

# TONE AND INTONATION

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1. In relation to European languages we term "tone" that perceptible quality of speech which is the reflection of the changes of fundamental frequency in time. Tone, being one of the perceptible components of speech intonation, does not comprehend it fully even on the plane of perception. It would therefore be wrong to reduce speech intonation to speech melody (or to "melodik").

In some languages, for instance in Chinese or Vietnamese, tone has phonological significance. In such cases it is characterized physically not only by its fundamental frequency but also by its intensity and duration (time). In such languages tone and intonation are distinguished structurally, they are mutually dependent, but do not exclude one another. And consequently in such languages speech intonation cannot be reduced to tone.

2. On the basis of numerous investigations carried out in our Laboratory<sup>1</sup> by modern electro-acoustic methods we define intonation as that linguistic phenomenon, observable in oral speech, through which the sense content of a sentence, its communicative significance, its lexical make-up, syntactic structure and stylistic characteristics acquire concrete expression.

Intonation also serves to distinguish orthoepically correct literary speech in a given language. Intonation appears in the transformation of a sentence into a phrase in a given context or communicative situation.

3. It is necessary to distinguish:

- 1) physical properties,
- 2) perceptible qualities,
- 3) linguistic meaning,
- 4) sense content and
- 5) the communicative "in-woven nature" of speech intonation.

4. Some of the physical properties of intonation are primary in their linguistic meaning, others are secondary. Among the primary physical properties of intonation are: its fundamental frequency, its intensity, the total energy of the utterance

<sup>1</sup>. The Laboratory was founded in 1927.

and time. The secondary physical characteristics of intonation include the ranges and intervals of the fundamental frequency, intensity and time. The primary physical properties of intonation are very variable, the secondary are invariable. The physical properties of intonation are interdependent and on every occasion form a particular structure. They are a code with a very complex structure of modulations. The physical characteristics of intonation are quite redundant as far as concerns any given task of communication or intonation.

5. Speech intonation is perceived as a particular sound structure consisting of pitch, loudness and duration – a structure which is segmented in time by pauses and by stresses. As perceived by the ear, speech intonation forms a structural unity of melody, rhythm and tempo, having some or other communicative (linguistic) significance. The aspect of intonation which is perceived is still not clear, although it is precisely the aspect which is directly perceived that has communicative significance – a significance which can be supplemented to a greater or lesser degree by facial expression and gesture. This aspect forms an indissoluble unity with the perception and comprehension of the lexical make-up, syntactic structure and stylistic characteristics of speech. However in the perception of speech neither the physical properties nor the perceptible qualities of speech intonation are consciously apprehended. The action of intonation has the character of a secondary signal (according to I. P. Pavlov), i.e. a representative character, and evidently is based on the invariability of its characteristics and the constancy of the aspect which is perceived.

6. Neither the physical properties, nor the perceptible qualities of intonation in themselves naturally contain linguistic meaning. Otherwise we would be able to understand languages unknown to us (which we have not learnt). The physical properties are only a code which serves to transmit a system of linguistic meanings. But in so far as people who speak in different languages narrate, question, effect the will of others and exclaim in an identical manner, so far do different languages resemble one another in the intonation of their narrative, interrogative, hortatory and exclamatory sentences. On this basis we can perceive these different types of intonation, particularly when they are clearly expressed, more or less adequately, though we may be ignorant of the particular language. But it must not be forgotten that in such a case the intonational nuances remain unapprehended, and under such conditions intonation is sometimes apprehended wrongly. Intonation acquires linguistic meaning only in a system of lexical, grammatical and stylistic meanings, and also in contrast to the other intonational meanings of a language's intonational system. For this reason a study of speech intonation must include its phonological analysis.

7. The question of the sense content of speech intonation is very complex. There is no doubt that speech intonation conveys information not only about thoughts

but also about feelings and the will. Thus all languages have different forms of syntactic and modal (emphatic) intonation. Nonetheless it is impossible to distinguish an object such as, for instance, a table by intonation; and in general objects cannot be named by means of intonation. Intonation cannot be used to convey the sense content of a sentence; for example, by intonation you cannot say: "A man is reading a book." But on the other hand intonation can be used to convey a narrative, a story, an enumeration, a question and also different types of exhortation and exclamation.

Intonation, therefore, communicates not that content of a thought that relates to objects but its communicative level and the speaker's attitude to the objects (phenomena). Both that level and that attitude bear a generalized, i.e. linguistic, character. Intonation generalizes the different levels of thoughts, feelings and movements of the will just as a word generalizes that content of a thought that relates to objects.

In the region of thought, these are the intonational constants of its logical and modal (emphatic) levels. Information in intonation about the feelings and the will is quite specific. Evidently for these purposes exist only a very few modal intonation structures, which acquire concrete significance in a context or a communication.

8. The communicative "in-woven nature" of intonation is expressed in its naturalness. There is a complete naturalness of intonation such as manifests itself in daily life. It is so communicative that it would arouse the envy of any actor. However when speech is studied under laboratory conditions this complete naturalness disappears, since the situations of real life and the real actions of human beings are absent in a laboratory. We are trying to recreate this naturalness of intonation, which is normally lost under laboratory conditions, by using K. S. Stanislavsky's system.<sup>2</sup> Thus the subject is asked to read phrases in the context of the work from which they were taken and supplemented by the explanations of the experimenter. These explanations should make clear to the subject who it is that is speaking and to whom, what is being said, what is its purpose and the general situation. In other words, the fact that intonation is conditioned by its communicative context means that it is "woven into" a real or imaginary communicative situation, that the intonation and the action which is being brought about by its aid are interrelated.

9. We have devised a method for studying speech intonation. We have called it a method for the structural analysis of speech intonation on the ground that it contains an analysis of:

- 1) the structural interrelation of the physical properties of intonation;
- 2) the structural correlations between physical properties, perceptible qualities, linguistic meanings, sense content and the communicative "in-woven nature" of intonation;

<sup>2</sup> K. S. Stanislavsky – the founder of the Moscow Arts Theatre and the creator of his system of dramatic training.

- 3) the fact that intonation is conditioned by the thoughts, feelings and movements of the will, which it helps to express;
- 4) the structural unity of the perceptible qualities of intonation;
- 5) the fact that intonation is conditioned by the system of phonetic, lexical, syntactic and stylistic meanings of the language;
- 6) the possibility of and conditions for the discovery of the invariant meanings of intonation.

10. Numerous investigations carried out in our Laboratory by this method have convinced us of the fact that the distinctive features of intonation are not some or other physical characteristics or perceptible qualities, since there is not a single type of intonation in which even one of these is absent. The distinctive features of speech intonation are:

- 1) the structure of its physical characteristics;
- 2) the configuration (Gestalt) of its perceptible qualities;
- 3) the structure which bears in itself the linguistic meaning of the given type of intonation, and which expresses the sense content of the sentence and indicates its communicative type, i.e. in the final analysis, which indicates the action.

Thus there is still less ground for reducing speech intonation to tone, understanding it as a physical property or as a perceptible quality, both of which are in fact only components of intonation structure.

Intonation structure is the linguistic invariant of a particular type of intonation and can be expressed mathematically as the correlated structure of its components.

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