

THE FALL/RISE INTONATIONAL DISAMBIGUATION\* OF  
JAPANESE SENTENCE FINAL MODAL PARTICLES

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## 0. Introduction

### 0.1. Methodological Background

This is an attempt to spell out some of the linguistic roles that intonation can play in colloquial Tokyo Japanese. It is assumed that intonation participates in the disambiguation of speaker's attitudes in an utterance.

Though a study of suprasegmentals involves a lot of messy factors, e.g. emotion, voice quality, and therefore tends to be prejudged as being "around the edge of language" (Ladd 1980), some intonational phenomena in English have been found to be crucial to the disambiguation by Ladd 1980, 1981, Liberman and Sag 1974 and Sag and Liberman 1975, just to mention a few examples. This study has been motivated by those significant attempts to explore intonational meanings of English.

Another point is that this investigation goes beyond the domain of sentence grammar. This study intends to view a natural language in a wider perspective.

### 0.2. Hypotheses

Sentence-final fall/rise pitch contours are assumed to participate in disambiguating speaker's attitudes signalled by modal particles. They are argued to be part of linguistic functions of intonation. Our hypotheses are:

1. Some Japanese particles are attached to a sentence-final position and they may serve to imply speaker's mental attitude(s) toward the propositional content of a sentence or his/her intention(s) toward a hearer in an utterance.
2. Sentence-final particles may be ambiguous. A falling or rising intonation superimposed on the sentence-final position can remove such ambiguities.
3. The intonational disambiguation of modal particles is crucially related to speaker's presupposition(s) and intention(s) when (s)he utters a sentence.
4. Modal ambiguities that have been classified by a falling or rising intonation can constitute natural classes.

## 1. Morphological and Syntactic Aspects of Modal Particles

### 1.1. Linear Orders of Post-Verbal Suffixes and Modal Particles

There seem to be systematic and strict linear orders of suffixes and particles after predicates. They can be exhibited as follows:

mi	saser	-are	te	i	nakat	ta	hazu	da	yo	ne
VERB	CAUS	PASS	PROGR	NEG	PAST		TRUTH	SPEAKER'S	VALUE	ATTITUDES
	GF-changings		Aspect, Negation,				Subjective			
			Tense				Modality			

Suffixes that signal grammatical function changings most immediately follow a verb. This might be due to the fact that these suffixes are crucial in identifying participant roles in a sentence. What follows are the suffixes that denote aspect, negation and tense. These elements are considered as speaker's relatively objective judgement of time and truth or falsehood of an event. *Hazu da* can be construed as a speaker's subjective truth value judgement. The two particles seem to indicate speaker's assertion of validity of his/her judgement and request of a hearer's agreement, respectively. Therefore, post-verbal suffixes seem to be ordered from objective to subjective, or from grammatical to attitudinal ones.

### 1.2. Proposition and Modality

We will define **Proposition** and **Modality** in the following way:

**Proposition (or Propositional content)** refers to an event described by a speaker and it corresponds to a meaning denoted by an utterance without: (a) those suffixes and particles that signal subjective modality, and (b) modal adverbial expressions.

**Modality** refers to speaker's mental and subjective attitudes toward the propositional content of the utterance.

Modality can be expressed by adverbial expressions, but we will focus our attention on the modality expressed by post-verbal suffixes and particles.

### 1.3. Distribution of Modal Particles

There seem to be two kinds of modal particles in terms of distribution: those that may appear at phrase final positions, and those that may appear at sentence- or predicate-final positions. We will focus on the latter sort of particles. The modal particles in Tokyo Japanese may include, but are not limited to, the following:

(5) -ka(a), -ne(e), -na(a), -sa(a), -yo(o), -no(o),  
-wa(a), -zo(o), -ze(e), -kke(e), -tomo(o).

There may be differences of usages of particles depending on the sex or age of the speaker and other factors. For example, -wa(a) is usually used by female speakers, whereas -zo(o), -ze(e) may be used by male speakers and they may indicate roughness or impoliteness of a speech. An extensive survey on colloquial Tokyo Japanese done by the National Research Institute of the Japanese Language (henceforth, NRI) showed that the most frequently used modal particle was -ne, and others

(-yo, -ka, -nee, no) followed it (NRI 1955: 7). They also found that as much as 73% of the predicates in the data contained one or more modal particles (p. 11).

Modal particles, like post-verbal suffixes, seem to show some restriction on the linear orders. Some possible permutations of particles may be:

$$(6) \left\{ \begin{array}{l} -kke \\ -no \end{array} \right\} \gg -ka \gg \left\{ \begin{array}{l} -na \\ -ne \end{array} \right\}$$

$$\left\{ \begin{array}{l} -wa \\ -tomo \end{array} \right\} \gg \left\{ \begin{array}{l} -yo \\ sa \end{array} \right\} \gg \left\{ \begin{array}{l} -na \\ -ne \end{array} \right\}$$

$$\left\{ \begin{array}{l} -ze \\ -zo \end{array} \right\} \gg -yo \gg -na$$

It always seems to be the case that, when more than one particle is used in a sentence-final position, the very final one has options of being read with either falling or rising intonation.

