэ].

Phonemically, semi-weak vowels are, of course, variants of the vowel phonemes which undergo this partial reduction, and not separate phonemes because they can never be opposed to ihe corresponding vowels of full formation or to the neutral vowel for distinctive purposes, cf. [foii'netiks, fo'netiks, fo'netiks].

In addition to the neutral and semi-weak vowels, unstressed syllables may contain vowels of full formation, which are used in all styles of pronunciation. Thus, the unstressed vowels ti:, i, u, ъ, oi] do not' differ very much in tamber from

the same vowels in stressed syllables, cf. [si:z— 'kraisirz] (seize—crises) /'indi,vizi'bihti/ (indivisibility), ['ruimatizm— ru:'mastik] (rheumatism — rheumatic), [buk — 'tekstbuk] (book — textbook), ['roral — 'vaisroi] (royal — viceroy). As a matter of fact, any English vowel of full formation can occur in unstressed syllables in certain words, and the use of the neutral vowel or a semi-weak vowel instead of it would be incorrect. The result of all this is that it is not always easy or possible to draw a line of demarkation between a semi-weak vowel as it is defined by I. Ward and an unstressed vowel of full formation.

I. Ward's definition of a semi-weak vowel as "a vowel that lies in an intermediate position between the strong vowels and the neutral ə" is rather vague. A definition on the basis of the occurrence of the neutral vowel, semi-weak vowels and unstressed vowels of full formation in different styles of pronunciation will, probably, be more precise. From this distributional point of view a semi-weak vowel may, therefore, be defined as a partially reduced vowel which is used in a more careful style of pronunciation instead of the neutral vowel used in the rapid colloquial style and instead of the corresponding vowel of full formation used in the full style.

An unstressed vowel of constantly full formation is, on the other hand, a vowel which is used in all styles of pro-nunciation and is rather close in tamber to the same vowel under stress. Unstressed vowels of constantly full formation are used, for example, in many words of foreign origin, es-pecially Latin and Greek, which have not yet been fully naturalized in English, e.g. insect /'insekt/ (cf. sect), epochs /'i:pt)ks/ (cf. pox), diagram /'daiggrasm/ {cf. gramme), mar-quee /ma:'ki:/ (cf. mark), etc.

Vowels of constantly full formation are also used in some structural words which have no weak forms, e.g. on /un/, not /nr>t/ (when not abbreviated to n4 /nt/) as in cannot /'kaeirot/, etc.

A phonemic analysis of the unstressed vocalism of a language has also a morphophonological aspect. There are certain correspondences, or alternations, be-tween stressed and unstressed vowels in different derivatives from the same root, or in different grammatical forms of the same word, or in different allomorphs of the same morpheme. The English term for such alternations is vowel gradation.

There are certain types of vowel gradation in English, because there is a more or less close interdependence be-tween the vowel of an accented syllable and the vowel that appears in its stead on loss of stress. These alternations are not so regular as to admit of no exceptions, but certain rules, or rather tendencies, can be formulated.

(1) Practically any English vowel of full formation occurring in a stressed syllable may alternate with the neutral vowel, cf.

the /Эк/ — the sun /Эə 'элп/

pence /pens/ — sixpence /'sikspans/

man /masn/ — postman /'poustman/

particle /'pa:tikl/ — particular /pa'tikjute/

a combine /'kombam/ — to combine /kam'bain/

toward /ta'wo:d/ — forward /'fo:wad/

fully /'fuh/ —beautifully /'Ь]и:ЬIэЬ/

not 'from, but 'to /tu:/ — to the door /to .../

some /sAm/ — awesome /'o:s3m/

up /лр/ — upon /э'рш/

herd /hs:d/ — shepherd /'Jepad/

face /feis/ — preface /'prefas/

shire /',faia/ —Yorkshire /'jo:kfa/

mouth /mauQ/ —Plymouth /'phmaO/

most /moust/ — topmost /'topmost/

revere /n'via/ —reverence /'revarans/

there's /5*9z/ — there's /9az/, etc.

(2) The stressed /i:/ tends to alternate with the unstressed /i/. e.g.

compete /kam'pkt/ — competition /,kDmpi'tift/ esteem /is'thm/ —estimable /'esbmabj/.

