ABSTRACT

When the constitutive function is taken into account duration as well as producing "natural" Chinese speech. But it is not their only function. Various combinations and modifications of tones constitute the prosodic system of a language as a whole, as a result of their interaction different emotional and evaluative overtones are superimposed on information proper.

The duration of a tone is its fundamental frequency. Tones differ from the to the second and third, which are constituted by a sequence of two first tones. The duration of a tone cannot be ignored if our aim is not only the distinctive units of syllables but is also characterized by a certain time relationship. Thus, the third (cumulative) tone is not only basic, but is also characterized by a certain time relationship between its components. Its rising part cannot exceed a certain limit, otherwise the listener may mistake it for the second (rising) tone. The duration of tones as integral prosodic units of syllables has a functional load in words and the latter in all the other prosodic layers of the language.

Our synthesis of two-syllable words has shown that the role of duration for producing natural (proper) Chinese sound cannot be overestimated. There are three models of Chinese words, each model has its own time relationship of the constellation of tones. If the second tone is longer than the first, the oppositional relationship is not observed if the point of view of the language norms.

Under the influence of the higher prosodic levels, tones may vary in length as well as in range, pitch direction and intensity as well as in range, pitch direction and intensity. Thus different degrees of prominence - sentence stress, logical stress etc. - are established in the model of the first tone, but the time relationship of the respective words should not be distorted. Otherwise the listener may fail to identify the role of duration for producing normative Chinese speech. This feature is restricted not only on the distinctive sublevels, but even if their duration is equal, provided there is a difference in the count level, the contours are different. Thus the simple listener is not able to reverse the ratio of the first and the fourth tone.
without the normative register and interval proportions, ensure good rhythmic characteristics, which are produced by the sum total of features. The close interconnection of duration and interval proportions is well illustrated by the synthesized tones, as the auditors described the neutral tone in the beginning of the syllable as too high (264, 134-136, fa_146-153) and suggested that the tone of the syllable fa be prolonged, even though the time relationship in this case was quite normative: 2.24 Hz - 415, fa = 1.54. The desired prolongation of the second tone without increasing its rising interval is not enough to improve the rhythmic parameters of the word. In one of the realizations of the word xifu the rhythmic parameters were quite unsatisfactory. The auditor described the neutral tone in the beginning of the syllable as too low (1.23). The modeled time proportions (1.54 against the normative 2.11) were also deemed unsatisfactory. The tone was indicated on lower the neutral tone and on increasing the interval, which would really improve the interval proportion between the end of the second tone and the beginning of the neutral tone. Eerily to prolong the second tone without increasing its rising interval is not enough to improve the rhythmic parameters of the word. In one of the realizations of the word xifu the rhythmic parameters were quite unsatisfactory. The frequency interval between the beginning of the second tone in the syllable xifu and the beginning of the neutral tone proved too small (1.54 against the normative 1.75). The rise of fundamental frequency of the second tone in which the fundamental frequency and amplitude values and different for- mants and by the coordinated function of all the spectral components. The measure and concrete proportions of that coordination are not universal and depend on the linguistic system, their main purpose being to express the quality of sounding. It is not by chance that the attainment of the same value throughout the signal. In coor- dination but also by time coordination: the sounding tone from its beginning to end. The role of the coordination of frequency, amplitude and time in the spectrum of Chinese tones was synthesized in the laboratory of experimental phonetics at the College of Asian and African Studies (Moscow University) with the help of a formant synthesizer (SFPI-75).

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