

A Comparative Analysis of the Intonation of English and Japanese

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Introduction

The suprasegmental phonemes frequently reveals the traits of a language more distinctively than its segmental phonemes. Therefore if anyone were to walk into a room full of talkative people, he could tell whether they were speaking his own native tongue or some other language, even if he couldn't comprehend the words they were saying. Our language is spoken in certain patterned melodies, and there are instances where the melody we use carries almost as much meaning as the words themselves. There is a structure to the language melodies we use, and the different pitches and the connectives between them are not random and haphazard, but quite definite and discriminating from other melodic forms. These variations, or contours, of melody are combinations of different phonemic pitches and terminal inflections. As such, they are morphemes of our language, just as are other meaningful combinations of phonemes.

It is an unavoidable tendency that the native language frequently plays a critical, declining role in hearing and speaking a foreign language. This is clearly demonstrated by the fact that the spoken message of a non-native speaker almost always reveals the traits of the speaker's own language in the prosodic features. This is what is called "prosodic transfer" which causes various problems as "negative transfer".

I conducted the comparative analysis of English and Japanese in the branches of 'syllables' and 'rhythms' in the previous bulletins No. 13 and 14 each. In this paper the 'intonation' of both languages is compared, and is also formed my wish that some students of this college may develop a fresh interest in the rudimentary phonology of English, because some of the contents are explained on the comprehension level of beginners.

Intonation Language versus Tone Language

Intonation is defined as a contour of melody consisting of the suprasegmental phonemes of stress, pitch and juncture. In Japanese, pitch accents are specified in the lexicon. Phrasal tones are assigned in a determinate way on the basis of prosodic structure. In English, by contrast, pitch accents are not part of the lexical specification of words. Instead, they are elements in an inventory of intonational morphemes, which also includes the high or low phrase accent and the high or low boundary tone. The tones make up intonational "sentences" that carry information about how the utterance is related to the mutual beliefs of the speaker and hearer and to other sentences in the discourse. In other words of the above-mentioned, Japanese uses pitch as part of the word. English, on the other hand, uses pitch as part of the sentence and phrase but not as part of the word. The

pitch, or tone, is as much a part of a Japanese word as are the sound segments; changing the tone can change one word into another word. The pitch of a word in English is not part of the word; the pitch in English changes to meet the needs of the phrase and sentence, and the word remains the same. When pitch is used to identify and differentiate words, it is called 'tone'. When pitch is used with phrases and sentences it is called 'intonation'. Therefore Japanese is a 'tone language' and English is an 'intonation language'. Although this contrast in the source of tones is an important difference between the linguistic systems of English and Japanese, it is not in itself a phonological difference. However, one phonological difference does appear to be related to this contrast, namely, the extent of the paradigmatic contents in tone.

English Intonation and Japanese Tone

English intonation is defined as a contour of melody consisting of the suprasegmental phonemes of stress (primary, secondary, tertiary, weak), pitch (extra high, high, mid, low) and juncture (plus, single bar, double bar, double cross). As English is an intonation language, it is not necessary to mark pitch in order to describe isolated words, but several degrees of stress must be distinguished; 'precedence', for example, with a louder stress on the first syllable, is different in pronunciation from 'precedence' with a louder stress on the second syllable, but either of these words means the same whether pronounced with a rising or falling pitch. It is usually said that a hearer can distinguish by ear four or five degrees of stress in English words. For example, the stress contour of the word "opportunity" will be represented as / 2-4-1-5-3 /, if stress levels are indicated by numerals, with "1" showing primary stress. Strictly speaking, however, such levels of stress ought to be revised as levels of prominence, since here the audibility of syllables depends not only upon the stress level but also upon the pitch level.

The English pitch phonemes are not four fixed points on a musical scale but four relative levels. The intervals between them change in amplitude from speaker to speaker and from situation to situation even for the same speaker. In order to describe Japanese words we need to distinguish only a higher and a lower pitch, but no differences in stress. For instance, '*hashi*' with higher pitch on the first syllable means 'chopsticks', with higher pitch on the second syllable, 'bridge', with even pitch, 'edge'. In other words, English has a stress accent whereas Japanese has a pitch accent.

