

'this \_\_\_\_'

mògyā yé  
nwónánè yé

àgòlè yé  
àzèlè yé  
ázùlè yé  
èkyimá yé

ánúà yé  
kèlénè yé

kúkùè yé  
àbèlè yé

álúgbà yé  
ngèbà yé

dwèsè yé  
kúndū yé

ngbòbà yé  
sùà yé

bánè yé  
báká yé

nánè yé  
ètú yé

sàní yé

## Chapter 9

### Some Tonal and Segmental Effects of Vowel Height in Japanese

Shosuke Haraguchi

Japanese has a large number of dialects with processes that are conditioned by high vowels. Several Japanese dialects involve a rule that devoices or deletes the high vowels [i] and [u], and others exhibit tonal processes conditioned by the high (or nonhigh) vowels in question. In this paper, I will present a number of paradigmatic cases of these processes and try to explain why they are dependent on vowel height.

Sections 1 and 2 are concerned respectively with a brief survey of high vowel devoicing and high vowel deletion in several Japanese dialects and an overview of some typical tonal processes that are contingent on the distinction between high vowels and nonhigh vowels.

Section 3 is devoted to determining why certain of the segmental and tonal processes discussed in sections 1 and 2 are applicable (or restricted) only to high (or nonhigh) vowels. I will show that the notion of sonority plays a crucial role in these processes.

#### 1. Some Segmental Effects of High Vowels

I begin with a brief survey of several processes, drawn from a variety of Japanese dialects, that apply only to high vowels.

##### 1.1 High Vowel Deletion in Compounds

In Japanese, the morpheme-final high vowel [i] or [u] of the first member of a compound is systematically deleted when it is surrounded by voiceless consonants. The following cases illustrate this process:

(1)

- a. koku      koku-go      kok-kyoo  
    'country'    'mother tongue'    'border, boundary'

ory Coast, for serving as  
ely active interest in the  
of a talk presented at the

- b. kotu      kotu-gan      kos-setu  
     'bone'      'cancer of a bone'      'fracture of a bone'
- c. ?iti      ?iti-do      ?ip-pon  
     'one'      'once'      'one slender object'

In (1) *koku*, *kotu*, and *?iti* are loanwords from Chinese. In a compound in which one of these words is the first member, the morpheme-final high vowel is deleted when it is followed by a voiceless consonant, but retained when followed by a voiced consonant.

This high vowel deletion process can be formally stated as follows:

(2)

*High Vowel Deletion*

$$\left[ \begin{array}{c} \text{V} \\ +\text{high} \end{array} \right] \rightarrow \phi / \left[ \begin{array}{c} \text{C} \\ -\text{voiced} \end{array} \right] \text{---} + \left[ \begin{array}{c} \text{C} \\ -\text{voiced} \end{array} \right]$$

It should be noted that this rule is not applicable to compounds formed by "Yamato Kotoba" or words of Japanese origin, as illustrated in (3a), nor is it applicable to Chinese loanwords of one syllable, as illustrated in (3b):

(3)

- a. kuti      kuti-zuke      kuti-sui  
     'mouth'      'kiss'      'kiss'
- b. ti      ti-zin      ti-siki  
     'knowledge'      'acquaintance'      'knowledge'

Neither is it applicable to compounds formed by abbreviations (e.g., *koku-tai* < *kokumin-taiiku-taikai* 'National Athletic Games'). As my main concern is not with the details of this process, I will not pursue the matter here. The observation that high vowels are deleted in compounds under certain conditions will suffice for present purposes.

What is important and interesting here is the question of why this deletion is restricted to high vowels. I will answer this question later, in section 3.

### 1.2 High Vowel Devoicing in the Tokyo Dialect

As has been widely noted (for example, by Tashiro (1966) and Haraguchi (1977)), the high vowels [i] and [u] are generally devoiced in the Tokyo dialect, either when surrounded by voiceless consonants or when preceded by a voiceless consonant and followed by a word boundary (# #). This can be formally stated as follows:

Vowel Height in Je

(4)

*High Vowel Devoicing*

$$\left[ \begin{array}{c} \text{V} \\ +\text{high} \end{array} \right] \rightarrow [-\text{v}]$$

This rule applies to compounds in which the first member represents voiceless

(5)

- a. masu 'AUX' (F)  
 b. tjkaku 'near'  
 c. kjkutj '[a famil

This rule seems to apply to one example, it is not applicable when the accented [i] and [u] retain their

(6)

