Intonation

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1. DEFINITION OF INTONATION

The flow of speech does not consist only of segmental units (speech sounds); there are also other phonetic means that characterize a sequence of speech sounds. They are called *suprasegmental* or *prosodic means*.

Intonation is a complex unity of these prosodic features of speech: melody (pitch of the voice); sentence stress; temporal characteristics (duration, tempo, pausation); rhythm; timber (voice quality). The term "prosody" is widely used in linguistic literature alongside with the term "intonation" but in the broad sense. Intonation organizes a sentence, determines communicative types of sentences and clauses, divides sentences into intonation groups, gives prominence to words and phrases, expresses contrasts and attitudes. There are no sentences without a particular intonation and we cannot express any meanings without it.

Intonation can be described on the acoustic level (in terms of its acoustic characteristics), on the perception level (in terms of the characteristics perceived by a human ear) and on the linguistic level (in terms of meanings expressed by intonation).

There exist different approaches to the description of intonation and different definitions of this phenomenon.

Intonation on the perception level is defined as a complex, formed by significant variations of *pitch, loudness and tempo* (the rate of speech an pausation) closely related. There are definitions that also include timbre, which is sometimes regarded as the fourth component of intonation by some linguists (it shows the speaker's emotions, such as joy, sadness, irony, anger, indignation, etc.).

In the British and American tradition intonation is restricted to the pitch (tone) changes only. Intonation is identified with pitch movements (melody), because pitch has the greatest linguistic value.

There are different methods of indicating intonation, but the most vivid are staves (two horizontal parallel lines which represent the approximate upper and lower limits of the pitch range of the voice in speech) with dots, dashes and curves (which correspond to unstressed and stressed syllables within the voice range) which are placed on different levels and tonetic symbols (used in the line of the text itself). They are widely used in textbooks.

2. COMPONENTS OF INTONATION

The components of intonation can be viewed on the acoustic level. Each of them has its own acoustic correlate and can be objectively measured. Pitch correlates with frequency of the vibrations of the vocal cords, loudness correlates with intensity, tempo correlates with time (duration) during which a speech unit lasts.

Pitch is usually described as a system of tones (*fall, rise, fall-rise* and so on), pitch levels (keys, registers), which can be high, medium and low, and pitch ranges (intervals

between the highest and the lowest pitched syllables), which can be wide, normal and narrow.

Pitch performs the constitutive function within a sentence. It manifests itself in the fact that each syllable in a sentence has certain pitch and cannot exist without it. Simultaneously pitch performs the delimitative function both within a sentence and at its end. Within a sentence it consists in delimiting from each other its portions, which are known as sense-groups or intonation groups or syntagms. Variations of pitch at the end of a sentence delimit it from the following sentence.

Loudness is described as normal, increased or low.

Tempo includes rate of speech and pausation. The rate of speech can be normal, slow and fast. The parts of the utterance which are particularly important are usually pronounced at a slow rate, while in less important parts the rate of speech tends to be faster.

Any stretch of speech can be split into smaller segments by means of pauses. A *pause* is a complete stop of phonation. Pauses are classified according to their length, their position in the utterance and their function. In teaching English intonation, it is sufficient to distinguish the following types of pauses:

‒ short pauses which may be used to separate intonation groups within a phrase;

‒ longer pauses which normally manifest the end of the phrase;

‒ very long pauses which are used to separate bigger phonetic units.

Pauses made between two sentences are obligatory. They are longer than pauses between sense-groups and are marked by two parallel bars (‖). Pauses made between sense-groups are shorter than pauses made between sentences. They are marked by one bar (|).

Pauses are usually divided into filled and unfilled, corresponding to voiced and silent pauses.

Functionally there may be distinguished syntactic pauses (which separate phonopassages, phrases, intonation groups), emphatic pauses (which serve to make some parts of the utterance especially prominent) and hesitation pauses (which are mainly used in spontaneous speech to gain some time to think over what to say next). Besides the segmentation of the speech continuum, pauses contribute to the temporal and rhythmical organization of speech (constitutive function).

All the components of intonation are closely interconnected in the processes of speech production and speech perception.

