Self study work:
“Accentual tendencies in English”

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Accentual tendencies in English

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I. Introduction

This paper is dedicated to the linguistic analysis of accentual structure of English words. The study of stress and specific features has always been one of the most interesting, disputable and important problems of theoretical phonetics. Stress is a prosodic (suprasegmental) phenomenon, which characterizes phonetic units higher than segmental phonemes. It can characterize syllables, rhythmic groups, intonation groups and utterances. Word stress or accent is usually defined as the degree of force or prominence with which a sound or syllable is uttered. The study of English accentuation is one of the most actual problems of modern English phonetics.

The main aim of the present paper is linguistic analysis of the accentual structure of words in the English language.

This aim of our present research puts forward the following tasks to fulfill:
- to define the term stress and its nature;
- to study the phonetic and phonological status of accentual structure of a language;
- to study types and degrees of stress;
- to analyze different accentual tendencies in English;
- to investigate specific peculiarities of accentual structure of English words.


The theoretical value of the present paper is that the theoretical part of the work can be used in delivering lectures on the Theoretical Phonetics of Modern English.

The practical value of the present paper is that the practical results gained by investigating the given problem may be used as examples or mini-tests in seminars and practical lessons on English phonetics.

II. Body

1. General Notes on Accentual structure of English

Stress is a prosodic (suprasegmental) phenomenon, which characterizes phonetic units higher than segmental phonemes. It can characterize syllables, rhythmic groups, intonation groups and utterances.
Word stress or accent is usually defined as the degree of force or prominence with which a sound or syllable is uttered.\(^1\)

Linguists generally distinguish between two types of stress: word stress and sentence stress.

Word stress is a feature of the phonetic structure of a word as a vocabulary unit, i.e. of a word pronounced in isolation. Word stress, as all other phonetic phenomena, can be described and analyzed on three different levels: the auditory level, the acoustic level and the linguistic level.\(^2\)

The auditory impression of word stress is that of prominence. Therefore, on the auditory level, word stress is generally defined as the greater degree of special prominence given to one or more syllables in one and the same word.

But it should be emphasized that word stress refers to the relative prominence of all the syllables of a word. One or more syllables of the word may be marked by different degrees of prominence as compared to the rest of the syllables of the same word. There may be one prominent syllable in a word (as in “mother’), two equally prominent syllables (as in “misbe'have”), two unequally prominent syllables (as in “e,xami’nation”) or more prominent syllables (as in “unre,lia’bility”). And this correlation of degrees of prominence in the syllables of a word forms the accentual structure of the word.

When we speak about words and their components as such syllables we can say that words may be monosyllabic and polysyllabic. Monosyllabic words, therefore, have no accentual structure, and they cannot be said to have, by themselves, one degree of stress rather than another. But it is generally agreed that in isolation a monosyllabic word is stressed.

The accentual structure of a word is generally perceived without difficulty. People easily distinguish between “subject” and “sub’ject”.

Auditory analysis shows that the effect of prominence may be produced by a greater degree of loudness, greater length of the stressed syllabic, some modifications in its pitch and quality.

Investigations of the acoustic nature of word stress show that the perception of prominence may be due to definite variations or the following acoustic parameters: intensity, duration, frequency, formant structure. All these parameters generally interact to produce the effect of prominence.

Thus, D. Fry synthesized pairs of non-verb homonyms (e.g. “object-ob’ject”) on monotones, and varied the relative durations and intensities of the two vowels. His experiment showed that as long as duration and intensity were increased together, reinforcing each other, there was agreement on which syllable was stressed; but, when increased separately, duration appeared to be more important than intensity.\(^3\)

D. Bolinger’s experiments have shown that pitch movement in English is also one of the most important cues to stress. But it is not the pitch direction that is significant in English; it is the pitch contrast that really matters. In other words, changes in the pitch direction will not change the meaning of a word, e.g. “`abstract”, “abstract”, “abstract” remain to be one and the same word. But a pitch movement involving a rapid and relatively wide departure from a monotone level is always perceived as a change in the degree of prominence of the syllables of the word.