- a. ku<sup>\*</sup>si 'comb'  
 b. su<sup>\*</sup>si 'sushi'

(\* stands for the so-called syllables stand for

Notwithstanding this, the High Vowel Devoicing process is also found in other dialects, and its ce

**1.3 High Vowel Devoicing in Kagoshima** is another example. In Kagoshima, the high vowels [i] and [u] generally drop high vowels. Consider, for exam

(7)

- Underlying form
- a. kaki 'persimmon'  
 b. kagi 'key'  
 c. tuki 'moon'  
 d. niku 'meat'  
 e. doku 'poison'

(4)

*High Vowel Devoicing*

$$\left[ \begin{array}{c} \text{V} \\ +\text{high} \end{array} \right] \rightarrow [-\text{voiced}] / \left[ \begin{array}{c} \text{C} \\ -\text{voiced} \end{array} \right] \text{---} \left( \left[ \begin{array}{c} \text{C} \\ -\text{voiced} \end{array} \right] \text{X} \right) \# \#$$

This rule applies, for instance, to the following cases, in which [u] and [i] represent voiceless [u] and [i], respectively:

(5)

- a. masu 'AUX (polite form)' mazu 'first of all'  
 b. tjkaku 'near' tigaku 'physical geometry'  
 c. kjkutj '[a family name]'

This rule seems to be conditioned by a number of factors. To take just one example, it is blocked in the accented syllable of a two-syllable word when the accented syllable carries high tone. Thus, in (6) the high vowels [i] and [u] retain their voiced quality:<sup>1</sup>

(6)

- a. ku<sup>\*</sup>si 'comb'  
 b. su<sup>\*</sup>si 'sushi'

(\* stands for the so-called accent. The horizontal lines above and below the syllables stand for the H and the L tones, respectively.)

Notwithstanding the examples in (6) and dialectal variations, High Vowel Devoicing is an extremely general phonetic rule of the Tokyo-type dialects, and its central characteristics will be apparent enough.

**1.3 High Vowel Deletion in the Kagoshima Dialect**

Kagoshima is another dialect in which high vowels are deleted in a certain position. Kagoshima is an extremely interesting dialect in that it systematically drops high vowels in word-final (or morpheme-final) position. Consider, for example, the following cases:

(7)

Underlying form	HVD	Surface form
a. kaki 'persimmon'	→ kak	→ ka?
b. kagi 'key'	→ kag	→ ka?
c. tuki 'moon'	→ tuk	→ tu?
d. niku 'meat'	→ nik	→ ni?
e. doku 'poison'	→ dok	→ do?

- f. *turu* 'vine, runner' → *tur* → *tuy*  
 g. *ari-gatoo* 'thank you' → *ar-gatoo* → *ay-gatoo*

Details aside, to handle this interesting characteristic of the Kagoshima dialect, it is necessary only to assume that all of the words in (7) have an underlying morpheme-final high vowel and that they undergo High Vowel Deletion (HVD), along with other rules: a rule that converts the syllable-final sonorant to the glide [y] or one that converts other syllable-final consonants to the glottal stop [ʔ]. What is remarkable here is that morpheme-final vowel deletion is restricted exclusively to high vowels.

#### 1.4 The Problem

The preceding sections have introduced three cases from Japanese dialects in which devoicing or deletion is restricted to high vowels. It should be noted that this is by no means an exceptional property of Japanese, since numerous other languages exhibit processes conditioned by high vowels. It is also to be noted that the three rules in question delete or devoice high vowels either between voiceless consonants or word-finally.

Why do these processes apply only to high vowels? Up to now, almost all generative phonologists have been mainly concerned with the formal aspect of such processes. No one, as far as I know, has considered substantive relations among processes (vs. formal relations) before. I will therefore, try to answer this question. First, however, I will examine cases of a different kind, in which tonal processes are affected by vowel height.

## 2. Some Tonal Effects of Vowel Height in Japanese

Japanese has a number of dialects in which tonal processes are sensitive to the distinction between high and nonhigh vowels. In this section, I will briefly review several of these processes.

As with the cases of devoicing and deletion, these cases involving tone are by no means unique to Japanese; other languages also have processes contingent on vowel height.