3. THE STRUCTURE OF INTONATION PATTERN

The basic unit of intonation is an *intonation pattern*: pitch movements (which are inseparably connected with variations of loudness) and tempo. Intonation patterns serve to actualize syntagms in oral speech. A *syntagm* (sense-group) is a group of words which is semantically and syntactically complete. In phonetics actualized syntagms are called *intonation groups*. Each intonation group can consist of one or more potential syntagms. For example, the sentence *I think he is coming soon* has two potential syntagms: *I think* and *he is coming soon.*

A phrase (a sentence actualized in oral speech) can contain one or several intonation groups. The number of intonation groups depends on the length of the phrase and the semantic importance given to various parts of the phrase:

This 'bed was 'not 'slept ˏin.

ˌThis bed | was 'not 'slept ˎin.

The intonation pattern may include the following components:
− the pre-head (unstressed and half stressed syllables preceding the first stressed syllable);
− the head, or scale (stressed and unstressed syllables up to the last stressed syllable);
− the nucleus, or nuclear tone (the last stressed syllable, within which fall or rise in the intonation group is accomplished);
− the tail (the syllables or on syllable that follow the nucleus).

Pre-head	Head	Nucleus	Tail
1.		Do.	
2.		Do	something.
3.	What should I	do?	
4.I'll	ask what to	do.	
5.I'll	ask what to	do	about it.
6.I		do.	
7. I		do	it.

The head and the pre-head form the pre-nuclear part of the intonation pattern. According to the changes in the voice pitch pre-heads can be rising, mid and low.

Heads (scales) can be *descending* (when the pitch gradually descends to the nucleus), *ascending* (when the syllables form an ascending sequence) and *level* (when all the syllables are more or less on the same level). According to the direction of pitch movement within and between syllables, descending and ascending heads (scales) can be stepping, sliding and scandent.

The most important part of the intonation pattern is the nucleus, which carries *nuclear tone*. The intonation pattern cannot exist without it. The nucleus can be described as a syllable which is marked by a significant change in pitch direction (where pitch goes distinctly up or down). It has greater prominence than the other syllables. The nucleus indicates the *communicative centre* of the intonation group, it defines the communicative type of the sentence and determines the semantic value of the intonation group. The communicative centre is associated with the most important word of the intonation group.

The nuclear tones are generally classified into *simple* (Low Fall, Low Rise, High Fall, High Rise), *complex* (Fall-Rise, Rise-Fall) and *compound* (Rise + Fall + Rise). Different phoneticians distinguish different nuclear tones which are considered to be the most important from their point of view. It is possible to give a very general overview of the basic nuclear tones.

The falling tones of any level and range convey completeness, finality, certainty and independence; they are categorical in character: *Where is John? – He 'hasn't ˎcome yet.*

The rising tones of any level and range are incomplete, uncertain and non-categorical. They convey the impression that the conversation is not finished and something else is to follow. The rising tone is used when the speaker wants to encourage further conversation: *'Are you ˌready?*

The rising tones are frequently used in polite requests, invitations, greetings, farewells and other cases of social interaction.

The Fall-Rise (it consists of a fall in pitch followed by a rise) is often used in English and expresses a variety of meanings. When used at the end of the phrase it asserts something and at the same time suggests that there is something else to be said: *It's very interesting. – ˇYes.*

This tone can also be used in non-final intonation groups. It indicates that another point is to follow: *'When I 'come ˇback | we will 'talk about it aˏgain.*

The Fall-Rise is also chosen by speakers when they want to refer to something already mentioned in the conversation or to the information shared by the interlocutors.

Level tone is used in short utterances when it conveys a feeling of saying something routine, uninteresting and boring. It also frequently used in intonation groups boundaries to convey non-finality.

Mid-level tone is particularly common in spontaneous speech. It may convey hesitation and uncertainty.

Rise-Fall and Rise-Fall-Rise tones add refinement to speech, but it is generally recommended to introduce them at the advanced level, when foreign learners have already mastered the basics of English intonation.

The tone of a nucleus determines the pitch of the tail. After a falling tone the rest of the intonation pattern is at a low pitch. After a rising tone the rest of the intonation pattern is in an upward pitch direction. The nucleus and the tail form what is called *terminal tone*.