(3) The stressed /e/ often alternates with the unstressed /i/, e.g.:

definite /'definit/ — define /di'fam/

(4) The stressed /ei/ sometimes alternates with the unstressed /i/, e.g.

day /dei/ — Sunday /'sAndi/.

The phonemic status of the unstressed alternants may be determined either on the basis of the morphological school of thought, in which case the alternations are interallophonic ones, or on the basis of the theory of phonemic autonomy, in which case the alternations are interphonemic ones. The unstressed vowels in the first case will be considered var¬iants of the vowel phonemes occurring in the stressed syl¬lables of the correlated words, while in the second case they will be regarded as allophones of those phonemes with whose principal variants they coincide.

Weakening of vowels

Phonetic reduction most often involves a centralization of the vowel, that is, a reduction in the amount of movement of the tongue in pronouncing the vowel, as with the characteristic change of many unstressed vowels at the ends of English words to something approaching schwa. A well-researched type of reduction is that

of the neutralization of acoustic distinctions in unstressed vowels, which occurs in many languages. The most common reduced vowel is schwa. Whereas full vowels are distinguished by height, backness, and roundness, according to Bolinger (1989), reduced unstressed vowels are largely unconcerned with height or roundness. English /ə/, for example, may range phonetically from mid [ə] to open [a]; English /i/ ranges from close [i], [ɪ], [e], to open-mid [ɛ]. The primary distinction is that /ɨ/ is further front than /ə/, contrasted in the numerous English words ending in unstressed -ia. That is, the jaw, which to a large extent controls vowel height, tends to be relaxed when pronouncing reduced vowels. Similarly, English /ɵ/ ranges through [ʊ] and [o]; although it may be labialized to varying degrees, the lips are relaxed in comparison to /uː/, /ou/, or /ɔː/. The primary distinction in words like folio is again one of backness. However, the backness distinction is not as great as that of full vowels; reduced vowels are also centralized, and are sometimes referred to by that term. They may also be called obscure, as there is no one-to-one correspondence between full and reduced vowels.

Centralisation isn't the only form of reduction, however. Many Germanic languages, in their early stages, reduced the number of vowels that could occur in unstressed syllables, without (or before) clearly showing centralisation. Proto-Germanic and its early descendant Gothic still allowed more or less the full complement of vowels and diphthongs to appear in unstressed syllables, except notably short /e/, which merged with /i/. In early Old High German and Old Saxon, this had been reduced to five vowels (i, e, a, o, u, some with length distinction), later reduced further to just three short vowels (i/e, a, o/u). In Old Norse, likewise, only three vowels were written in unstressed syllables: a, i and u (their exact phonetic quality is unknown). Old English, meanwhile, distinguished only e, a, and u (or o). Catalan, a Romance language, also shows reduction, but in differing degrees depending on dialect. The Valencian dialect reduces the number of

possible vowels from seven to five in unstressed environments, merging [ɛ] into [e] and [ɔ] into [o]. The central Catalan dialect goes even further, distinguishing only [i], [u] and [ə] or [ɐ],with [ɛ] and [e] becoming [ə]and [ɔ] and [o] merging into [u]. In Italian, the vowels noted e and o in spelling are pronounced [e] and [o] in unstressed syllables.

Sound duration is a common factor in reduction: In fast speech, vowels are reduced due to physical limitations of the articulatory organs, e.g., the tongue cannot move to a prototypical position fast or completely enough to produce a full-quality vowel (compare with clipping). Different languages have different types of vowel reduction, and this is one of the difficulties in language acquisition; see, e.g., "Non-native pronunciations of English" and "Anglophone pronunciation of foreign languages". Vowel reduction of second language speakers is a separate study.

Stress-related vowel reduction is a principal factor in the development of Indo-European ablaut, as well as other changes reconstructed by historical linguistics.

Such vowel reduction is one of the sources of distinction between a spoken language and its written counterpart. Vernacular and formal speech often have different levels of vowel reduction, and so the term "vowel reduction" is also applied to differences in a language variety with respect to, e.g., the language standard. In some cases phonetic vowel reduction may contribute to phonemic (phonological) reduction, which means merger of phonemes, induced by indistinguishable pronunciation.