As for sentences a woman would normally render the same sentence at a higher general pitch than a man. And both would raise or reduce the level of the pitches and widen or narrow the height of the intervals under various circumstances. The attitudinal implications of pitch variations should also be considered. Frequently, the tunes used in English to distinguish sentence types will, in their broad pattern, be similar to those of Japanese. In addition to such points of comparison, it is known that a number of languages, including English and Japanese, can express excitement with a wide range and depression with a narrow range of pitch; sorrow, sympathy and awe with slow, and impatience with fast delivery.

In both languages, 'colorless' statements made in a matter-of-fact way are uttered with a falling intonation. But they may be changed to questions merely by the superimposition of a rising intonation; "*Nanika okita.*" (Something happened.) "*Nanika okita?*" (Something happened?). Unless actually pronounced, it would not be possible to determine without a proper context to supplement its meaning, whether the expression is a question or a statement. The addition of the particle '*ka*' (in informal speech this '*ka*' is frequently dispensed with) usually turns this into a question, with its accompanying falling intonation. However, it is equally true that "*Nanika*

okitaka” could be pronounced with a rising intonation as a normal question of this type. So it may safely be assumed that intonation has a value of its own as an emotional pitch curve. This seems to be also true of English.

With reference to imperative sentences, similar phenomena are observable in Japanese and English intonation. ‘*Shizukani shitekudasai.*’ (Be quiet, please.) This may be pronounced with either a falling or a rising intonation. The falling intonation would range from a frank, informal request to even a rude, emphatic command. A genuine command that calls for immediate obedience is invariably pronounced with a falling intonation. The rising intonation, on the other hand, would sound less informal or would often afford a feeling of courteous request. An exclamatory expression such as ‘*Nante suteki.*’ (How wonderful!) also ends with a falling intonation in both languages.

As stated so far there would appear in many points certain similarities in the way intonation curves are employed in English and Japanese. But this does not imply that parallel expressions in these languages would sound alike when actually pronounced. English has a wide range of four pitches from ‘extra high’ to ‘low’, contrary to Japanese consisting of a narrow range of only two pitches ‘high’ and ‘low’. This pitch difference constitutes one of the fundamentals of intonation. The wide range of English gives an impression of musical rhythm and briskness, and on the other hand as for Japanese the narrow range gives in a way an impression of monotony and inertness.

Though Japanese, a tone language, is said to have, in general, no intonation contour, this is only a rough approximation. In fact, Japanese does seem to have intonation of its own in spite of the narrow range of pitch. For instance, suppose “*Suzukisanwa kireida to iimashita.*” is pronounced in two ways regarding pitch accent; that is, the one pitch accent is on ‘*Suzukisanwa*’ and the other on ‘*kireida*’. This position change of pitch makes a great difference in the meaning of this sentence.

When the pitch accent falls on ‘*Suzukisanwa*’, there could be a case where the speaker who said ‘*kireida*’ is not ‘*Suzukisan*’. Or rather it could be more normal that the third person said, “*Tanakasanwa kireidewanaiga Suzukisanwa kireida.*” On the other hand, the pitch accent on ‘*kireida*’ must mean that the speaker who said ‘*kireida*’ is absolutely ‘*Suzukisan*’ herself. The difference between the preceding examples can also be made by means of ‘pause’ instead of ‘pitch’ as follows. “*Suzukisanwa kireida (pause) to iimashita.*” And “*Suzukisanwa (pause) kireida to iimashita.*” Some more Japanese ‘pause’ examples are as follows.

Niwatori ga (pause) *iru.* (There is a hen.)

Niwa (pause) *tori ga iru.* (There are two birds.)

Rusuban ni (pause) *koi.* (Come to take care of the house during my absence.)

Rusu (pause) *banni koi.* (I’m away from home. Come in the evening.)