And finally, A. Gimson notes that if a nonsense word /Ilælæ/ is presented to English listeners, with no pitch or length variations but with vowels of different quality, the vowels

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1 Abduazizov A.A. Theoretical phonetics of Modern English . T, 1986 p.124
3 Fry D.B. Experiments in the perception of Stress, “Language and Speech” vol.1 , 1958, pp. 126-128
which are the most sonorous (i.e. the most open vowels) will be judged most prominent. In this nonsense word /ɔ/ and /æ/ are usually judged as the points of greatest prominence. This shows what an important role the quality of a vowel plays in producing the effect of stress.4

Therefore, as far as English word stress is concerned, relative prominence in the listeners’ mind is created by an interaction of at least four acoustic parameters: intensity, fundamental frequency, duration and formant structure. Which of these parameters is the principal one in creating English word stress still remains a controversial problem.

C. Torsuyev, who has conducted a series of investigations into the acoustic nature of English word stress, calls it dynamic, quantitative and qualitative. He does not call it musical, because he considers pitch variations in English to be an inherent feature of a phrase (not a word). Consequently, he defines pitch variations in English as an important feature of sentence stress (not word stress).5

As for Russian word stress, it is considered to be primarily quantitative and, secondarily, qualitative and dynamic.

One of the main questions for the linguist is to determine the number of contrastive degrees of word stress in a language.

How many contrastive degrees of word stress exist in English? How many degrees of word stress are linguistically relevant in English?

Instrumental investigations show that a polysyllables word has as many degrees of stress as there are syllables in its.

An English scholar D. Jones has indicated the degrees of stress in the word “opportunity”6:

/ɔ p ə ˈt j u: n I t I/

But not all these degrees of stress are linguistically relevant. The problem is to determine which of these degrees of stress are linguistically relevant.

There are two views of the matter. Some (e.g. D. Jones, R. Kingdon, V. Vassilyev) consider that there are three degrees of stress in English, namely, primary (or strong stress), secondary (or medium stress), and weak (the so-called “unstressed” syllables have weak stress). Secondary stress is chiefly needed to define the accentual structure of words containing four or more syllables, and compound words, e.g.

“exami’nation”, “qualifi’cation”, “hair-dresser”

All these three degrees of stress are linguistically relevant as there are words in English the meanings of which depend upon the occurrence of either of the three degrees of stress in their accentual structure.

E.g. “import - im’port”, “cer’tifi’cation”-“cer’tifi’cation”

But auditory analysis shows that there are certain positions in the accentual structure of English words where the vowel remains unobscured and its duration is considerable (though the syllable it occurs in does not actually bear either primary or secondary stress, but is more prominent than weakly stressed syllables). This can be clearly seen in verbs ending in “-ate”, “-ise”, “-y”, (as in “elevate, recognize, occupy”). Besides, this can also be observed in GA nouns ending in “-ary”, “-ony”, “-ory” (as in “dictionary, territory, ceremony”). On this account, some linguists (G. Trager, A. Hill and other American linguists) distinguish four degrees of stress:

primary stress /´/ (as in “cúpboard”),

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5 Торсуев Г.П. Фонетика Английского языка. М.1950, p.179
secondary stress /ˈ/ (as in discriminátiön),
tertiary stress /ˈ/ (as in “ánalyse”),
weak stress /ˈ/ (as in “cúpboard”, but very often the weakly stressed syllable is left unmarked).7

American linguists consider that secondary stress generally occurs before the primary stress (as in “examinatiön”) while tertiary stress occurs after the primary stress (as in “hándbök, spécialize”).

Though the second view seems to be more exact, it lacks objective indicators of the distinctions between secondary and tertiary degrees of stress, the distinctions between them being too subtle to be noticed by an untrained ear.