The head, the pre-head and the tail are optional elements of the intonation pattern. An intonation pattern can consist of only one syllable, which is its nucleus.

The meaning of the intonation group is the combination of the meanings conveyed by the terminal part, the pre-nuclear part, the pitch level and the pitch range. Obviously the elements of the intonation pattern can be combined in various ways and express a variety of meanings. But in teaching it is necessary to select a limited number of intonation patterns which are frequently used in English discourse and have a particular communicative value.

4. SENTENCE STRESS AND RHYTHM

Sentence stress is a greater prominence of words, which are made more or less prominent in an intonation group. The special prominence of accented words is achieved through the greater force of utterance and changes in the direction of voice pitch, constituting the nuclear tone.

The difference between stress and accent is based on the fact that in the case of stress the dominant perceptual component is loudness, in the case of accent it is pitch. Degrees of stress in an utterance correlate with the pitch range system. Nuclear stress is the strongest, because it carries the most important information. Non-nuclear stresses are subdivided into full and partial. Full stress occurs only in the head of an intonation group, partial stress occurs in the pre-head and tail.

In an intonation group stress may undergo alternations under the influence of rhythm, but there are some rules concerning words that are usually stressed or unstressed in an utterance.

The words that are usually stressed (the notional parts of speech): nouns; adjectives; numerals; interjections; demonstrative pronouns; emphatic pronouns; possessive pronouns (absolute form); interrogative pronouns; indefinite pronouns *somebody, someone, something, anybody, anyone, anything* used as subject; indefinite negative pronouns *no, none, no one,*

nobody, nothing; indefinite pronouns *some, any* (expressing quality); determinatives *all, each, every, other, either, both*; pronouns *much, many, a little, a few*; notional verbs; auxiliary verbs (negative contracted forms); two-word prepositions; two-word conjunctions; particles *only, also, too, even, just*.

The words that are usually unstressed (form-words): personal pronouns; reflexive pronouns; reciprocal pronouns; relative pronouns; possessive pronouns; indefinite pronouns *somebody, someone, something, anybody, anyone, anything* used as object; indefinite pronouns *some, any* (expressing quantity); auxiliary verbs (affirmative form); one-word prepositions and conjunctions; articles; particles *there, to*; modal verbs (contracted forms and general questions are exceptions).

It is necessary to point out that any word in a sentence may have logical stress (*He 'is a student. – Він дійсно є студентом.*). A word which is made prominent by logical stress may stand at the beginning, in the middle or at the end of a sense group, and it is usually the last stressed word in it. Sentence stress on words following logical stress either disappears or become weak. Besides, form-words may be stressed in some special cases.

Rhythm is the regular alternation of stressed and unstressed syllables. In connected English speech stressed syllables have a strong tendency to follow each other as nearly as possible at equal intervals of time and the unstressed syllables occupy the time between the stressed syllables. The greater is the number of unstressed syllables the quicker they are pronounced. The phenomenon of rhythm is closely connected with the phonetic nature of stress. The basic unit of the rhythmical structure of an utterance is the *rhythmic group* (a speech segment containing a stressed syllable and unstressed syllables attached to it). A sense group may consist of one or more rhythmic groups. The perception of boundaries between rhythmic groups is associated with the stressed syllables or peaks of prominence.

Unstressed syllables have a tendency to cling to the preceding stressed syllables – *enclitics*, or to the following stressed syllables – *proclitics*. In English, as a rule, only initial unstressed syllables cling to the following stressed syllable, non-initial unstressed syllables are usually enclitics.

Rhythm is connected with sentence stress. Under the influence of rhythm words which are normally pronounced with two equally strong stresses may lose one of them, or may have their word stress realized differently. The word immediately preceded by a stressed word loses its first stress; the word immediately followed by a stressed word loses its second stress:

He is 'fifteen 'years ˏold.
He is 'just fif ˏteen.

5. FUNCTIONS OF INTONATION

Because of the complex nature of intonation there is no agreement among scientists about the functional aspect of intonation. Different phoneticians name, describe and classify the functions of intonation in different ways. But it is important to recognize nowadays that the basic function of intonation is *communicative*. It has a great value for expressing ideas and emotions and contributes to mutual understanding between people. One of the aims of communication is the exchange of information between people. The meaning of an utterance derives not only from the grammatical structure and the lexical composition but from

variations of intonation as well. Other functions of intonation may be regarded as the realization of the communicative function.