## 2. Final Mora Lengthening and Final Syllable Intensification

### 2.1. Preliminaries

We will have a look at pitch contours of some modal particles when they are used sentence-finally. We will define falling and rising intonation as follows:

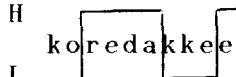
**Rising** intonation involves the following tonal patterns: from a high to a higher tone, or from a low to a high tone at the final syllable. It is represented as [R].

**Falling** intonation includes all the other sentence final tonal shifts. It is represented as [F].

It is also necessary to define terms such as **mora**, **syllable**. I will follow Poser's analysis (Poser 1984: 24-28) here. It is assumed that in Japanese, a **syllable** can consist of an optional **onset** and an obligatory **rhyme**. Poser argues that any Japanese consonant except a mora nasal (represented as **N**) can be an onset. Further, a rhyme that contains a single short vowel is said to have a single **mora**, and a rhyme with (i) a long vowel, (ii) a diphthong or (iii) a short vowel followed by a mora nasal is said to have two morae.

### 2.2. Final Mora Lengthening

The final mora of sentence final particles may be prolonged, as the following examples show:



(7)a. H  koredakkee  
L

b. H   
 L

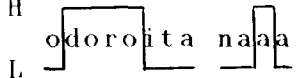

c. H   
 L

A final short vowel has been prolonged and has become a long vowel (a->aa, e->ee). The particle has to shift its tonal height from low to high as in (7a,b) or from high to low as in (7c) in order to achieve a sentence-final rising or falling intonation. This can be said to be a prosodically motivated process of mora lengthening.

Only -ne and -na can add to two morae, whereas other particles cannot:

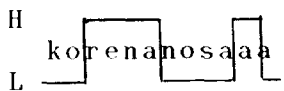
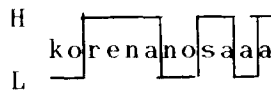
(8)a. H    
 L

b. H    
 L

(9)a. H    
 L

b. H    
 L

Compare the above with (10):<sup>3</sup>

\* (10)a. H    
 L

b. H    
 L

We will focus our attention on some phenomena of -ne, and try to find out relations between tonal patterns and speaker's attitudes. To discuss the matter in detail, let us look at a following dialogue between female speakers:

(11)A: Toshin de ikkodate nante zettai muri yo neee.  
 B: Honto yo neee.

A: "It is absolutely impossible to buy a detached house in the central area of Tokyo. Don't you agree?"

B: "Oh, yes, indeed."

The speaker A tries to ask for the speaker B's confirmation of the statement, which she believes that she can get easily. Notice that in such a situation, the particle has a contour pattern of (12a), but never (12b):

(12)a. H       $\int$   
          nee  
          L       $\int$

b. H       $\int$   
          nee  
          L       $\int$

Though the sentence seems to be used for requesting hearer's confirmation, the validity of the propositional content seems to be a common knowledge between them. It seems that A's use of the contour (12a) implies that the statement is so evident that she should not have asked such a silly question. It seems that the contour (12a) is used when the speaker expects the hearer to agree with the propositional content of the statement which she has uttered.

On the other hand, the contour (12b) seems more likely to be used when the speaker tries to attract hearer's attention. In fact, such a contour seems to be frequently used as an interjective rather than as a sentence-final particle:

(13)  $\int$ nee, anata kono fuku niaukashira  
      "Darling, do you think this dress suits me?"

Notice that the contour (12a) is a final falling intonation and (12b) is a final rising intonation. The falling one can be used, as evidenced in (11), when the propositional content of an utterance to which the particle is attached is rather self-evident to the speaker and the hearer, whereas the rising one seems to be used for attracting attention of the hearer.

### 2.3. Final Syllable Intensification

In this section, we will look at final syllable intensification. The final syllable of any word may be involved in this process and intensification seems to indicate a speaker's strong assertion. Consider the following examples:

- (14) *Ashi ta* [Noun]  
      tomorrow  
      "I tell you (it is) tomorrow."  
(15) *Atsu i* [Adjective]  
      hot  
      "It *is* hot. (So, open the door!)"  
(16) *Ike maseN* [Verb]  
      "Don't you ever do that!"  
(17) *Kore da ne* [Particle]  
      this be PRT  
      "I tell you this is the one."

Again, we will focus our attention on a particle *-ne*<sup>4</sup> and investigate an effect of the final syllable intensification.

Notice that this contour is a falling intonation. Intensification of the final syllable makes the  $F_0$  contour look like the following:

(18) Ko re da *ne*



This contour serves to convey a speaker's strong assertion of his/her statement.

### 3. Intonational Disambiguation of Modal Particles: Some Case Studies

#### 3.1. Preliminaries

In this chapter, we will extend our inquiry to pragmatics. What seems crucial to our study is an attempt to consider speaker's intention of an utterance, since some of the modal particles may be used for eliciting a hearer's response or confirmation.

Let us define some terms for our discussion:

**Cognition** refers to speaker's **inference**, whereby (s)he performs reasoning and reaches a conclusion from premise(s) or presupposition(s). It is equivalent to Gricean **Conversational Implicature** and Searle's **Indirect Speech Acts**, and the speaker's **presuppositions** are a cluster of relevant ideas or expectations on a propositional content of a sentence.