Some languages, such as Finnish, Hindi, and classical Spanish, are claimed to lack vowel reduction. Such languages are often called syllable-timed languages. At the other end of the spectrum, Mexican Spanish is characterized by the reduction or loss of the unstressed vowels, mainly when they are in contact with the sound /s/. It can be the case that the words pesos, pesas, and peces are pronounced the same: [ˈpesə̬s].

Elision. Before the speaking about elision we should find answer to this question. What is elision? Quite simply, elision is all about dropping sounds or not pronouncing them fully in fluent speech.

We may notice that sometimes, words seem to have letters missing within the phonetic transcription. For instance, we know that the word round is pronounced /raund/ and the word to is pronounced /tə/. However, when the words are used together as in round to, we often drop the final /d/, so that phonetically it reads /raun tə/. This is because /t/ and /d/ are both labio-dental sounds, and we tend to drop one - in this case the voiced /d/. This is called elision.

This is one of the aspects of sentence stress that we need to consider when guiding and teaching our students, as opposed to pointing them towards isolated phonetic dictionary entries.

In English, stress placement in sentences and rhythm are part and parcel of everyday speech. As a result, stress placement is variable depending upon the meaning and the effect sought. This is quite a large area of phonetics, so for now we will simply identify some regular features of stress placement in connected utterances. Some words regularly attract the stress, while others don't. Those that are regularly unstressed are: auxiliary verbs - primary and modal determiners (articles, demonstrative pronouns, etc.) subject pronouns (he, she, it, they, etc.), prepositions (one/two syllable words e.g. on, in, at, upon, etc.), conjunctions (and, but, so, etc.)

These are primarily grammatical words, rather than content words such as nouns, verbs, adjectives, etc. We might think of them as 'small' words but technically they are called 'function' words.

However, we could say I want an apple and an orange' - where the 'and' is unstressed and pronounced with schwa, but imagine that the question were 'Would you like an apple or an orange in your lunchbox?'. The answer might be 'I want and apple AND an orange', in which case the important part is the fact that speaker wants BOTH and therefore the 'and' doesn't have schwa...

Elision is called gradation by some and involves the loss of a phoneme in connected speech. This tends to happen in unstressed syllables and, in a sense, elision is a simplification or an economy made in rapid colloquial speech. In short, in natural conversation, we tend to glide over weak forms and 'lose' some of them. As a result, learners of English need to be made aware of it more for their ability to understand native speakers' rapid speech than for their own speech production.

There are 3 main phonetic environments where this occurs:

a) Syllable-final clusters involving /t, d/

conscripts is pronounced /'konskrips/

Helen's machine stopped printing is pronounced /'hlanz ma'jirn stop printig/ /h/ and /j/ tend not to create this elision but other consonants can in rapid speech. Cruttenden provides a number of useful examples that show the vulnerability of /t/ and /d/ in combinations.

The elision of /a/

This can occur in several environments. In connected speech /ə/ can easily disappear at word boundaries when the sound comes at the start of a word, positioned between two stressed syllables, as in:

go away / gao_ wei/ police /pli:s/

or when it is followed by a stressed syllable beginning with /r/ or /l/

Elision can also occur when the sound comes in the middle or final combinations

as in: preferable /'prefrabl/ library /'laibri/

c) The loss of /h/

/h/ is lost in pronominal weak forms (i.e. the weak form of the pronoun) when they don't occur at the start of an utterance. As you can see from the example below, the /h/ of the two masculine pronouns is retained at the beginning of the sentence - 'He', but gets elided when it occurs for a second time, in the middle of the sentence.

He passed his exam is pronounced /hi pa:st iz ig'z^m/.