We use in our daily life different non-segmental phonemes (pitch, loudness, pause, tempo, etc.) for different purposes. Among the tone languages, Chinese and Japanese are different in the use of pitch accent. Chinese has four variations of pitch in the only one syllable. For example, [mā] high level pitch means ‘媽’, [má] rising pitch means ‘麻’, [mǎ] falling and rising pitch means ‘馬’, and [mà] high beginning and abrupt falling pitch means ‘罵’. In Japanese, on the other hand, the meaning of a word or a phrase is changed by the relative height difference of two high and low pitches between the syllables.

In each of the following pairs of Japanese, ‘pitch’ is the only minimally different factor.

[*daiku*]  *carpenter:*  *Beethoven's Ninth Symphony*

[denki]		electricity:		biography
[tenki]		weather:		transcription
[jishin]		oneself:		earthquake
[yakusha]		translator:		actor
[meishi]		celebrity:		name card
[ninki]		term of office:		popularity
[yooi]		preparation:		ease
[kooi]		high interest:		ice
[hiroo]		display:		fatigue
[tooji]		in those days:		winter solstice

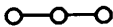
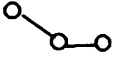
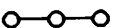
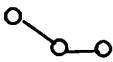
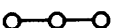
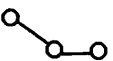

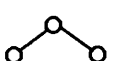

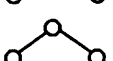

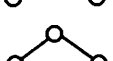

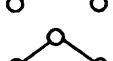
[kaki]		oister:		persimmon
[asa]		morning:		linen
[aka]		red:		dirt
[kame]		tortoise:		jar
[ashi]		reed:		foot
[kami]		God:		paper
[sumi]		corner:		charcoal
[kau]		raise (animals):		buy
[kiru]		cut:		wear
[oku]		hundred million:		put
[yome]		Read it!:		bride
[hawa]		as for the tooth:		as for the leaf

(but [ha] both 'leaf' and 'tooth')







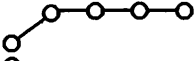
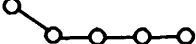
[shita]		the place beneath:		tongue
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[kyuuryoo]		wages:		hill
[mainichi]		every day:		Mainichi (newspaper)
[kyoodai]		brother:		dresser
[toosan]		father:		bankruptsy

[*kanchoo*]  government office:  enema

[<i>atsusa</i>]		thickness:		heat
[<i>itsuka</i>]		five days:		some time
[<i>kaeru</i>]		change:		return
[<i>atsui</i>]		thick:		hot
[<i>mikata</i>]		allies:		way of looking
[<i>omoi</i>]		heavy:		a thought
[<i>hanawa</i>]		as for the nose:		as for the flower

(but [*hana*] both 'nose' and 'flower')

[<i>katai <u>ishi</u></i>]		a hard stone:		a determined will
[<i><u>na</u> o tsukeru</i>]		give a name:		pickle greens
[<i>yama kara <u>higa</u> deta</i>]		The sun rose above the mountain.		A fire broke out in the mountain.
[<i>kare wa <u>kakushigoto</u> o shiteiru</i>]		He is keeping something from me,		He lives by his pen.

English pitch phonemes have no lexical meaning in themselves, but any one of them can change an intonation phrase into another, just as any one of the segmental phonemes of English can change one word into another word. The meaning of a word or phrase may be, and often is, changed by the use of the special melodic features that indicate the attitude of the speaker at the moment, and the particular situation in which he finds himself. Sometimes the pitch shifts merely enhance the lexical meaning of the word. At other times, they may convey an emphatic, questioning, or even the opposite concept of the word or phrase.

In English, there are very few instances of a sentence which has only one possible intonation pattern. There are some idioms and fixed phrases which have their own inherent tone, and a few of these are complete sentences, like 'Far from it.' But in the vast majority of cases, there are always various possible intonation patterns, and all these will carry different meanings even where the words remain the same.

Here are various practical examples given below, which should be paid close attention to by students, because intonation faults in English have twice as much influence as incorrect sounds in producing incomprehensibility.