Intonation serves to structure the text and thus performs the *organizing function*. On the one hand, it delimitates the text into smaller units (*delimitative function*), on the other hand, it ties smaller units into bigger ones (*constitutive function*). These two processes take place simultaneously.

Intonation is capable of distinguishing the syntactic (communicative) type of the sentence, thus performing the *distinctive* function. In other words, intonation can indicate whether the utterance is a statement, a question, a command or an exclamation:

'Will you 'stop ˌtalking? (command)

'Will you 'stop ˌtalking? (request).

It can be seen from these examples that it is the change of the nuclear tone that leads to the change of the syntactic type of the sentence.

Intonation helps to express attitudes of the speakers to what is said, to the listener or to the situation. It can convey a wide range of attitudes (*attitudinal function*). When people speak they can sound angry or happy, pleased or surprised, interested or indifferent, and so on. The same sentence can be pronounced in different ways and thus express a variety of attitudinal meanings.

When can you do it? – ˌNow. (detached, reserved)

When did you finish? – ˋNow. (involved)

You are to do it right now. – ˇNow? (astonished)

Intonation can also differentiate the actual meaning of the sentence. The change of the meaning is achieved by the opposition of nuclear tones:

Have you read the book? – Not ˌonce. (the speaker has not read the book)

Have you read the book? – Not ˇonce. (the book has been read several times)

The change of the meaning can also be the result of the shift of terminal tone:

He's a 'French ˌteacher. (He comes from France.)

He's a ˌFrench teacher. (He teaches French.)

David Crystal in *The Cambridge Encyclopedia of Language* offers the functions of intonation summarized as follows:

1. Emotional: to express a wide range of attitudinal meanings – excitement, boredom, surprise, friendliness, reserve, etc. Here, intonation works along with other prosodic and paralinguistic features to provide the basis of all kinds of vocal emotional expression.

2. Grammatical: to mark grammatical contrasts. The identification of such major units as clause and sentence often way pitch contours break up an utterance; and several specific contrasts depends on the, such as question and statement, or positive and negative, may rely on intonation. Many languages make the important conversational distinction between 'asking' and 'telling' in this way, e.g. She's here, isn't she! (where a rising pitch is the spoken equivalent of the question mark) vs She's here, isn't she! (where a falling pitch expresses the exclamation mark).

3. Information structure: To convey what is new and what is already known in the meaning of an utterance – what is referred to as the 'information structure' of the utterance. If someone says I saw a BL UE car, with maximum intonational prominence on blue, this presupposes that someone has previously asked about the colour; whereas if the emphasis is

on I, it presupposes a previous question about which person is involved. It would be very odd for someone to ask Who saw a blue car!, and for the reply to be: I saw a BLUE car!

4. Textual: to construct larger than an utterance stretches of discourse. Prosodic coherence is well illustrated in the way paragraphs of information are given a distinctive melodic shape, e.g. in radio news-reading. As the news-reader moves from one item of news to the next, the pitch level jumps up, then gradually descends, until by the end of the item the voice reaches a relatively low level.

5. Psychological: to organize language into units that are more easily perceived and memorized. Learning a long sequence of numbers, for example, proves easier if the sequence is divided into rhythmical 'chunks'.

6. Indexical: to serve as markers of personal identity – an 'indexical' function. In particular, they help to identify people as belonging to different social groups and occupations (such as preachers, street vendors, army sergeants).

Peter Roach summarizes the following functions of intonation most of which are, on a closer look, overlapping with the above given ones:

1. Attitudinal: intonation enables us to express emotions and attitudes as we speak, and this adds a special kind of 'meaning' to spoken language.

2. Accentual: intonation helps to produce the effect of prominence on syllables that need to be perceived as stressed, and in particular the placing of tonic stress on a particular syllable marks out the word to which it belongs as the most important in a tone unit.

3. Grammatical: the listener is better able to recognize the grammar and the synctactic structure of what is being said by using the information contained in the intonation: for example, such things as the placement of boundaries between phrases, clauses and statements and the use of grammatical subordination may be indicated.