Vowel harmony. We all know that it is impossible to meet vowel harmony in English but is much active in other languages like Turkish Hungarian. So is useful knowing about this. Harmony is a process whereby some segmental feature associates to all segments of a certain type in a specific domain. In the case of vowel harmony, all vowels in (roughly speaking) a word are required to agree with each other with respect to one of their properties. For example, in a language with palatal harmony, like Hungarian, every vowel in a word must be either front or back. This means, on the one hand, that all vowels of polysyllabic roots are either front or back and, on the other hand, that all affixes containing a vowel have two allomorphs, one with a front vowel and one with a back vowel (the choice of which depends on the root to which the affix is attached). In a language like this, roots are invariant; they control the harmonic set to which the vowels of the word belong and the affixes have to act as chameleons. This type of vowel harmony is referred to as root-controlled. I provide some examples from Hungarian:

(1)varos-ban 'in a/the city'
(2)falu-ba 'in a/the village

In other languages, however, the dominant systems, affixes may also control the harmony.

The phenomenon of vowel harmony is interesting for several reasons for any phonological theory or Dependency Phonology, however, there is an independently motivated level where vowels are in fact adjacent to each other. Since a vowel forms the head of the syllable that contains it, vowels in their function of syllable heads can be projected to a separate level where they can "see" each other. Consonants, on the other hand, cannot be projected in the same way, and this enables us to explain why consonant harmony of a similar sort does not exist. In a theory like this, the claim can be maintained that all phonological processes operate locally. Such a restriction constrains the number of possible

grammars considerably, and this is the main reason why I chose to employ the representational theory of Government Phonology in this dissertation.

The theory of Feature Geometry can also account for the transparency of consonants, but in a different way. In Clements' theory, vowels have a richer geometrical structure than consonants, because they possess the so-called 'V-place node' that consonants lack. Vowel features can thus skip consonants, because association is local at the tier of V-place nodes. The problem with this approach is that there is no independent motivation for the additional node contained by vowels, apart from the phenomenon to be explained, namely, the transparency of consonants to long-distance spreading of vocalic features. This problem is not encountered in Government Phonology.

Apart from the basic problem of transparency of intervening consonants, research on vowel harmony involves three main areas. The first concerns the question of what types of vowel harmonies exist in the world's languages, and which feature theory can account for this typology in the best way. According to modern theories of phonology, sounds can be divided into smaller ingredients, called distinctive features. Since vowel harmony involves the agreement of vowels within a certain domain with respect to a particular property, or feature, a given feature theory predicts that there are as many possible types of harmony as there are vocalic features recognised by the theory. Feature theories thus can be tested on the basis of whether they make correct predictions about the typology of vowel harmony systems. In this dissertation, I will argue that the feature theory of Government Phonology can account for the possible types of harmony.

The second issue concerns the domain of vowel harmony. This domain is usually defined as the "word". One question we need to answer here is whether this domain is defined in terms of morphology or phonology (since members of compounds, for example, constitute separate harmonic spans); and if it is defined phonologically, whether it is a prosodic domain or something else. In this

dissertation (chapter 5), I will argue for a phonotactic definition of the domain of harmony; more precisely, that it coincides with the 'analytic domain' to be introduced shortly below. Another question concerns the existence of disharmonic roots and disharmonic affixes. The former can be exemplified by the root *kosztum* 'costume' in Hungarian, and the latter by the suffix *-kor* (cf. *ot-kor* 'at five o'clock', not * *ot-kor*). The domain of harmony should be defined in such a way that systematic characteristics of disharmonic strings are accounted for as well.

The third research area concerns neutral vowels. These are those vowels in a given system that do not have a harmonic counterpart. Their neutrality is manifested by the fact that they can co-occur with vowels of both harmonic sets. Affixes containing neutral vowels have only one allomorph, and they do not alternate depending on what type of root they are attached to. Not all neutral vowels behave in the same way, however. On the basis of their behaviour, two main types can be distinguished. One type is called 'transparent', because harmony goes through these vowels as if they were not there. That is, if a suffix vowel follows a stem that ends in a neutral vowel, the suffix vowel will harmonise with the non-neutral vowel to the left of the transparent vowel, so to speak ignoring what is intervening. The other type is called 'opaque', because these neutral vowels stop the harmony. In these cases, the following suffix vowel harmonises with the neutral vowel itself, ignoring what is preceding in the stem. The issue of transparent vowels is connected to the problem of locality mentioned above, because it seems as if harmony had 'skipped' the transparent vowels. Van der Hulst & Smith solve this problem, and they further claim that the two types of behaviour exhibited by neutral vowels can be predicted from the segmental make-up of these vowels themselves. In this dissertation, I will test their theory, and show that not all the possibilities predicted by them actually occur in the world's languages. I will propose that it is possible to predict which possibilities do not occur if we take into account certain properties of the vowel systems involved.