**Speaker's Intention** includes: (i) speaker's attitude(s) toward the propositional content and (ii) his/her assumption or expectation of a hearer's response to the speaker's utterance.

Sentence-final particles can be either speaker-oriented or hearer-dependent. **Speaker-oriented** use of particles may signal speaker's own judgement of the validity of the propositional content of an utterance. **Hearer-dependent** use of particles may indicate necessity of a response or confirmation from the hearer of the validity of the propositional content.

#### 3.2. Kke

First of all, we will observe an example with a particle *-kke*:

(19) Shimekiri wa itsu da kke  
deadline TOP when be PRT  
[R]"When is the deadline?"  
[F]"Let me remember when the deadline is."

*Kke* may imply speaker's recollection about an event either in the past or in the future. When example (19) is read with a final rise, the speaker intends to draw the hearer's attention

to the speaker's attempt of recollection. This can count as a question, irrespective of existence of an interrogative word *itsu*.

In the case of the final fall contour, there should be at least two possibilities. One is a speaker's soliloquy, where a hearer's attention is disregarded. What seems more natural in a discourse, however, is the following. Though the statement is read with a falling contour and therefore, the utterance sounds like a soliloquy, nevertheless, the hearer suspects that the utterance must be directed to him/her. The hearer thinks that the speaker tries to fill in missing information and that (s)he might expect the hearer to help recollect the deadline if (s)he knows it, and considers the statement as a question.

-Kke can be rather speaker-oriented in the case of the falling intonation, since it may serve to signal speaker's attempt to recollect something or speaker's weak confirmation. Even if it is read with a falling intonation, a hearer employs cognition and infers the statement must be a question.

This can be more conspicuous if a speaker uses what Harada 1977 terms as performative honorific verbs such as *mas-u* or *des u*. They are used for showing speaker's politeness or respect toward an interlocutor who is socially superior or equal to the speaker. A performative honorific verb shows an explicit hearer-dependency as well as politeness, and whenever it is used, we can assume that the speaker utters a sentence toward interlocutor(s).

Though *kke* is speaker-oriented and is perfectly compatible with a soliloquy, it can co-occur with a performative honorific verb, which signals hearer-dependency. Even though the sentence is read with a falling intonation, it can easily be perceived by a hearer as a case of indirect speech acts, in which case a response by the hearer is expected.

- (20) *Shimekiri wa itsu des-u kke*  
[R]"When is the deadline?"  
[F]"Can you tell me the deadline?"

### 3.3. -Ka

#### 3.3.1. Tsuchiya, et al. 1990.

In a series of articles, Tsuchiya, et al. propose a theory that incorporates a theory of meaning and cognition. They try to explain various phenomena of Japanese in a wider perspective. The usage of *-kka* seems to be intricate, as the following examples indicate:

- (21) *Hon ka nooto ka*  
book PRT notebook PRT  
"either book(s) or notebook(s)"  
(22) *Dare ka ga aru-i-te-i-ru*  
who PRT NOM walk PROG  
"Someone is walking."  
(23) *Kore ga gaisen mon des-u ka*  
this NOM triumph gate be PRT

[F]"So, this is the Arch of Triumph."  
[R]"Is this the Arch of Triumph?"

-Ka can follow a noun or an interrogative pronoun. It seems necessary to explain these apparently intricate usages, rather than to observe and label them independently.

Tsuchiya, et al. propose that the particle does not have any semantic content as have lexical items like *hon* or *nooto*. Rather, this particle may imply a speaker's attitude such that (s)he cannot tell the validity of the propositional content of an utterance. (23) can be analysed as follows:

(24) Propositional Content

Kore ga gaisenmon da  
"This is the Arch of Triumph."

Meaning of -ka

The speaker cannot tell whether the above proposition is valid or not.

They argue that the theory of meaning tries to spell out the meaning of -ka when it is used in various ways, and the theory of cognition tries to explain the cognitive process of a language user when (s)he hears an utterance. What is crucially relevant is pragmatic inference, or Gricean Conversational Implicature.

If the context is such that the speaker wants to make sure that what (s)he has seen is the Arch, then (23) will be perceived by a hearer as a question. On the other hand, if the speaker has confirmed the validity of the propositional content, then the utterance should be regarded by the hearer as an impression.

It is the context in which the sentence (23) is uttered that decides whether it is a question or an impression, and such a decision, they argue, can be made with the help of the hearer's inference, which is independent of his/her knowledge of linguistic form.

Their argument on the disambiguation seems to depend on cognition and pay no attention to intonation. It is indeed the case that an utterance with a falling intonation can be construed as a question. What must be emphasised, however, is that the rising contour explicitly indicates speaker's intention of asking a question. Also, the use of a performative honorific verb helps the hearer to take the statement as being directed to him/her. The falling intonation implies that the speaker has confirmed the validity of the propositional content, although the degree of confirmation may vary among particles.

As Tsuchiya, et al. point out elsewhere, Japanese does not have a grammaticalised system to signal question. In English, for example, a question is signalled by "subject-aux inversion" and "wh-movement". On the other hand, in Japanese, a speaker uses a rising intonation to explicitly indicate a question whether it is "yes/no" or "wh" question.