4. Discourse: intonation can signal to the listener what is to be taken as NEW information and what is already GIVEN, can suggest when the speaker is indicating some sort of contrast or link with material in another tone-unit and, in conversation, can convey to the listener what kind of response is expected.

The communicative function of intonation is realized in various ways which can be grouped under five general headings [Теоретическая фонетика 1996].

Intonation serves to structure the (1) information content of a textual unit so as to show which information is new or cannot be taken for granted, as against information which the listener is assumed to possess or to be able to acquire from the context, that is given information; to determine the (2) speech function of a phrase, i.e. to indi cate whether it is intended as a statement, question, command, etc.; to convey connotational meanings of (3) "attitude" such as surprise, annoyance, enthusiasm, involvement, etc. This can include whether meaning are intended, over and above the mean ings conveyed by the lexical items and the grammatical structure; to structure a text, (4) intonation is an organizing mechanism: on the one hand, it delimitates texts into smaller units, i.e. phonetic passages, phrases and intonation groups, on the other hand, it integrates these smaller constituents forming a complete text; to differentiate (5) the meaning of textual units (i.e. intonation groups, phrases and sometimes phonetic passages) of the same grammatical structure and the same lexical composition, which is the distinctive or phonological function of intonation; to characterize a particular style or variety of oral speech which may be called the (6) stylistic function.

There is no general agreement about either the number or the headings of the functions of intonation. **Joseph Desmond O'Connor and Gordon Frederick Arnold** assert that a

major function of intonation is to express the speaker's attitude to the situation he is placed in, and they attach these meanings not to pre-head, head and nucleus separately, but to each of ten "tone-unit types" as they combine with each of four sentence types, statement, question, command and exclamation. **Michael Halliday** supposes that English intonation contrasts are grammatical. He argues first that there is a neutral or unmarked tone choice and then explains all other choices as meaningful by contrast. Thus if one takes the statement *I don't know* the suggested intonational meanings are: Low Fall – neutral Low Rise – non-committal High Rise – contradictory Fall-Rise – with reservation Rise-Fall – with commitment Unlike **Joseph Desmond O'Connor and Gordon Frederick Arnold**, **Michael Halliday** attributes separate significance to the pre-nuclear choices, again taking one choice as neutral and the other(s) as meaningful by contrast. **David Crystal** presents an approach based on the view "that any explanation of intonational meaning cannot be arrived at by seeing the issues solely in either grammatical or attitudinal terms". He ignores the significance of pre-head and head choices and deals only with terminal tones. He supports Randolph Quirk 's view that a tone unit has a falling nucleus unless there is some specific rea son why it should not and illustrates this statement by observing that non-final structures are marked as such by the choice of low- or mid-rising or level tones [Crystal 1969]. **M. Sokolova**'s approach is different. On the phonological level intonation is viewed as a complex struc ture of all its prosodic parameters. She considers the description of intonation structure as one aspect of the description of interaction and argue that intonation choices carry information about the structure of the interaction, the relationship between and the dis course function of individual utterances, the international "given-ness" and "newness" of information and the state of convergence and divergence of the participants.

6. STYLISTIC USE OF INTONATION

Phonistylistics came into existence as an attempt to start bridging the gap between linguistic and extra-linguistic factors in analysing stylistic differentiation of oral texts. It is mostly concerned with *how* a person talks about something rather than *what* he talks about. In real life people find themselves in various situations and select those language means not only lexical and grammatical but phonetic means as well, which match the needs of every particular situation. Phonostylistics studies the way phonetic means are used in this or that situation. Its aim is to analyse all possible kinds of utterances, then to identify all phonetic features both segmental and suprasegmental which are restricted to certain kinds of context and explain why such features have been used.

One of the objectives of phonostylistics is the study of functional phonetic (intonational) styles. A *phonetic style* can be defined as a system of intonational means which are used in a certain social sphere and serves a definite aim in communication.

Different scientists distinguish different phonetic styles and give their own classifications. But the most appropriate classification of phonetic styles is based on the idea that the main style forming factor is the purpose (or aim) of communication. According to this factor it is possible to single out the following phonetic styles (M. Sokolova):
- informational style
- academic (scientific) style
- publicistic (oratorical) style
- declamatory (artistic) style

– conversational (familiar) style.