The research made into the nature of English monophthongs, diphthongs and diphthongoids gives me the ground to conclude the following:

1. Human speech can be broken down into units called sounds which can be put together to form syllables, words and utterances.

2. In the spoken form of the language speech sounds change their qualities, we observe modifications of both vowels and consonants.

3. The most wide-spread phonetic phenomena of connected speech that happen with vowels are reduction and elision.

Possible Mistakes of Uzbek Learners.

1. Uzbek students of English do not shorten or obscure unstressed vowels in the cases they should be strongly reduced, e.g. forget [fə'get], of course [əv'ko:s].

2. Uzbek students of English easily reduce the vowels of full value in unstressed positions, they often substitute them by the neutral sound in the cases where there should be no reduction at all, eg blackboard ['blækbo:d]; architect ['a:kitəkt].

3. Uzbek learners do not always observe secondary stress in polysyllabic words and reduce the vowel of full value. Care should be taken to observe the rhythmical tendency of secondary stresses and to pronounce the vowel of full value in the syllables marked by secondary stresses, eg conversation [ˌkonvə'sei*ʃ*n], revolution [ˌrevə'lu:*ʃ*n].

Any good dictionary can not help us in the three cases mentioned above.

4. Form-words and especially personal and possessive pronouns, auxiliary and modal verbs are often (made) strongly stressed by the Uzbeks, though they have no special logical prominence. Mind that those words are normally unstressed and are very weak in English speech.

5. Uzbek students of English fail to use weak forms correctly. On the one hand they introduce strong forms in unstressed positions. On the other hand they replace strong forms by weak forms in places where there should be no reduction in the

unstressed position. Careful practice of form-words in various accentual patterns is desirable.

Recommendations.

1. Reduced vowels should be made very weak. Sometimes they are even dropped in fluent speech, e.g. factory ['faktri].

2. Unknown words especially compound and borrowed should be looked up in a dictionary to check their pronunciation. Be sure not to reduce vowels of full value in the unstressed position, unless you are to do so.

3. When practising reading as well as speaking weaken unstressed form-words, personal and possessive pronouns, auxiliary and modal verbs whenever it is necessary.

Conclusion

The research made in the nature of English vowel phonemes shows that vowels have no special place of articulation, the whole of the speech apparatus takes part in producing them. The classification of vowels, as well as the description of their articulation, is therefore based upon the work of all the speech organs.

We know that allophones of each phoneme possess a bundle of distinctive features, that makes this phoneme functionally different from all other phonemes of the language. This functionally relevant bundle of articulatory features is called the invariant of the phoneme.

The analysis also found out that the definitions of the phoneme given by different linguistic scholars vary greatly. Here are some of them:

L.V.Shcherba: the phoneme may be viewed as a functional, material and abstract unit **[11.142].**

V.A.Vassilyev: The phoneme is a smallest unit capable of distinguishing one word from another word, one grammatical form of word from another**[30.124].**

Bloch: phoneme is a class of phonemically similar sounds contrasting and mutually exclusive with all similar classes in the language

Jacobson: phoneme is a minimal sound by which meaning may be discriminated. Before getting down to the analysis of the vowel system of English we tried to find out characteristic features of English vowel phonemes:

1. The phoneme is a functional unit. Function is usually understood to mean discriminatory function, that is, the role of the various components of the phonetic system of the language in distinguishing one morpheme from another, one word from another or also one utterance from another.

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

Also a phoneme can fulfill a distinctive function - Sometimes the opposition of phonemes serves to distinguish the meaning of the whole phrases, e.g. He was heard badly — He was hurt badly.

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

Typical character of sound simplifications in relation to the degree of formality is the great qualitative stability of vowels in slow formal speech and more frequent sound variability in informal spoken English **[12.196-210].** Both front and back vowels in less explicit articulation tend to be changing towards neutralized sounds, especially in grammatical words.