### 3.3.2. -Ne

-Ne appears to be rather different from -kke and -ka, in that the final mora can be intensified to express a speaker's strong assertion. Another point is that -ne can also be used as an interjective and a phrase-final particle. Let us look at the following example:

- (25) Kore ga hontoono uisukii da { a.  $\overline{ne}$ e }  
   b. ne }  
   c. *ne* }
- this NOM genuine whisky be PRT
- a.[F]"This is the genuine whisky..." (Admiration)  
 b.[R]"Is this the genuine whisky?" (Question)  
 c.[Mora intensified]  
       "I tell you this is the genuine whisky!"

The propositional content and the meaning of the particle would be:

- (26) Propositional Content  
 Kore ga hontoono uisukiida  
 "This is the genuine whisky."

Meaning of -ne

The speaker wants to make sure of the validity of the propositional content of the sentence from the hearer.

Suppose that in (25a), a speaker has tasted a nip of *Laphroaig* and has found that it tastes terrific. He might have already known a good reputation of the brand. This may be a speaker's presupposition. Suppose also that this presupposition has been found correct. Notice that the speaker's presupposition goes together with the propositional content of a sentence. In the above context, the consistency can give the speaker a sense of admiration or impression, and he wants to express this attitude with the help of the final falling intonation.

A hearer may infer from the utterance and a context (and even his facial expression and voice qualities) that the locution is one of a request of confirmation of the propositional content. If the hearer is cooperative and can judge the validity based on his/her experience or taste, then (s)he will respond to the speaker.

In (25b) the speaker cannot tell whether the whisky he has tasted is a genuine one, although he has found that it tastes nice. In this case, the speaker employs a rising intonation to make the statement explicitly hearer-dependent, and ask the hearer of the validity of the propositional content.

Let us also consider (25c). Mora intensification indicates a speaker's strong assertion. This is considered as a falling contour, as has been observed in chapter 2. We may imagine the following example. A speaker and a hearer have tasted two different brands of malt whisky. Suppose further that the speaker has found *Laphroaig* nicer than *Cardhu* whereas the hearer has an opposite opinion. In this situation, the speaker can

resort to a final mora intensification in order to persuade the hearer. Again, the falling intonation indicates the speaker's confirmation.

### 3.3.3. A Further Extension: Moriyama 1989.

We need to find out whether the above argument can still hold when we are faced with more intricate phenomena.

Moriyama 1989 provides an interesting observation and discussion. We will limit ourselves to relevant matters here. He assumes that *ne* and a performative honorific verb are explicit signals to indicate that a speaker expects that the hearer will share some information about the utterance. It is entirely left to the speaker's discretion and it does not matter whether the hearer will in fact share such information.

He defines the meaning of *ne* in the following way. *-Ne* clearly indicates that a speaker expects that a hearer must share some (relevant) information about the content of his/her utterance, and it implies that the speaker needs such information. His idea seems to be borne out by the following example:

- (27)\* Dare des-u *ne*  
      who be PRT  
      "Who is it?"  
      (Moriyama 1989: p. 106., (35))

Since *ne* implies that both the speaker and the hearer share information of the utterance, it is incompatible with an interrogative sentence where there is no information shared by them. In addition, the performative honorific verb enhances the degree of hearer dependency, that is, the speaker's judgement is meant to be disregarded. Again, this is incompatible with the meaning of *-ne*. Now, compare this with (28):

- (28) Dare des-u *ka*

As we have argued above, the particle implies that the speaker cannot tell whether the propositional content is valid or not. Unlike *-ne*, *-ka* is compatible with indefinite or interrogative words. Even though the sentence is read with a final falling intonation, the hearer can infer that the sentence should be one of a question because of the interrogative word and a performative honorific verb.

We will modify the meaning of *ne* in the following way:

- (29) *-Ne* implies that a speaker (i) expects a hearer to share some relevant information about the propositional content of an utterance and (ii) expects further that the hearer will confirm the validity of and/or agree with speaker's attitude(s) toward the propositional content.

The second provision seems to necessitate some illustration. Consider the following dialogue:

- (30) A: Dare ga konna koto shi-ta-n des-u ka  $\left\{ \begin{array}{l} \overline{nee}e \\ \underline{nee} \end{array} \right\}$   
 who NOM such thing do PAST be PRT PRT  
 "I wonder who has done such a thing, don't you think so?"
- B: Hontooni hidoi wa  $\left\{ \begin{array}{l} \overline{nee}e \\ \underline{nee} \end{array} \right\}$   
 indeed terrible PRT PRT  
 "Yes, indeed. It is terrible, isn't it?"

The above dialogue may occur between two female speakers when they found beautiful flowers in a garden were stolen. Though the sentence uttered by A has an interrogative word, it is not a literal question. An intention by the speaker is rather eliciting a hearer's agreement with her attitude toward the event. This is borne out if we consider the hearer's response. She infers from the use of *-nee(e)*, *-des u* and a context that the statement is directed toward her and that it is not for eliciting information about who has done that, but for eliciting hearer's sympathy with the speaker's feeling. The sentence uttered by A can be paraphrased as: *To steal flowers from a garden is awful*. This is equivalent to the speaker's attitude rather than the propositional content, which might be equivalent to the event that they witnessed, namely, *Flowers have been stolen from the garden*.