### 2.1 The Matsue Dialect

First I will consider certain tonal phenomena of the Matsue dialect, which is known to have a Tokyo-type accentual system. As discussed in Haraguchi (1977), this dialect is theoretically intriguing in that it has the following characteristics, among others:

- (i) It has a Star Shift when the starred *i* particle.  
 (ii) It has an initial initial mora to a low structure (C[V, +]

As an illustration

(8)

In isolation

- a. *hana*<sup>\*</sup>  
 L H  
 'flower'  
 b. *kami*<sup>\*</sup>  
 L H  
 'hair'  
 c. *hana*  
 L H  
 'nose'

In (8) all of the *tu* surface tonal melo of the second and th accent while *hana i*

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(9)

Star Shift (Matsue

$$\left[ \begin{array}{c} \overset{*}{V} \\ +\text{high} \end{array} \right] + C_0 V$$

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With regard to c

(i) It has a Star Shift rule that moves the star (= accent) one mora forward when the starred mora consists of a high vowel and is followed by a particle.

(ii) It has an initial lowering process that has the effect of converting the initial mora to a low tone; any number of consecutive moras containing the structure (C[V, +high]) are also lowered.

As an illustration of (i), consider the following cases:

(8)	In isolation	_____ + ga	_____ + ga + VP
a.	hana*	hana*-ga	hana*-ga sirōi
	L H	L H L	L H L LLL
	'flower'	'flower + sub.'	'white'
b.	kami*	kami-gā	kami-gā sirōi
	L H	L L H	L L H LLL
	'hair'		
c.	hana	hana-ga	hana-ga sirōi
	L H	L H H	L H H HHL
	'nose'		

In (8) all of the two-mora words *hanā\**, *kami\**, and *hana* have the same surface tonal melody when they occur in isolation. However, examination of the second and third columns shows that *hanā\** and *kami\** have word-final accent while *hana* is unaccented.

Comparison between (8a) and (8b) suggests that the star on the [+high] vowel is shifted one mora forward when it is followed by a particle. This rule is simply assumed here, since justification of it is beyond the scope of this paper. This shift is easily accounted for by assuming the following Star Shift rule in this dialect:

(9)  
*Star Shift (Matsue)*

$$\left[ \begin{array}{c} \check{V} \\ +\text{high} \end{array} \right] + C_0 V \rightarrow \left[ \begin{array}{c} V \\ +\text{high} \end{array} \right] + C_0 \check{V}$$

Though there is possibly an alternative account for this fact, I will not be concerned with it here;<sup>2</sup> even if it turned out to be correct, my claim that the tonal process under consideration is contingent on the presence of a high vowel would remain intact.

With regard to characteristic (ii), consider the following cases:

(10)

a. hana 'nose' hana-ga  
 L H L H H

b. otosimonō-ga 'things lost + sub.'  
 L H H H H L

(11)

a. kami 'paper' kami-ga  
 L H L L H

b. harisigōto-ga 'needlework'  
 L L L H L L

The examples in (10) and (11) suggest that this dialect has an initial lowering process like the Tokyo dialect. As indicated in Haraguchi (1979), this can be handled by introducing an initial low insertion rule:

(12)

*Initial Lowering (IL) (Matsue)*

$\phi \rightarrow L / \# \# \_$

The L tone inserted by (12) will be associated with the initial mora by the Universal Tone Association Convention (UTAC), as indicated by the broken line in the illustrative derivations below:

(13)

a. harisigōto-ga	b. hana-ga	Underlying form
harisigōto-ga	hana-ga	IL and UTAC

Since Matsue does not allow a contour tone, the association line that connects the first unaccented mora and the H tone is erased by another convention that is not of concern here. The erasure results in the following melodic structures:

(14)

a. harisigōto-ga	b. hana-ga

In (14), (b) repres  
 to derive the cor

(15)

harisigōto-ga

The relevant rule  
 moras. This rule :  
 mora sequence ri:  
 the L tone to the f  
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## 2.2 The Takamat

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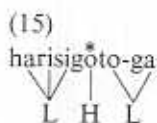
(16)

*Flop Rule (Takan*

a.
b.

Examination of  
 of the Flop rule in  
 and other relevant  
 the melodic differ

In (14), (b) represents the correct surface form, but (a) requires another rule to derive the correct surface form (15):



The relevant rule should only be applicable to consecutive (C [V, +high]) moras. This rule applies to (14a), deleting the association lines between the mora sequence *risi* and the H tone. The UTAC then automatically spreads the L tone to the free moras, *risi*. Here again, the rule in question, which has the function of spreading the L tone to the immediately following high-voweled mora(s), is contingent on vowel height.