Linguistically, tertiary word stress can be taken for a variant of secondary word stress, as there are no words in English the meanings of which depend on whether their accentual structure is characterized by either secondary or tertiary stress.

That is why the accentual structure of English words is defined by most linguists as a correlation of three degree of stress (or prominence).

2. Types and degrees of Stress

In different languages stress may be achieved by various combinations of these parameters. Depending upon which parameter is the principal one in producing the effect of stress, word stress in languages may be of different types.

There are languages with dynamic word stress. Stress in such languages is mainly achieved by a greater force of articulation which results in greater loudness, on the auditory level, and greater intensity, on the acoustic level. The stressed syllables in such languages are louder than the unstressed ones. All the other parameters play a less important role in producing the effect of stress in such languages.

In languages with musical word stress prominence is mainly achieved by variations in pitch level, the main acoustic parameter being fundamental frequency. Chinese, Japanese, Vietnamese are languages with musical word stress (or tonic word stress). The meaning of the words in those languages depends on the pitch levels of their syllables.

Swedish word stress is characterized as dynamic and musical, because both loudness and pitch variations are relevant factors in producing prominence.

In languages with quantitative word stress the effect of stress is mainly based on the quantity of the sound, i.e. its duration. In such languages the vowel in the stressed syllable is always longer than the same vowel in an unstressed syllable. Russian word stress is considered to be quantitative by a number of linguists. But Russian phoneticians have proved that duration is not the only parameter that produces the effect of stress in Russian.8

Besides those types of word stress, some linguists (e.g. G. Torsuye) distinguish qualitative word stress, as in many languages (including English) the quality of the vowel in a stressed syllable is unobscured and consequently differs greatly from the quality of the same vowel in unstressed syllables where it is reduced and obscured. Cf. the vowels in “subject” /ˈsʌbʤikt/ and “subject” /ˈsəbˈdʒekt/. On the acoustic level the physical correlate of quality is the formant structure. The spectrum of a vowel is unobscured when stressed and obscured when unstressed.

What type of word stress is English word stress? What is its acoustic nature?

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8 Alimardanov R.A. ibid
Until recently, English word stress was considered to be dynamic, as the role of loudness in rendering a syllable more prominent than the neighbouring syllables is indisputable in English. But numerous investigations of the acoustic nature of English word stress have it clear that the effect of word stress in English does not depend on intensity alone, and that English word stress is of a complex nature.

The accentual structures of languages differ from each other by the position of word stress in the syllable structures of words.

There are languages in which the main stress falls on a definite syllable of any word. It may on the first syllable, as in Czech, Finnish, or the last syllable, as in French, Turkish.

E.g.  národní, cí:šio, mofú – in Czech,
françaïs, parlér, bonjour – in French

Stress in such languages is said to be fixed. Fixed stress performs a delimitative function, because it delimits one word from another by signaling its boundaries, e.g. the stressed syllable in Czech signals the initial boundary of a word, in French it signals the final boundary of a word.

Stress that is not fixed to any particular in all words is called free. Stress in the English language is free.

Free word stress does not perform the delimitative function.

Free word stress may be of two subtypes:
1. The constant subtype – when word stress remains on the same morphemes in all the derivatives:

   'wonderful    pho'netic
   'wonderfully   pho'netically
   'wonder       pho'netics

2. The shifting stress which may fall on different morphemes in the derivatives of a word:

   'photograph   'origin
   photo'graphic  o'reginal
   pho'tography

Word stress in English has several functions: the constitutive function, the distinctive function and the identificatory function.

Word stress has a constitutive function, as it moulds syllables into a word by forming its accentual structure. Without a definite accentual structure a word ceases to be a word and because a sequence of syllables.

Word stress has a distinctive function in English, because there exist different words in English with analogical sound structure which are differentiated in speech only by their accentual structure. E.g.,

Noun/Adjective    Verb

'insult           in'sult
'ab'stract or ab'stract
'ac'cent or 'accent ,ac'cent or ac'cent

But are these words distinguished by different degrees of stress or are they distinguished by different accentual structures?