### 3.3.4. -Ka and -Ne

Having re-defined the meaning of *-ne*, we will consider the disambiguation process in a sentence where two particles follow it. Consider the following sentence:

- (31) kore des-u ka  $\left\{ \begin{array}{l} \overline{nee}e \\ \underline{nee} \end{array} \right\}$   
 this be PRT PRT

First, notice that this sentence is incompatible with a final rising intonation. The performative honorific verb and the particle *-ka* have specified hearer-dependency. The propositional content of (31) and attitudes specified by the particles and the verb would be:

- (32) Propositional Content  
 Kore da

#### Speaker's Attitudes

- (1) The speaker cannot tell whether the above proposition is valid or not.
- (2) The speaker expects the hearer to have a clue or knowledge about the validity of the proposition.

The hearer infers from speaker's uncertainty signalled by -ka, existence of a performative honorific verb, and speaker's expectation of eliciting an answer signalled by ne, that the utterance must be one of a question.

The sentence (31) can be uttered by a speaker with a different intention. Suppose that the speaker's attitude is such that (s)he does not want to admit that the proposition is valid. Imagine that a speaker and a hearer have seen the Arch of Triumph on a summer vacation. The speaker might have had a cluster of images about the Arch. Having faced the real one (s)he may be shocked because his/her image was nicer and more romantic. In this situation, speaker's attitudes would be like this:

(33) Speaker's Attitudes

(1) Having faced the real Arch, which contradicts his/her presupposition, the speaker cannot convince him /herself or does not want to admit that this is the real one.

(2) The speaker expects the hearer to share the same feeling and to sympathise his/her feeling.

Finally, for the clarity of comparison, let us look at a case of -yone. The particle yo implies a speaker's assertion of the validity of the propositional content. Consider the following:

(34) Kore des-u yo {  $\begin{matrix} \overrightarrow{ne} \\ \overline{ne} \\ \overline{ne} \end{matrix} \}$   
 this be PRT PRT

[R]"This is the one.(don't you agree?)"

[F]"This is the one.(I am sure you'll agree.)"

Notice that sentence (34) can be read either by a rising or a falling intonation, and this may be due to the meaning of -yo and -ne. To elicit a hearer's agreement or confirmation, (s)he may resort to a rising intonation and indicate that the utterance is a question. Again, the falling intonation version can also be construed as a question by cognitive knowledge of a hearer.

3.3.5. Linear Orders and Meanings of Modal Particles

Before concluding our observation, we need to compare morphological orders of particles with their meanings. It has been argued in chapter 1 that post-verbal suffixes and modal particles show rather strict linear orders. Post-verbal suffixes tend to be ordered from grammatical to modal ones. It is an interesting question whether this tendency can hold for the linear orders of modal particles.

It should be clear that degrees of speaker's confirmation and hearer-dependency is stronger in -ne than in -kke and -ka. Their linear order is: -kke >> -ka >> -ne. We might conjecture that

linear orders of modal particles reflect degrees of confirmation and hearer-dependency is stronger in -ne than in -kke and -ka. Their linear order is: -kke>>-ka>>-ne. We might conjecture that linear orders of modal particles reflect degrees of confirmation and hearer-dependency. However, consider the following examples:

- (35)[T<sub>Q</sub> a socially superior person]
- a. Iya yowat ta  
no embarrassed PAST
  - b. Iya yowat-ta naa
  - c. Iya yowat-ta nee
- "Oh, dear. I wonder what to do."  
((35a,b) = Moriyama 1989: p. 102., (19), (20))

Moriyama points out that the particle -naa can be permitted, although (35a) is unacceptable, because there is no polite form to show respect to the hearer, and there is no particle to indicate hearer-dependency. (35b) is all right because the particle indicates that the utterance is speaker-oriented, and the absence of the polite verb is not problematic. In the case of (35c), the particle does indicate that the utterance is directed to the hearer, and there is no polite verb, hence the sentence is judged as being impolite.

Notice that -ne and -na seem to show a very similar distribution. They never co-occur in one utterance. Their meanings are very similar to each other except the degree of hearer-dependency. Namely, -ne is stronger than -na. It seems difficult to argue whether there will be a correlation between linear orders and hearer-dependency of modal particles, though it seems to be the case that particles are ordered from speaker-oriented to hearer-dependent ones.

#### 4. Intonation and Attitudes

We have seen in what way intonation can participate in removing modal ambiguities. It has been made clear that the modal disambiguation is done by intonation, though language user's cognition also plays an important role.

The case studies in chapter 3 indicate that a rising intonation signals speaker's explicit intention to ask a hearer about the validity of a propositional content (-kka, -ka), or to ask the hearer of his/her confirmation of the validity of and/or agreement with the speaker's attitude toward the propositional content.

It should be clear that a rising intonation is not the only means to elicit a hearer's response, as the hearer can infer from the context that a given utterance may be one of a question even though it may be read with a falling intonation.