In this scientific research the English vowels and their modification and problems of teaching them to the learners and different approaches of some scientists have analyzed comparatively and scientifically. We have learned monophtongs diphthongs, changes of the vowel phonemes in connected speech, vowel reduction, elision and vowel harmony comparatively in English and Uzbek. To work all round studying of vowels and their modification in connected speech and to find proper equivalents in Uzbek were the aim of the research and they have been learnt comparatively. We have learned vowels and their modification and worked out interactive methods of teaching them under study. The object of the research were English vowels, vowel changes and modification, reduction, reduced words, and elision in English and they have been learnt comparatively. The materials for the research were English vowels, examples for modifications of vowels were taken from the English and Uzbek writers' fiction books and from some internet resource .They have been analyzed syntactically and comparatively. We can say that our research work is very actual nowadays, because English learners may have troubles in listening, speaking, reading and writing and to a lot of people who want to study English phonetics use old proverbs and sayings for a

long time . These vowels and their modifications are more active for learning English phonetics and avoiding mistakes in pronouncing them. In the research we comparatively analyzed the history them and scientific opinions of famous scholars.

In the first paragraph we worked on English vowels, distinction between consonants, classification of vowels and they have been analyzed by some interactive methods. The structural-semantical features of the English vowels and their modification in Modern English and Uzbek have been learnt comparatively. The object of the research was learnt by giving communicative-pragmatic explaining, clarifying general and individual features of the English vowels and their modification in Modern English and Uzbek. In this way we have contributed the theory of phonetic units.

Besides that changes of English vowels, vowel harmony, elision and vowel reduction in Modern English and Uzbek have been clarified. The object of the research were the English vowels and their modification which expressed in connected speech. The subject matter of the research has been investigated by communicative-pragmatic features. The scientific novelty of the research was consist of creating teaching methods of the English vowels and their modification in Modern English.

During investigating the that changes of English vowels, nature of English vowels expressed in connected speech and their scientific problems in Modern English were found.

At the end of the research we wrote all interactive methods which are using in pilot groups and I created a new plan for colleges , and we gave a total conclusion and the list of used literature. We hope this research work achieved to its purpose and its end. And I believe that in future I will continue this theme on my next studies and research works.

The present material can be used at the lessons of phonetics, practical course of English language : universities , English classes and at schools. This paper can

help to the learners who jus beginners of English phonetics and others. Teachers and students might use the results of the present work for the further investigations.

We can now formulate the general principles of vowel articulation.

1. Vowels are based on voice which is modified in the supra- laryngal cavities.
2. The muscular tension is spread over all the speech organs.
3. The air-stream passes through the supra-laryngal cavities freely, no narrowings being expressly formed on its way.
4. The breath force is rather weak for, it is expended when the air stream passes through the larynx and causes the vocal cords to vibrate.

So, we have just known some important information of vowels - there are two types of pronunciation- formal and informal. As it was above, formal speech suggests dispassionate information on the part of the speaker. It is characterized by careful articulation and relatively slow speed and informal speech implies everyday conversation.

It is known that modification of vowels is closely connected with the nature of phonemes and their changes.

The complete articulation of a speech sound - a vowel or a consonant - when said by itself in isolation consists of three stages:

I. The on-glide stage during which the articulating organs move to the position necessary for the articulation of a sound.

2. The hold stage during which the articulating organs are kept in the position for a certain period of time.

3. The off-glide stage during which the articulating organs return to the position of rest.

In connected speech the sounds are subjected, in general, to two main types of influence: the reciprocal influence of neighbouring sounds and the influence on sounds by larger speech units and their elements, first of all - by the stress. The first group of processes is called **the combinative changes**, the second group - **the positional changes [15.31-52].**

The majority of changes of sounds in connected speech are combinative. The sounds are modified by other sounds near to them in the phonetic sequence. In this case they lose the clearness and some peculiarities of their articulation, g'aining, on the other hand, some new articulatory features. As a rule, it is the third stage (off-glide) of the articulation of the preceding sound and the first stage (on-glide) of the following sound that undergo modifications **[26.102].**

Bibliography:

1. Ш.Мирзиеёв. Ўзбекистон Республикаси Конституцияси қабул қилинганлигининг 24 йиллигига бағишланган маъруза. “Халқ сўзи” газетаси, 2016йил 7декабрь.