○ I fèd her dɔ̀g bis ˈkʊɪts. (her dog=I.O., biscuits=D.O.)
 I fèd her dɔ̀g bis ˈkʊɪts. (her=I.O., dog biscuits=D.O.)

- He is a criminal lawyer. (a lawyer specializing in criminal cases)
 He is a criminal lawyer. (a lawyer who is guilty of a crime)
- Why don't you move to California? (question)
 Why don't you move to California? (suggestion)
- You gotta be kidding. (to an inveterate joker)
 You gotta be kidding. (No way. You must be joking.)
- It's mé, Nancy. (direct address)
 It's mé, Nancy. (apposition)
- Would you like téa or coffee? (alternative)
 Would you like téa or coffee? (yes or no)
- I prêfer coffee. (normal)
 I prêfer coffee. (if it isn't too much trouble)
- He didn't leave home because he was afráid of his father.
 (The fact is that he didn't leave home.)
 He didn't leave home because he was afráid of his father.
 (He left home for some other reason.)
- Tom bought a car, didn't he? (I believe Tom bought a car. Am I right?)
Tom bought a car, didn't he? (yes or no)
- She doesn't speak to anybody. (She speaks to no one.)
 She doesn't speak to anybody. (She speaks to only some people.)
- I bêg your pardon. (Please excuse me.)
 I bêg your pardon. (Will you please say it again?)
- I thought it would rain. (But it didn't.)
 I thought it would rain. (And it rained.)
- The têcher says the púpil could not solve the próblem.
 The têcher says the púpil could not solve the próblem.
- Hâve a nice trip. (to a person leaving for a trip)
Hâve a nice trip. (to a person who came back from a trip)
- Mâry Brówn is a têcher. (Talking of Mary Brown, she is a teacher.)
Mâry Brówn is a têcher. (Talking of teachers, she's one.)

- How did you like the film? It wâsn't bád. (very good)
It wâsn't bád. (pretty awful)
- Gêorge has plâns to lêave. (plans (for a building) which he intends to put (on the table))
Gêorge has plâns to lêave. (intends to go away)
- Will yôu drive to the ôffice tomôrow? (rather than someone else)
Will you drive to the ôffice tomôrow? (rather than going some other way)
Will you drive tó the ôffice tomôrow? (rather than from the office)
Will you drive to the ôffice tomôrow? (rather than somewhere else)
Will you drive to the ôffice tomôrow? (rather than some other day)
- I think I can dô it. (normal)
I think I can dô it. (ill at ease)
- Where's the corkscrew? In the cûpboard. (Probably you don't know.)
In the cûpboard. (in the usual place)
In the cûpboard. (Why are you so forgettable?)
- I'm sôrry. (apology)
I'm sôrry. (asking somebody to repeat himself)
- Sâlly has a nêw bôyfriend. Whô? Sally.
Whô? Harry.
- A: I admired his pictures.
 B: Whàt did you sây?
 A: I admired his pictures.
 B: Whàt did you sây?
 A: I said they were very brilliant and entrancing

The following appropriate model of English intonation is the opening narration of the movie "Sabrina" starring Audrey Hepburn. I put in the prosodic contour based on the recitation by Hepburn.

NARRATOR: Ónce upon a tîme, on the nôrth shôre of Lông Ísland, some thîrty miles from Nêw York, there lived a smâll gîrl on a lârge estâte. || The estâte was vêry lârge, indéed, and had mâny sêrvants. || There were gârdeners to take càre of the gârdens, and a

tree surgeon on a retainer. || There was a boatman to take care of the boats, to put them in the water in the spring and scrape their bottoms in the winter. || There were specialists to take care of the grounds. || The outdoor tennis court, and the indoor tennis court. || The outdoor swimming pool, and the indoor swimming pool, and there was a man of no particular title, who took care of a small pool in the garden for a goldfish fish named George. ||

NARRATOR: Also on the estate, there was a chauffeur by the name of Fairchild, who had been imported from England, years ago, together with a new Rolls Royce. || Fairchild was a fine chauffeur of considerable polish like the eight cars in his care and he had a daughter by the name of Sabrina. ||