The final rise can be used for drawing hearer's attention, eliciting missing information or asking for hearer's confirmation. A falling intonation indicates speaker's confirmation of the validity of or the attitude(s) toward the propositional content. In the case of -kke, a sentence with a falling intonation may imply either a speaker's soliloquy or an

indirect question. It is hearer's inference that decides which should be the case. The same line of argument seems to hold for -ka.

On the other hand, -ne seems to provide us with different findings. Even a sentence with a falling intonation implies a request of hearer's confirmation or agreement. This seems to be due to a strong degree of hearer dependency of ne.

Though there are degrees of hearer-dependency among particles, we can conjecture that a final rising intonation functions as a speaker's explicit request of a hearer's participation in a speech, whereas a falling intonation does not seem to have such a function.

Let us look at the following example:

(36) Otoosan ni chanto ittoi te yo  
father IO surely speak PRT  
"Never forget to tell Dad about it!"

This can be uttered by a mother to her child. -Yo indicates a speaker's assertion, and in fact the sentence functions as an imperative. Notice that the sentence is read with a rising intonation. If we simply regard a rising intonation as a question, we are faced with a problem.

-Yo in sentence (36) seems to ask for the child's commitment to tell something to his/her father. In this case, a rising intonation explicitly indicates that the mother needs a response from the child. The propositional content of (36) and the meaning of -yo would be illustrated in the following way:

(37) Propositional Content  
"The child surely tells Dad about it."  
Meaning of -yo  
The mother wants her child to tell Dad about it,  
and needs to get the child's commitment to do so.

Finally, let us consider the final syllable intensification. As the  $F_0$  contour shows, intensification is considered as another example of a falling intonation, and it serves to convey a strong assertion of the validity of or speaker's attitude toward the propositional content.

## NOTES

1. There are several problems for this linear-order hypothesis. A verb like *-shimat* can express subjective judgement on the propositional content. Compare the following examples:

(1) Kare wa hon o nakushi-te -shimat ta  
 he TOP book DO lose PAST  
 "He has lost his book, to his advantage."

(2) Shukudai o yat-te -shimat -ta  
 homework DO do finish PAST  
 "I have finished my homework."

*-Shimat* in sentence (1) precedes a past suffix, and this might be argued to be a counterexample. However, we can argue that *-shimat* in (1) has an epistemic meaning and *-shimat* in (2) has a deontic meaning. If we further suppose that the epistemic meaning was derived through the historical change of a language usage, then the case like (1) might be accounted for. The development of the epistemic meaning on historical grounds is argued in Traugott 1989. There are more puzzling phenomena in Japanese. Consider the following sentences:

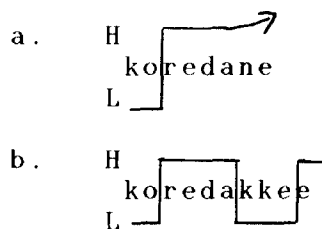
(3) Ame ni fur-a -re -ta  
 rain IO pour PASS PAST  
 "It rained on me."

(4) Mori-san ga atarashi-i hon o kak a -re -ta  
 Mr. Mori NOM new book DO write PASS PAST  
 "Mr. Mori has written a new book."

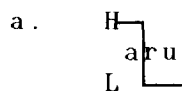
In sentence (3), adversity is expressed by a passive morpheme. In sentence (4), the passive morpheme signals speaker's respect to the actor.

2. Examples of each intonational pattern are given below:

(5) Final Rising Intonation



(6) Final Falling Intonation



b.  $\begin{array}{l} \text{H} \\ \text{da} \\ \text{L} \end{array} \left. \begin{array}{l} \text{---} \\ \text{---} \\ \text{---} \end{array} \right\} \text{me (Final syllable intensification)}$

c.  $\begin{array}{l} \text{H} \\ \text{rippada} \\ \text{L} \end{array} \left. \begin{array}{l} \text{---} \\ \text{---} \\ \text{---} \end{array} \right\}$

3. Incidentally, as has been observed in the classification of contour patterns by Yoshizawa 1960, namely his **fall tune** and **alpha-C**, even a final mora of some other lexical items in a sentence final position can be prolonged. However, lengthening by two morae is impossible, as the following examples show:

- (7) \*Kyoo wa mokuyoobiii  
 today TOP Thursday  
 (8) \*Osaka ni ikuuu  
 Osaka LOC go  
 (9) \*Kyoo wa atsuiii  
 Today TOP hot

4. It might be worth looking at some particles than *ne* to find out whether the final syllable of any modal particle can be intensified. Examples below seem to indicate that some particles seem incompatible with intensification:

- (10)?Koreda *kke*  
 (11)Korena *no*  
 (12)?Koreda *wa*  
 (13)Koredato *mo*  
 (14)?Kore *ka*  
 (15)Koreda *zo*  
 (16)Koreda *zo*  
 (17)Koreda *yo*  
 (18)Kore *sa*

It might be possible to conjecture that particles which indicate a speaker's weak judgement are less compatible with an intensification process. In fact, sentences (10), (12) and (14) may usually be used without intensification.

5. This line of idea is parallel to Moriyama 1989. He argues that if the speaker expects that the hearer will share information related to his/her utterance, then (s)he utters a sentence in such a way as to take hearer's knowledge into consideration. The use of *ne* and a performative honorific verb is an explicit sign of such a consideration.