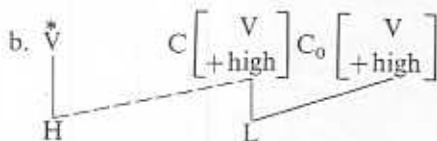
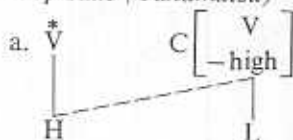
## 2.2 The Takamatsu Dialect

A second tonal process dependent on vowel height occurs in the Takamatsu dialect. As discussed in Haraguchi (1977), which is based on Wada's (1958) pioneering work, this dialect has a rule that spreads the H tone associated with the starred mora to the immediately following L-toned mora, thus deriving a falling contour tone.

Interestingly enough, this rule is restricted to cases in which the starred mora is either followed by a non-high-voweled mora or by a high-voweled mora just in case it is followed by another high-voweled mora. This rule can be formally stated as follows:

(16)

*Flop Rule (Takamatsu)*

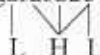


Examination of the relevant data shows that (16a) is an unmarked case of the Flop rule in Takamatsu, while (16b) is a marked exception. This rule and other relevant rules that will not be discussed here are responsible for the melodic differences in the following cases:

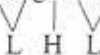
(17)

a. *mūs<sup>\*</sup>ume* 'daughter'b. *kō<sup>\*</sup>oro* 'heart'

(18)

a. *Tadot<sup>\*</sup>usi* 'Tadotsu City'b. *garas<sup>\*</sup>udo* 'glass door'

(19)

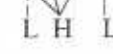
a. *ubag<sup>\*</sup>uruma* 'baby carriage'b. *harisig<sup>\*</sup>oto* 'needlework'

In the (a) examples of (17)–(19), the Flop rule cannot apply, because the L-toned mora immediately to the right of the starred mora consists of a high vowel. On the other hand, the rule in question does apply to the (b) examples, the derivations of which will be approximately as follows:

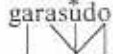
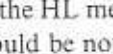
(20)

a. *kō<sup>\*</sup>ono**kō<sup>\*</sup>oro**kō<sup>\*</sup>oro*

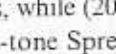
—

*kō<sup>\*</sup>oro**kō<sup>\*</sup>oro*b. *garas<sup>\*</sup>udo**garas<sup>\*</sup>udo**garas<sup>\*</sup>udo*

—

*garas<sup>\*</sup>udo**garas<sup>\*</sup>udo*c. *harisig<sup>\*</sup>oto* Underlying form*harisig<sup>\*</sup>oto* Flop rule

— IL and UTAC

*harisig<sup>\*</sup>oto**harisig<sup>\*</sup>oto**harisig<sup>\*</sup>oto*

Underlying form

Flop rule

IL and UTAC

L-tone Spreading

V V → V V

L H → L H

(20a,b) are cases of the HL melody class, while (20c) is a case of the LHL melody class. It should be noted that L-tone Spreading, which (together with the rule applying in the last line of (20)) has the function of reducing the H tone to appearing on only one mora, is applicable only to the words of the LHL melody class. This is because at the point where the final rule of (20) applies only the L-toned class has the appropriate structure.

The very fact that the Flop rule is dependent either on the vowel height of the post-starred mora or on mora sequence is interesting in itself and

important theory  
inquiring why it

## 2.3 The Tsuruok

A third tonal pre-  
dialect. As discus-  
sion of the following

(21)

*Star Shift (Tsuru*

$$\bar{V} C_0 \left[ \begin{array}{c} V \\ -high \end{array} \right] -$$

This rule, which  
mora contains a  
(22)–(24) but not

(22)

a. *asi<sup>\*</sup>* → *asi-ga<sup>\*</sup>*

(23)

a. *āsahi<sup>\*</sup>* → *asāhi*

(24)

a. *atamā<sup>\*</sup>* → *atam*

Here again, the  
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## 2.4 Summary

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important theoretically. I will return to this fact in the next section when inquiring why it is dependent on vowel height.<sup>3</sup>

### 2.3 The Tsuruoka Dialect

A third tonal process contingent on vowel height is found in the Tsuruoka dialect. As discussed in Haraguchi (1979), this dialect has a Star Shift rule of the following form:

(21)

*Star Shift (Tsuruoka)*

$$\overset{*}{V} C_0 \left[ \begin{array}{c} V \\ -\text{high} \end{array} \right] \rightarrow V C_0 \left[ \begin{array}{c} \overset{*}{V} \\ -\text{high} \end{array} \right]$$

This rule, which moves the star immediately to the right only when the mora contains a low vowel, applies to the words in the (a) examples of (22)–(24) but not to those in the (b) examples.