NARRATOR: It was the eve of the annual six-meter yacht races and as had been traditional on Long Island for the past thirty years, the Larrabees were giving a party. It never rained on the night of the Larrabee party. || The Larrabees wouldn't have stood for it. ||

NARRATOR: There are four Larrabees in all. || Father, mother and two sons. || Maude and Oliver Larrabee were married in nineteen hundred and six and among their wedding presents was a townhouse in New York and this estate for weekends. ||

NARRATOR: The townhouse has since been converted into Saks Fifth Avenue. || Linus Larrabee, the elder son graduated from Yale, where his classmates voted him the man most likely to leave his Alma mater, fifty million dollars. His brother, David, went through several of the best eastern colleges for short periods of time and through several marriages for even shorter periods of time. || He is now a successful six-goal polo player and is listed on Linus's tax return as a six hundred dollar deduction. || Life was pleasant among the Larrabees, for this was as close to heaven as one could get on Long Island. ||

Conclusion

In making a comparison of the systems of a tone and an intonation language we will have to consider not only differences in pitch but entirely different systems of distribution of pitch. In English, pitch is distributed over phrases and sentences. In Japanese, on the other hand, it is over morphemes and words. Japanese has also a qualitative distinction that the mora is the

minimal prosodic constituent that can be associated to a segment in the phoneme. For example, the words 'kaki' (persimmon) and 'kaki' (oyster) differ only in which mora is accented. We can conclude from this that at least the high tone of the pitch accent is phonologically associated with a mora.

A high-mid sequence in the middle of a sentence in English does not attach to a particular word as such, but to the position in which that word occurs. Similarly, a high-low sequence at the end of a sentence does not belong to the word at the end of that sentence but to that position itself. The very same words will have different pitch elsewhere. In Japanese, however, the high tone of a given word belongs to that particular word, that is, the tone serves to identify the particular word, to distinguish it from other words.

Consequently, a Japanese speaker learning English expects pitch to attach to morphemes and words, and he is lost because English to him keeps changing the tones hopelessly as far as the individual word is concerned. Similarly, an English speaker learning Japanese does not perceive tone as part of morphemes and words, and of course he cannot produce it as such. He is thoroughly confused by the seemingly unpredictable changes in the "intonation" of the sentences.

Stress and pitch are important constituents of intonation, and it has often been observed that English has dynamic stress and that Japanese does not. In English, pitch accents fall on syllables that are also strong rhythmically. The rhythmic strength is revealed in these syllables' longer durations and more complete articulation of phonemes. In Japanese, accent is almost purely a tonal phenomenon. This contrast shows that amplitude and duration patterns in production are far more strongly related to accent in English than in Japanese and that this difference carries through to a difference in how accent is perceived in the two languages.

I would like to conclude this paper with a famous line in the very last scene of the immortal long movie "Gone with the Wind", spoken with the intonation in a fit of passion by Vivien Leigh.

"After all, tomorrow is another day."

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"Sabrina" starring Audrey Hepburn, Warner Brothers Pictures Inc. (1964)

"Gone with the Wind" starring Clark Gable·Vivien Leigh, Metro·Goldwin·Mayer, Inc. (1967)

日英語イントネーションの比較分析

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「紀要」13・14号でそれぞれ「音節」「リズム」に関して、日英語の比較分析をしたが、この15号では「イントネーション」を扱った。「声の表情」とでも言えるイントネーションによって伝達内容が変わるのは、どの言語にも共通であろう。例えば次の如くである。

You gotta be kidding. (to an inveterate joker) You gotta be kidding. (No way. You must be joking.) 日本語でも、*Kare wa kakushigoto o shiteiru.* の下線部の pitch accent を変えることによって、He is keeping something from me. と He lives by his pen. に分かれる。

3回に分けて掲載した suprasegmental phonemes の基本的部分は、学生にぜひ習得させたい分野であり、それも念頭において今回も纏めてみた。