6. The use of a performative honorific verb can change acceptability of each example considerably:

- (19)[To a socially superior person]  
 a. Iya yowat ta des-u  
 b. Iya yowat-ta des-u naa



c. Iya yowat-ta des-u nee

-Naa is rather speaker-oriented and also informal. It is quite all right if the utterance is directed to the speaker. However, the addition of des-u in (19b) indicates that the utterance is considered as being directed to a hearer, who has a socially superior status. This means that the speaker's attitude expressed by the particle -naa is also directed to the hearer.

7. In fact, researchers have been aware of this. For instance, Kawakami 1963 states:

"I guess that the real meaning conveyed by rising intonation, whether phrase-final or sentence-final, lies in speaker's indication that (s)he wants to keep in touch with a hearer." (p. 31.)

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## References

- Abe, I. (1989). Gengo Intoneeshon --Yunibaasaru wa Aru ka-- (Language Intonation--Is There a Universal?--). *Journal, Department of Liberal Arts. Asia University, Tokyo*, (40), pp. 1-23.
- Alfonso, A. (1966). *Japanese Language Patterns: A Structural Approach (Vol. 2.)*. Tokyo: Sophia University L. L. Center of Applied Linguistics.
- Bolinger, D. (1978). Intonation Across Languages. In Greenberg, J. H. et al. (Eds.), *Universals of Human Language Vol 2: Phonology*. Stanford: Stanford University Press.
- \_\_\_\_\_. (1982). Intonation and Its Parts. *Language*, 58(2), 505-533.
- Couper-Kuhlen, E. (1986). *An Introduction to English Prosody*. London: Edward Arnold.
- Cruttenden, A. (1981). Falls and Rises: Meanings and Universals. *Journal of Linguistics*, 17, 77-91.
- Crystal, D. (1985). *A Dictionary of Linguistics and Phonetics (2nd Ed)*. Oxford: Basil Blackwell.
- Cutler, A. (1977). The Context-Dependence of 'Intonational Meanings'. *Papers from the Regional Meeting, Chicago Linguistic Society*, 13, 104-115.
- Grice, H. P. (1967). Logic and Conversation (William James Lecture delivered at Harvard University). In Cole, P. and J. L. Morgan. (Eds.), *Syntax and Semantics Vol 3: Speech Acts*. New York: Academic Press.
- Harada, S. I. (1976). Honorifics. In Shibatani, M. (Ed.), *Syntax and Semantics Volume 5: Japanese Generative Grammar*. New York: Academic Press.
- Kawakami, S. (1956). Shookoochoo no sanshu (Three Kinds of Rising-Falling Tone in Japanese). *Onseegakkai Kaihoo*, (92), pp. 7-8.
- \_\_\_\_\_. (1963). Bunmatsu Nado no Jooshoochoo ni Tsuite (Intonations in Sentence Final Positions and Others). *Kokugo Kenkyuu*, (16), pp. 25-46.
- \_\_\_\_\_. (1968). Nihongo no Bun no Owari o Simesu Onchoo (Tone Patterns Signalling Sentence-Final Positions in Japanese). *Kotoba-no Uchuu*, 3(1), 11-19.
- Kenkyusha. (1982). *The Kenkyusha Dictionary of English Linguistics and Philology*. Tokyo: Kenkyusha.
- Kokuritsu Kokugo Kenkyuusho (National Research Institute of the Japanese Language). (1955). *Danwago no Jittai (On the State of Discourse in Japanese): Kokuritsu Kokugo Kenkyuusho Hookoku (Report) 8*. Tokyo: Shuuee Shuppan.
- \_\_\_\_\_. (1960). *Hanashikotoba no Bunkee (1)--Taiwa Shiryou ni yoru Kenkyuu (Patterns of Spoken Japanese (1)--A Study Based on Dialogue Data): Kokuritsu Kokugo Kenkyuusho Hookoku (Report) 18*. Tokyo: Shuuee Shuppan.
- Kubozono, H. (1985). On the Syntax and Prosody of Japanese Compounds. In Kemp, A., J. Miller and E. Uldall (Eds.), *Work In Progress*. Department of Linguistics, University of Edinburgh.
- Kumagai, Y. (1990a). On Relations between Fall/Rise Intonations and Sentence-Final Particles in Tokyo Japanese. ( *Unpublished* )
- \_\_\_\_\_. (1990b). On Japanese Predicatives. ( *Unpublished* )
- Ladd, D. Robert, Jr. (1980). *The Structure of Intonational Meaning: Evidence from English*. Bloomington and London: Indiana University Press.
- \_\_\_\_\_. (1981). A First Look at the Semantics and Pragmatics of Negative Questions and Tag Questions. *Papers from the Regional Meeting, Chicago Linguistic Society*, 17, 164-171.
- Lakoff, R. (1972). Language in Context. *Language*, 48(4), 907-927.