There exist two views on the problem.

Some linguists (G. Trager, A. Hill and V.Vassilyev) consider that degrees of word stress can be regarded as phonological units. Most of the American linguists consider degrees or word stress to be separate phonemes. Alongside the generally accepted phonemes they have introduced into their list 4 stress phonemes: primary, secondary, tertiary and weak stress phonemes.
V. Vassilyev analyses minimal pairs as “‘import - im'port” and states that in them primary stress and weak stress form phonological oppositions (primary stress vs. weak stress). The distinction in the meaning of the words “certifi'cation-cer'tifi'cation”, according to V.Vassilyev, is based on the phonological opposition of secondary stress vs. weak stress.

On account of this, he regards the degrees of stress as phonological units, which he calls “accentemes”. He distinguishes three word accentemes in English, namely

- primary accenteme,
- secondary accenteme,
- weak accenteme.\(^9\)

The second view is expressed by G. Torsuyev, H. Kurath, A. Gimson and others. They consider that it is the accential structure of words that contrast with each other and not the degrees of stress.

Degrees of word stress can be perceived only in accential structures as relatively strong, medium or weak stress, i.e. one syllables has stronger stress than any other, another syllable is less strong but stronger than the weak ones. Moreover in one accential structure secondary stress may be stronger than primary stress in another accential structure. Therefore, it is the accential structures “primary stress + weak stress” and “weak stress + primary stress” that distinguish words as “‘import - im'port”, “‘insult - in'sult”.

Word stress has an identificatory function (or recognitive function) as well, because the accential structures of words enable people to identify definite combinations of sounds as meaningful linguistic units, namely, words. A distortion of the accential structure may either hamper understanding or produce a strange accent.

Word stress in English has no delimitative function, as it is free shifting word stress.

3. Accental tendencies in English

Though word stress in English is called free, it is not really free of any accential tendencies. There are certain tendencies in English which regulate the accentuation of words to a certain extent.

Linguists, who have made a thorough study of English word stress, have agreed upon the existence of two main accentional tendencies in English: the recessive tendency and the rhythmic tendency.\(^10\)

According to the recessive tendency stress falls on the first syllable which is generally the root syllable (e.g. “mother, 'father, 'sister, 'brother, 'ready, 'window”) or on the second syllable in words which have a prefix of no special meaning (e.g. , “be'come, in'deed, for'give, be'hind”).

The recessive tendency in stressing words is characterized of words of Anglo-Saxon origin, and the recessive tendency has influenced many borrowings (e.g. “excellent, 'garage”).

The second tendency in word stress is the so-called rhythmic tendency.

In the English language a considerable part of the vocabulary consists of monosyllabic words, some of which are stressed, others not.” This created the rhythmic tendency to alternate stressed and unstressed syllables. According to the rhythmic tendency, stress is on the 3rd syllable from the end in a great number of words (e.g. “recognize, 'possible, possi'bitity”).

It is the usual way of stressing four-syllabled words. E.G., “po'litical, de'mocracy, i'dentify, com'parison”.

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\(^{10}\) Alimardanov R.A. Pronunciation theory of English , T, 2009, p.89
In word with more than four syllables we very often find the influence of both the rhythmic and the recessive tendencies. E.g., “ˌindiˈvisible, ˌinefˈiciency, ˌphysiˈology, ˌphonoˈlogical”

In rapid colloquial style the two tendencies very often coincide as one of the vowels is elided. E.g. ˈterrit(o)ry, ˈdiction(a)ry.

The rhythmic tendency remains a strong one and it affects the accentual structures of a large number of words in modern English. Thus, in some polysyllabic words there is a tendency nowadays to avoid a succession of weak syllables, especially is these have /ə/ or /ɪ/.