2. Ўзбекистон Республикаси Вазирлар Маҳкамаси қарорлари.

3. Ўзбекистон Республикасининг Таълим ҳақидаги Қонуни

4. Каримов И.А. Юксак маънавият – енгилмас куч. – Тошкент: Маънавият, 2008. – 176 б.

5. Ўзбекистон Республикаси Президентининг Қарори. “Олий таълим тизимини янада ривожлантириш чора-тадбирлари тўғрисида”. 2017 йил 21 апрель.

6. Ўзбекистон Республикаси Президентининг Қарори. Чет тилларни ўрганиш тизимини янада такомиллаштириш чора-тадбирлари тўғрисида. Андижоннома газетаси 2012 йил 15 декабр.

7. Бодуэн де Куртене И.А. Избранные труды по общему языкознанию. – М., 1963. 1. – Т. 1,2.

8. Леонтьева С.Ф. Теоретическая фонетика английского языка. – М.: Высшая школа, 1988. – С. 179-188.

9. Теоретическая фонетика английского языка: Учебник для студентов институтов и факультетов иностранных языков/ М.А. Соколова, К.П. Гинтовт, И.С. Тихонова, Р.М. Тихонова. – М.: Гуманитарный издательский издательский центр ВЛАДОС, 1996. – 266с.

10.Торсуев Г.П. – Вопросы фонетической структуры слова. М. – Л., 1962.

11.Трубецкой Н.С. Основы фонологии. – М., 1960.

12.Швейцер А.Д. Литературный английский язык в США и Англии.М., 1971.

13. Щерба Л.В. Фонетика французского языка. М., 1957.

14.A.A.Abduazizov. English phonetics a theoretical course. 2-revised edition. Tashkent, 2006.

15.Alimardanov R.A. – Pronunciation theory of English, Tashkent, 2009.

16. Anderson-Hsieh, J. (1990). Teaching suprasegmentals to international teaching assistants using field-specific materials. *English for Specific Purposes*, *9*, 195-214.

17. Anderson-Hsieh, J., Riney, T., & Koehler, K. (1994). Connected speech modifications in the English of Japanese ESL learners. *Issues and Developments in English and Applied Linguistics*, *7*, 31-52.

18. Jones D. an outline of English phonetics, 9th ed, Cambridge, 1960

19. Celce-MurciaM., Brinton D., Goodwin J. Teaching Pronunciation: A Reference for Teachers of English to Speakers of Other Languages. - Cambridge: Cambridge University Press, 1996.

20. Gimson A.C. An Introduction to the Pronunciation of English. – London, 1981.

21. Gimson A. Ch. Gimson's Pronunciation of English. Sixth Edition./ Revised by Alan Cruttenden. – London, New York: Edward Arnold, 2001. – 339 p.

22.D. Jones. Everyman's English pronouncing dictionary. London., 1958.

23. Jones D. an outline of English phonetics, 9th ed, Cambridge, 1960

24. Jones D. The phoneme. Its nature and use – Cambridge, 1967

25. Kreidler W. Describing Spoken English: An Introduction. – London and New York: Routledge, 1997. – P. 144-154.

26. Laver J. Principles of Phonetics: Cambridge: Cambridge University Press, 1995. – 707p.

27. O'Connor J.D. Phonetics – penguin, 1977

28. Roach P. Phonetics and Phonology: A Practical Course. – Cambridge University Press, 1995. – 262p.

29. Treiman, R., & Danis, C. (1988). Syllabification of intervocalic consonants, Journal of Memory and Language, 27, 87-104.

30. Vassilyev, V. A. English Phonetics: A theoretical course. – Moscow: Higher School Publishing House, 1970. -P. 30-33.

31. Vrabel T. T., - Lectures in Theoretical Phonetics of the English language and method-guide for seminars – PoliPrint, Ungvar, 2009

32. "http://en.wikipedia.org/wiki/International_Phonetic_Alphabet_for_English
33. http://www.teachingenglish.org.uk/forum-topic/suprasegmental-aspects-phoneticsphonology-first#comment-9391
34. http://alpha.furman.edu/~wrogers/phonemes/ (Dec. 2004)