- Liberman, M. and I. A. Sag. (1974). Prosodic Form and Discourse Function. *Papers from the Regional Meeting, Chicago Linguistic Society, 10*, 416-427.
- Martin, S. E. (1975). *A Reference Grammar of Japanese*. New Haven and London: Yale University Press.
- Masuoka, T. (1989). Modaritii no Koozoo to Gimon Hitee no Sukoopu (The Structure of Modality and the Scope of the Question and the Negation). In Nitta, Y. and T. Masuoka (Eds.), *Nihongo no Madaritii (Modality in Japanese)*. Tokyo: Kuroshio Shuppan.
- Miyaji, Y. (1961). Intoneeshon Ron no Tame ni (For a Theory of Intonation). *Kokugo Kokubun, 30*(11), 1-16.
- Moriyama, T. (1989). Ninshiki no Muudo to Sono Shuuhen (The Epistemic Mood and its Periphery). In Nitta, Y. and T. Masuoka (Eds.), *Nihongo no Modaritii (Modality in Japanese)*. Tokyo: Kuroshio Shuppan.
- Nakau, M. (1976). Tense, Aspect, and Modality. In Shibatani, M. (Ed.), *Syntax and Semantics Volume 5: Japanese Generative Grammar*. New York: Academic Press.
- NHK. (1985). *Nihongo Hatsuon Akusento Jiten (A Dictionary of Japanese Accents)*. Tokyo: Nihon Hoosoo Shuppan Kyookai.
- Nitta, Y. (1989). Gendai Nihongo Bun no Modaritii no Taikee to Koozoo (The System and Structure of Modality in Contemporary Japanese Sentences). In Nitta, Y. and T. Masuoka (Eds.), *Nihongo no Modaritii*. Tokyo: Kuroshio Shuppan.
- Ohala, J. J. (1983). Cross-Language Use of Pitch: An Ethological View. *Phonetica, 40*, 1-18.
- Poser, W. J. (1984). *The Phonetics and Phonology of Tone and Intonation in Japanese*. Doctoral dissertation, MIT.
- Sag, I. A. and M. Liberman. (1975). The Intonational Disambiguation of Indirect Speech Acts. *The Papers from the Regional Meeting, Chicago Linguistic Society, 11*, 487-497.
- Searle, J. R. (1975). Indirect Speech Acts. In Cole, P. and J. L. Morgan (Eds.), *Syntax and Semantics Vol 3: Speech Acts*. New York: Academic Press.
- Shibatani, M. (1976). Causativization. In Shibatani, M. (Ed.), *Syntax and Semantics Volume 5: Japanese Generative Grammar*. New York: Academic Press.
- Shinchoosha. (1985). *Shinchoo Gendai Kokugo Jiten (The Shinchoo Dictionary of Contemporary Japanese) 1st Ed.* Tokyo: Shinchoo-sha.
- Traugott, E. C. (1989). On the Rise of Epistemic Meanings in English: An Example of Subjectification in Semantic Change. *Language, 65*(1), 31-55.
- Tsuchiya, S., K. Shirai, H. Suzuki, M. Kawamori. (1990a). Nihongo no Imiron o Motomete (1) (Toward a Theory of the Semantics of Japanese). *Gengo, 19*(1), 84-91.
- \_\_\_\_\_. (1990b). Nihongo no Imiron o Motomete (2). *Gengo, 19*(2), 84-90.
- \_\_\_\_\_. (1990c). Nihongo no Imiron o Motomete (3). *Gengo, 19*(3), 77-83.
- \_\_\_\_\_. (1990d). Nihongo no Imiron o Motomete (4). *Gengo, 19*(4), 90-95.
- \_\_\_\_\_. (1990e). Nihongo no Imiron o Motomete (5). *Gengo, 19*(5), 90-97.
- \_\_\_\_\_. (1990f). Nihongo no Imiron o Motomete (6). *Gengo, 19*(6), 80-87.
- Tsuchiya, S., K. Shirai, H. Suzuki, M. Kawamori, I. Imani. (1990). Nihongo no Imiron o Motomete (7). *Gengo, 19*(7), 86-93.
- Wada, M. (1969). Ji no Akusento (Accent on Enclitics). In Tokugawa, M. (Ed.), *Ronshuu Nihongo*

- Kenkyuu 2: Akusento (Selected Papers on Japanese Linguistics 2: Accent*. Tokyo: Yuuseedoo.
- \_\_\_\_\_. (1975). Akusento, Intoneeshon, Purominensu (Accent, Intonation and Prominece). In Tokugawa, M. (Ed.), *Ronshuu Nihongo Kenkyuu 2: Akusento (Selected Papers on Japanese Linguistics 2: Accent*. Tokyo: Yuuseedoo.
- Ward, G. and J. Hirschberg. (1985). Implicating Uncertainty: The Pragmatics of Fall-Rise Intonation. *Language*, Vol. 61(4).
- Williams, Noriko Kurosawa. (1989). *Japanese Intonation: Meaning and Intonational Phrases*. Doctoral dissertation, Georgetown University.
- Yoshizawa, N. (1960). Intoneeshon (Intonation). In *Hanashikotoba no Bunkee (1)-- Taiwa Shiryoo ni yoru Kenkyuu (Patterns of Spoken Japanese (1)-- A Study Based on Dialogue Data): Kokuritsu Kokugo Kenkyuusho Hookoku (Report) 18*. Tokyo: Shuuee Shuppan.