

English and Japanese Suprasegmental Features

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英語と日本語の超分節音素の比較研究

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I. Introduction

The suprasegmental features (stress, length, tone, juncture, and intonation) are important features as well as the segmental features (vowels and consonants) when we describe the languages. When we describe such suprasegmental features, we usually involve more than a single consonant or vowel. In other words, the suprasegmental features are described syllabically or sententially. For this reason, when we try to compare the suprasegmental features of two languages, we have to know the substances of the syllables of the two languages first.

In English, there is no agreed phonetic definition of the syllables. However, there are some general agreements on English syllables. First, the vowel itself can be syllabic except one case, such as “unstressed high vowels followed by another vowel without an intervening consonant.” Second, the nasal consonants /m/ and /n/, together with /r/ and /l/, can be syllabic when they occur at the ends of words. Third, the liquid /r/ and /l/ can be syllabic when they occur at the ends of words and after the consonants. Fourth, each syllable contains one vowel except above cases and a few special cases such as {s} in /spə/.

In Japanese, the definitions about the syllables are more accurate and clear compared to English ones, since each of the Japanese syllables has its own writing symbol. However, the substances of Japanese syllables are quite different from English ones, so we can't call such Japanese sound sequences as the syllables. For this reason, each Japanese sounds sequence is called “onsetsu” (Japanese) or “mora” (English) to distinguish from English syllables. There are three types of sound(s) sequence(s) which can constitute the “onsetsu”: one or two consonants which is or are followed by a vowel, a vowel itself, and nasal consonant [ŋ] which is not followed by a vowel. Japanese utterances consist of one or more “onsetsu.” Each “onsetsu” has approximately the same duration as others.

Even though the Japanese “onsetsu” have the different substances from the English syllables, they are still the smallest units that can be described as the suprasegmental features of Japanese as well as the English syllables.

II. Analysis

(1) English suprasegmental features

The major suprasegmental features of English are stress, juncture, and intonation.

a) stress

English is usually spoken in a syncopated fashion – we bounce along, rushing syllables in between heavy stress, keeping an irregular rhythm and tempo based on its stress system. Each normal English syllable is spoken with one of the four stresses: primary, secondary, tertiary, and unstressed. A stressed syllable is pronounced with a greater amount of energy than unstressed syllable. The stressed syllable can occur on any syllable depending upon various factors. This is the characteristic of English stress system. For this reason, English can be called a stress-timed language (Ladefoged, 1975). Let's take an example. If we hear the word "windshield-wiper" in the normal speed, we will notice that the first syllable "wind" is more heavily pronounced than the others, and the last syllable "er" is the weakest. So we usually say that the primary stress occurs on the syllable "wind-," and the syllable "-er" is the unstressed syllable. However, this definition about the stress is not accurate, since this was judged by the listeners' perceptions about the loudness of the vowels. In other words, the judgement about the definition of stress was done by phonetically. We can know the fact that the definition of the stress is quite different from the perception of the loudness using VU meter in a recording room. Almost invariably, the listeners identify the vowels that were produced with a greater amount of effort (such as /i/ and /u/) as louder than the vowels having greater amplitude but produced with normal effort (such as /a/ and /o/) (Lehiste, 1970). From the above fact, it would perhaps be better to use a term "accent" in the case of such phonetics definition about the prominence on the syllable instead of the term "stress." The stress is an acoustical definition of the prominence on a syllable which is produced by means of respiratory effort.

The stresses can occur on the syllables in words by two ways, word level and sentence level. The word level stresses occur within a word, and the sentence level stresses occur within a sentence. The stresses have some important functions in English. First, it can be used simply to give special emphasis to a word or to contrast one word with another. Secondly, it is to indicate the syntactic relationships between words or parts of words. Thirdly, it is also to distinguish the compounded nouns from other word pairs, such as "a hot dog" (a form of food) and "a hot dog" (an overheated animal) (Ladefoged, 1975). The stress is probably the most important feature among the suprasegmental features of English.

b) Juncture

Juncture is generally known as a suprasegmental feature to distinguish the boundary between two words, when they are uttered as a pair. For example, when we pronounced one word "nitrate" (/naitreit/) and another word pair "night rate" (/naitreit/), most of the listeners can identify which one was which. There are some reasons that we can distinguish such two clusters of sounds which are the same. The juncture which can be defined as a short pause is one of them. In the above example, we can recognize a short interval between /t/ and /r/ in "night rate."

c) Intonation

Intonation is generally defined as the change of pitch at sentence level. In English, the intonation is related to the sentence stress, since the stressed syllable is often spoken on the highest note. In each intonation pattern, there is usually a tonic syllable which carries the major pitch change in the utterance (Ladefoged, 1975). In general, the intonation carries both the linguistic and non-linguistic information. For example, the intonation doesn't change the meaning of lexical items, but constitutes part of the meaning of the whole utterance, like the different intonation patterns between the statement and the question. In another example, the tempo of intonation pattern shows us a speaker's mental condition.

(2) Japanese

The main suprasegmental features of Japanese are pitch accent, juncture, and intonation.

a) Pitch accent

It is the well known fact that Japanese has the pitch accent. However, this is not quite accurate, since it is the description about the standard Japanese (Tokyo dialect) and some other dialects, but not all dialects. The pitch accent is generally defined as accented patterns which is caused by the pitch, not by the stress which is usually defined by the amount of energy. For this reason, the pitch accent can contrast with the stressed accent. Of course, the rising of pitch occurs on the stressed syllable in English, but the degree of tone change is much greater in Japanese (standard). The changing patterns of the pitch accent in Japanese can be divided into three types, high to low, low to high and level to level according to a study (Kobayashi, 1969). However, the Japanese pitch accent is not substantially important as a suprasegmental feature for its inconsistent features in various dialects.

b) Juncture

Just like the one in English, a juncture in Japanese has a function to distinguish a word-boundary. However, because of the restricted sound sequence in Japanese, suprasegmental features of juncture in Japanese is more strongly correlated with the duration of mora or "onsetsu" in Japanese than in English. Thus the terminal juncture in Japanese has a strong influence on the duration of mora according to the study by Han (Han, 1962).

c) Intonation

In Japanese, the intonation has almost the same functions that English has. However, we can say that the Japanese intonation has fairly different qualities from the English intonation, since the intonation occurs in Japanese is defined as the change of pitch at sentence level, and also Japanese has the pitch accent.

References

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要 約

日本人の英語学習者への発音教育において、どのように超分節音素（かぶせ音素）の特徴をとらえ、理解させてゆくかを目的に、日本語と英語の各々についてその主要な部分を比較した。

両言語の超分節音素の中でも、とりわけて注意しなければいけないのは、アクセントの特徴の違いに関することであろう。ピッチアクセントとストレスアクセントの違いを明確に理解することは、日本人学習者にとって必要不可欠なことである。