In the real process of communication these styles can seldom be realized in their pure form. Each utterance may include phonetic characteristics of different styles.

The knowledge of these phonetic styles is very useful for learners of English and it can help them to communicate effectively in different situations. The awareness of stylistic variations of speech is necessary both for the correct understanding of the conversation and for adequate producing of speech.

Informational style is considered to be neutral because the main purpose of the speaker is to convey some information and not to express his attitudes and ideas. In its pure form this style is realized in the written informational texts read aloud. Another realizations of informational style are press reporting, broadcasting (reading the news on the radio and TV), business and legal intercommunication, the reading of official and administrative documents and so on. The prosodic features of informational style are the following:

– the loudness is relatively normal throughout the text;
– the tempo is normal or it can be rather slow;
– the rhythm is systematic and organized properly;
– the most common terminal tone is a low falling tone (mid-level and low-rising tones may be used in non-final intonation groups).

Academic style is used when the main aim of the speaker is to educate or to instruct the listener. It is often realized in lectures, different discussions, at conferences and seminars in class. The person (lecturer) sounds self-assured and rather authoritative. The prosodic features of academic style are the following:

– the degree of loudness usually depends on the size of the audience;
– the rate is normal or slow (in the most important parts of the lecture);
– pauses are rather long and the rhythm is properly organized;
– the prevailing tones are high falling and fall-rising.

It should be born in mind that each particular public presentation is characterized by certain variations of prosodic features. It depends on the topic of the speech, the qualitative peculiarities and the number of listeners, the character of the relationship between the speaker and the audience (formal – informal) and the individual manner of the speaker (lecturer).

Publicistic style serves for many kinds of rhetorical activities (it is often called "oratorical"). Publicistic style is manifested in political, judicial, oratorical speeches, in sermons, parliamentary debates meetings, press conferences and so on. It is evident that intonation is of primary importance in publicistic style. It helps to make presentations more effective and to achieve excessive emotional colouring of the speech. Publicistic style speeches are never spontaneous. They are written and rehearsed beforehand (however, the speaker tries to create the effect of spontaneity to avoid the impression of complete preparedness). The purpose of this style is to stimulate and inspire the listeners. The speaker sounds self-assured, concerned and personally involved. On the prosodic level publicistic style is characterized by great variations of pitch, loudness, tempo and timbre:

– the loudness is enormously increased;

− the rate is moderately slow (to draw the listeners' attention to the most important parts);

− pauses are definitely long between the passages and sometimes voiceless hesitation pauses can occur to produce the effect of spontaneity;

− the rhythm is properly organized;

− the terminal tones are mostly emphatic and emotional; in non-final intonation groups falling-rising tones are frequent.

Declamatory style is also called artistic or stage. It is a highly emotional and expressive style and it needs special training. Declamatory style is used on the stage, in films or in prose and poetry recitations. It is always a written form of the language read aloud or recited. The speaker sounds concerned, personally involved and emotionally rich. The prosodic features of declamatory style are the following:

− the loudness varies according to the size of the audience and to the emotional setting;

− the rate is deliberately slow, but it can change depending on the importance of information and the degree of emphasis;

− pauses are long, especially between the passages;

− the rhythm is properly organized;

− terminal tones are mostly low and high falls (sometimes mid-level and rising tones are used to break the monotony).

Conversational style is the most commonly used phonetic style. It is realized in natural spontaneous everyday speech. The variations within this style are familiar to the great majority of English-speaking people. That is why it is called familiar. It is also heard in conversational interaction between the speakers. So it is generally called conversational. Some scientists call it informal, because it often occurs in informal relationships in the speech of relatives, friends and so on. This style is characterized by peculiar features on the grammatical and lexical levels. On the prosodic level the following generalizations can be made:

− variations within the length of pauses, speed, rhythm, pitch ranges, pitch levels and loudness are great;

− intonation groups are rather short;

− the most common tones are falling and rising, and in highly emotional contexts emphatic tones occur;

− the tempo of colloquial speech is very varied; it is flexible;

− pauses may occur randomly.