(22)

a.  $\begin{array}{c} \text{asi}^* \\ | \\ \text{LH} \end{array} \rightarrow \begin{array}{c} \text{asi-ga}^* \\ | \quad | \\ \text{L} \quad \text{H} \end{array}$

b.  $\begin{array}{c} \text{asi-ni}^* \\ | \quad | \\ \text{LH} \quad \text{L} \end{array}$

(23)

a.  $\begin{array}{c} \text{asahi}^* \\ | \\ \text{LH} \end{array} \rightarrow \begin{array}{c} \text{asahi}^* \\ | \quad | \quad | \\ \text{LH} \quad \text{L} \end{array}$  'rising sun'

b.  $\begin{array}{c} \text{kabuto}^* \\ | \quad | \\ \text{H} \quad \text{L} \end{array}$  'helmet'

(24)

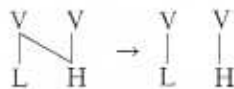
a.  $\begin{array}{c} \text{atama}^* \\ | \quad | \\ \text{L} \quad \text{H} \end{array} \rightarrow \begin{array}{c} \text{atama-kara}^* \\ | \quad | \quad | \\ \text{L} \quad \text{H} \quad \text{L} \end{array}$  'head + from'

b.  $\begin{array}{c} \text{atama-ni}^* \\ | \quad | \quad | \\ \text{L} \quad \text{H} \quad \text{L} \end{array}$  'head + to'

Here again, the Star Shift rule is dependent on the distinction in vowel height. As space is limited, I will simply assume rule (21) and will not attempt to justify it here. I refer the reader to Haraguchi (1979), where it is shown that rule (21) accounts for the apparently puzzling surface tonal system of this dialect.

### 2.4 Summary

In this section I have surveyed several tonal processes in three different dialects. The discussion has shown (a) that Star Shift in these dialects applies either when the starred mora contains a high vowel as in Matsue or when the mora immediately to the right of the starred mora consists of a nonhigh vowel as in Tsuruoka, (b) that a tonal adjustment rule like the



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Flop rule is applicable if the mora to the right of the H-toned mora contains a nonhigh vowel, and (c) that the tone lowering rule in Matsue is applicable only to the sequence of high vowels. Thus, it can be safely concluded that vowel height is the major factor governing the applicability of certain tonal processes. Furthermore, observe that a kind of symmetry obtains. The star or high tone moves either off a high vowel (Matsue) or onto a low vowel (Takamatsu and Tsuruoka). The inverse does not occur: star or high tone moving onto a high vowel or off a low vowel.

### 3. The Sonority Hierarchy

The range of phenomena surveyed in the preceding sections—by no means exhaustive—is fairly straightforward: they are all contingent on vowel height. Now the main question can be asked: namely, why does the distinction between high and nonhigh vowels affect these particular phenomena?

A highly promising approach to answering this question seems to lie in the notion of sonority.<sup>4</sup> The sonority hierarchy of segments is due to Jespersen and is widely known to play an important role in defining the syllabic template. According to Heffner (1952), this hierarchy is approximately defined as follows:

(25)

*The Sonority Hierarchy*

voiceless Cs < voiced Cs < nasals < l < r < glides < high vowels < mid vowels < low vowels

(25) clearly indicates that high vowels are less sonorous than nonhigh vowels.

My claim is that this difference in sonority between high and nonhigh vowels is the reason why the particular phenomena surveyed above are conditioned by vowel height. Thus, the Star Shift rule in Matsue moves the star on the less sonorous high vowel to the immediately following vowel, which reduces the number of words with a starred high vowel to a minimal level. The lowering rule in Matsue that turns the initial H-toned sequence into an L-toned sequence as in (8b) and (11) is very natural in that a less sonorous vowel sequence is turned into a less sonorous L-toned sequence when it immediately follows the initial L tone. Note that the less sonorous high vowel surrounded by more sonorous H-toned vowels is protected from the lowering process.<sup>5</sup>

This line of reasoning will also help in understanding why the Flop rule in

Takamatsu is for a high vowel appears to be the rule in question. The overall sonority of the former is more than that of the latter, though tentatively because of the presence of a high vowel.

Recall that the postaccented vowel is the lowest in sonority and thus are liable to undergo the general more so-

The same question arises in Deletion in Tokyo. The high vowel is restricted to high vowels: high vowels are the least sonorous. It is likely to undergo these "weakening" qualities, or sonority reduction.