As a result, there appears as accentuation shift with a rhythmic alternation of stressed and unstressed syllables. This tendency is clearly evident in the second (new) pronunciation of the following words:

'exquisite or exˈquisite
'precedence or preˈcendence
'sonorous or soˈnorous
'capitalist or caˈpitalist
'controversy or conˈtroversy
'hospitable or hosˈpitable

Analyzing the accentuation structures of derivatives and their parent words, I. Wolfson noticed that the stress of the parent word is often retained in the derivatives.

Cf. 'similar - assim'i'lation, sim'i'larity
'personal - ,perso'nality, 'nation -,natio'nality.

I. Wolfson calls it the retentive tendency in English.

There is one more accentuation tendency in English: the tendency to stress the most important elements in words. Such meaningful prominence is given to negative prefixes (as in “‘un'known, ‘inar'tistic, ‘misbe'have”), meaningful prefixes (as in “‘ex'-president, ‘vice-president, 'sub'-editor, 'under'mine”), suffix “-teen” (as in 'thir'teen, 'four'teen”), semantically important element in compound words (as in “‘well'-known, ‘red'-hot, ‘bad'-tempered”).

These are the numerous tendencies that to some extent regulate the accentuation of words in English.

4. Linguistic analysis of accentual structure of English words

G.Torsuyev analyses the accentual structures of English words11. He distinguishes 11 types of accentual structure of English words, the most widely spread of them are:

<table>
<thead>
<tr>
<th>Structure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>┴</td>
<td>(words with one primary stress as in ““after”),</td>
</tr>
<tr>
<td>┴ ┴</td>
<td>(words with two primary stresses as in “‘week'-end”),</td>
</tr>
<tr>
<td>┬ and ┴</td>
<td>(words with one primary and one secondary stresses as in “‘hair,-dresser, ,maga'zine”).</td>
</tr>
</tbody>
</table>

These are the most typical accentual structure for the common English words. Besides, they are the most productive, i.e. borrowings and new words that appear in English are generally accented accordingly.

The remaining accentual structures (┴ ┴ ┴ “‘U'S'A”, ┴ ┴ ┬ “un'sea,worthy”, ┴ ┬ ┴ “mis,in'terpret”, ┴ ┬ ┴ “un,circum,cision”, ┬ ┬ ┴ “ˌindi,viduai'zation”, ┬ ┴ ┬ “ˌginger,beer,-bottle”) are less common in English.

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11 Торсуев Г.П. Фонетика Английского языка. М.1950, р.183
Now let us analyze the accentual structure of English words in detail where the basic rules of word accentuation plays a significative role.

In most disyllabic words the accent falls on the initial syllable, for example: 'mother; ' ready, 'colour.

In disyllabic words with a prefix which has lost its meaning the stress falls on the second syllable (on the root syllable), e.g. be'come, be'gin, pro'nounce. In disyllabic verbs ending in –ate, -ise, -ize, -fy the stress falls on the last syllable, e.g. dic'tate, sur'prise, de'fy.

In most words of three or four syllables the accent falls on the third syllable from the end of the word, e.g. family, cinema.

The accent on the third syllable from the end is especially typical of polysyllabic verbs with the suffixes -ize, -fy, -ate, e.g. 'recognize, 'demonstrate, 'qualify.

The accent falls on the third syllable from the end of the word before the following suffixes: -logy, -logist, -graphy, -grapher, -cracy e.g. psy'chology, bi'o-logist, ge'o-graphy, ge'o-grapher, de'mocracy.

The accent falls on the second syllable from the end of the word before the following suffixes: -ian, -ience, -ient, -al,-ual, -eous, -ious. -iar e.g. phy'sician, ex'perience, ex'pedient, e'fficient, pa'rental, e'ssential, ha'bitual, cou'rageous, de'licious, fa'miliar.

The accent falls on the final syllable formed by the following suffixes: -ee, -eer, -ier, -ade, -esque. The root syllable in such words has secondary accent e.g. refu'gee, employ'ee, engi'neer, pic'turesque.

Most words of more than four syllables have two stresses: primary(nuclear) and secondary.

The primary stress falls either on the third or the second syllable from the end.

In most words the secondary stress falls on the syllable separated from the nuclear syllable by one unstressed syllable, e.g. pronunc'iation, govern'mental.

In many derivative nouns the secondary stress falls on the same syllable which has the primary stress in the original word. In such nouns the syllable with the secondary stress may be separated from the nuclear syllable by two or even three unstressed syllables, e.g. 'organize → organi'zation, experiment→ experimen'tation, 'peculiar→ pecu'liarity.

If the original word has both primary and a secondary stress, the secondary stress in the derivative word remains on the same syllable, while the primary stress changes its place and falls on the syllable immediately preceding the suffix e.g. reco'm mend→ recomme'ndation, repre'sent → represen'tation.

Most English words which have two primary stresses are formed with prefixes or suffixes. One of two primary stresses falls on the root syllable, the other suffix or the prefix, e.g. 'trus'tee, 'Ch'inese, 'il'legal.

Numerals from 13 to 19 are pronounced with two primary stresses: the first primary stress falls on the root syllable and the nuclear stress falls on the suffix –teen e.g. 'fourteen, 'sixteen.

Words with separable prefixes also have two primary stresses. They are as follows:

1) un-, dis-, non-, in-, il-, im-, ir- as negative prefixes.e.g. 'un. 'able, . 'dis. 'appear, . 'non-. 'party, . 'ina. 'ristic, . 'im. 'material, . 'ir. 'regular.

2) Ex-, meaning “former” e.g. 'ex. 'minister, . 'ex. 'president.

3) Re- denoting repetition e.g. . 're. 'organize, . 're. 'write.

4) Under- with various meanings, e.g. . 'under. 'do, . 'under. 'feed.

5) Anti- meaning “contrary to”, “against”, e.g. . 'anti. 'war, . 'anti. 'ceptic.
III. Conclusion

As we have already above mentioned, stress or accent is a prosodic (suprasegmental) phenomenon, which characterizes phonetic units higher than segmental phonemes which can characterize syllables, rhythmic groups, intonation groups and utterances. Word stress or accent is usually defined as the degree of force or prominence with which a sound or syllable is uttered. Linguists generally distinguish between two types of stress: word stress and sentence stress.

Word stress is a feature of the phonetic structure of a word as a vocabulary unit, i.e. of a word pronounced in isolation. Word stress, as all other phonetic phenomena, can be described and analyzed on three different levels: the auditory level, the acoustic level and the linguistic level.

The classification of words according to the place and degree of stress is known as the accentual structure of words. Traditionally word accent has the following phonetic components:

- a) In articulatory aspect stress is realized by the great force of respiration, duration of articulation, high frequency of the vibration of vocal cords;
- b) Acoustically, a stressed syllable has greater intensity, duration and pitch or tone of voice than in unstressed syllable;
- c) Perceptually, a stressed syllable is characterized by more loudness, duration and high tone of a sound in comparison with unstressed syllable.

Word accent serves not only to single out one or more syllables in a word with the help of intensity, pitch and duration but it also prosodically combines and thus, phonetically shapes the word as a semantic unit in language structure.

According to the significance of prosodic features of intensity, duration and pitch (including qualitative and quantitative features of sounds (mainly vowels)) languages are classified into the following four types as such dynamic, tone, qualitative and quantitative languages.

Discussing the English language accent, according to a number of phoneticians English is considered to be as dynamic, qualitative and quantitative language which is characterized with the stressed syllable as distinct, long and prominence.

While analyzing the specific features of the accentual structure of English words, based on investigations of great Russian linguist – Torsuyev who points out 11 different patterns of English word accentuation we can observe that it is one of the most complex matters of English phonetics.
Thus, summarizing all above stated, we can draw a conclusion that the study of the accentual structure of English words is one of the most interesting, actual, disputable and important problems of modern English phonetics.

IV. Bibliography

6. Г.П. Торсуев. Вопросы акцентологии современного английского языка. М., 1960