What is particular about these type dialects and the type dialects are involved in articulation between these two degrees of tenseness from devoicing to

### 4. Conclusion

The above differences among

Takamatsu is for the most part applicable to cases in which a nonhigh vowel appears to the right of the starred vowel. That is, nonhigh vowels, which are more sonorous than high vowels, are more likely to be turned into H-toned vowels than are the less sonorous vowels. The recalcitrant and apparently puzzling problem in Takamatsu is that a starred vowel followed by two consecutive moras with high vowels can undergo the Flop rule in question. An examination of the data available to me shows that the overall sonority of the first mora of the two consecutive high-voweled moras is higher than that of the second mora, because the consonant of the former is more sonorous than the consonant of the latter. Thus I suggest, though tentatively at present, that case (16b) of the Flop rule is permitted because the sonority of the postaccented mora is made relatively higher by the presence of the more sonorous consonant.

Recall that the Star Shift rule in Tsuruoka is dependent on the height of the postaccented vowel, but not on the quality of the accented vowel itself. This means that it is applicable only when the postaccented vowel is not the lowest in sonority. In fact, only the sonorous vowels can attract the star, and thus are liable to be H-toned. This is because H-toned vowels are in general more sonorous than L-toned vowels.

The same question applies to segmental phenomena like High Vowel Deletion in Tokyo compounds and in Kagoshima: why are these processes restricted to high vowels in these dialects? The answer will already be obvious: high vowels are likely to undergo deletion because they are the least sonorous. It is quite natural that the least sonorous vowels are more likely to undergo devoicing and deletion unless they are protected from these "weakening" processes by stress, tone, tension, certain vowel qualities, or surrounding sonorous consonants.

What is particularly interesting here is that a large number of Tokyo-type dialects undergo devoicing, whereas most of the Kyoto- and Osaka-type dialects are immune from the process. One of the notable differences between these two types of dialects is that in the latter, the degree of tension involved in articulating vowels is higher than in the former. The higher degree of tension, in fact, makes the Osaka- and Kyoto-type dialects freer from devoicing than the Tokyo-type dialects.

#### 4. Conclusion

The above discussions lead naturally to the conclusion that sonority differences among vowels are the main factor that triggers weakening (and

ultimately erasing) effects in segmental phonology and prevents the vowels from undergoing certain tonal processes.

The thesis of this article may be regarded as an illustration of the view that unified phonetic explication is possible for phonological processes that are substantively rather than formally related. In this case a range of apparently unrelated segmental and tonal phenomena have been shown to converge on the sonority hierarchy, which is independently motivated by phonetic considerations of defining possible syllabic structure.

### Notes

This paper is based on a preliminary version read at the monthly meeting of the Circle of Spoken Language Studies (CSLS) at the University of Tsukuba on December 1, 1981. I am especially grateful to Minoru Yasui and the members of the CSLS for providing me with many interesting comments and suggestions. I am also grateful to N. Teele for reading the draft. None of them are, however, responsible for the remaining errors or insufficiencies.

1. There seems to be some dialectal fluctuation in these cases. Thus, in my own dialect these accented high vowels also undergo devoicing, which means that in my dialect high vowels are all devoiced in the environment under consideration.
2. For some discussion of this, see Haraguchi (1977).
3. For a more detailed discussion of the Flop rule and other phenomena in the Takamatsu dialect, see Haraguchi (1977).
4. I am grateful to Minoru Yasui for pointing out this notion to me.
5. I assume, in addition to the sonority hierarchy, that H tone is more sonorous than L tone and that stress also affects sonority. See Liberman and Pierrehumbert (this volume) for relevant discussion.

## Chapter 10

### Intonational H under Changes in Range and Level

#### 1. Introduction

The central question of this chapter is the status of the H tone in the description of intonation. The H tone is a case in which the tone is a substance and so usually assumed. The H tone is a case in which the tone is a substance and so usually assumed. The H tone is a case in which the tone is a substance and so usually assumed.

The work reported in this chapter is a study of the H tone in the description of intonation. The H tone is a case in which the tone is a substance and so usually assumed. The H tone is a case in which the tone is a substance and so usually assumed.

The status of the H tone in the description of intonation differs from the other factors of intonation. The H tone is a case in which the tone is a substance and so usually assumed. The H tone is a case in which the tone is a substance and so usually assumed.