1 Accent

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0 Introduction

The study of Japanese accent has a long history, during the course of which a large number of data have been accumulated by numerous Japanese linguists.[1] Japanese consists of a great number of different dialects, which have their own phonetic peculiarities. The accentual phenomena of these dialects differ from one another in at least some respects. However, dialects can be classified into a number of types in terms of their accentual patterns and tonal melodies.

Within the framework of generative phonology, J. D. McCawley (1968b) and Shibatani (1972), among others, have attracted the attention of many linguists to Japanese accentual phenomena by their penetrating analyses. Following their pioneering work, Haraguchi (1977, 1979a, 1979b, 1991), Okuda (1971), Kubozono (1993), and many others have further contributed to our understanding of Japanese accent and the advancement of phonological theory. In this chapter, I will draw upon all these previous efforts in order to shed light on a variety of the characteristics of Japanese accent and tonal systems.
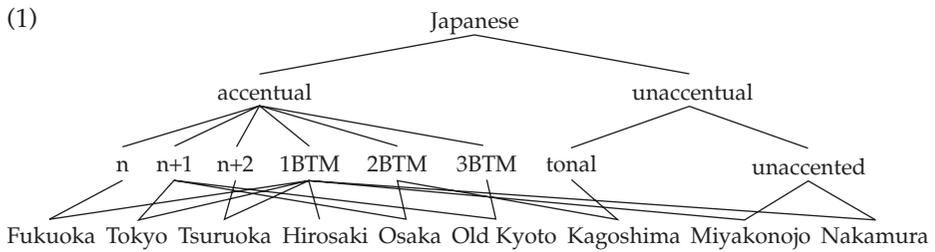
Despite the variety of Japanese dialects, I will focus attention in this chapter on two dialects: Tokyo Japanese and Osaka Japanese. One of the reasons why I limit discussion to these two dialects is that they are representative accentual systems with one and two basic tone melodies. Also a good number of accentual data for these dialects are available, since they have been well studied by a number of phonologists. Another reason is simply that space is limited and thus it is next to impossible to cover all of the various accentual and tonal systems in Japanese.

Before going on to the discussion of these two dialects, let us first outline briefly the accentual and tonal varieties of Japanese dialect. The survey will be helpful to understand the schematic picture of Japanese "accentual patterns."

Japanese accentual and tonal systems are divided into two types: accentual systems and unaccentual ones. The former are divided into subtypes in terms

of the number of both underlying and surface accentual patterns (n, n+1, n+2, etc.) and the latter into tonal systems and unaccented or intonational systems. Both the accentual and unaccentual systems can be further classified into a number of subtypes in terms of the number and type of tonal melodies (e.g. 1 Basic Tone Melody (1BTM), 2BTM, 3BTM, etc.). This is schematically represented in (1).

In (1), accentual type n means that words with n moras have n-accentual patterns, which implies that all words are accented; accentual type n+1 means that words with n moras have n+1 accentual patterns, which implies that words are divided into unaccented and n-mora accented; accentual type n+2 means that the dialect has n+1 accentual patterns with one more additional accentual class. nBTM refers to the number of basic tone melodies in the language or dialect; for example, 1BTM means that there is one basic tone melody.

(1)

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                                    Japanese
                    _____|_____
                   |                                       |
               accentual                              unaccentual
      _____|_____               _____|_____
     |   |    |    |     |      |               |                     |
     n  n+1  n+2  1BTM  2BTM   3BTM   tonal                      unaccented

Fukuoka Tokyo Tsuruoka Hirosaki Osaka Old Kyoto Kagoshima Miyakonojo Nakamura
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Tokyo Japanese, for example, is an n+1 accentual type dialect with one basic tone melody (HL). Osaka Japanese is virtually identical to Tokyo Japanese in that it has an n+1 accentual pattern for each melody, but it is different from Tokyo Japanese in that it has two basic tone melodies (HL and LHL). Old Kyoto Japanese manifests the richest surface tonal melodies due to the fact that it has three basic tone melodies (HL, LHL, and LH), while the underlying tonal pattern is n+1, just like that of Tokyo Japanese and Osaka Japanese.

Accentual systems of Japanese dialects have a number of characteristics. In almost all dialects, verbs and adjectives are divided into two classes in one of two ways: either accented and unaccented (e.g. Tokyo Japanese) or into two different melodies (e.g. HL and LHL in Osaka Japanese, LHL and LH in Kagoshima Japanese, etc.). The former normally has accent on the penultimate mora, which is equivalent to the stem-final mora/syllable V in (2). See section 1 for more discussion on this point.

(2) $CV(C)]_{stem} \begin{pmatrix} (r)u]_{verb} \\ i]_{adj} \end{pmatrix}$

Nouns, on the other hand, tend to have more accentual varieties than verbs and adjectives, depending on the surface accentual/tonal realization. Consider (3), which contains some systems frequently observed in Japanese dialects.

(3)   *No. of surface tonal patterns*   *Analysis/system*
  a.   1   one-melody unaccentual system
  b.   2   two-melody unaccentual system
  c.   3   accentual system
  d.   n   accented words only
  e.   n+1   accented words and unaccented ones
  f.   n+2   accented and unaccented words +
                                                                     Accent Shift
  g.   2n+1 (n+1; n)   two-melody system
  h.   3n+2 (n+1; n+1; n)   three-melody system

If a dialect has only one or two tonal patterns, the system is interpreted as a one-melody unaccentual system or a two-melody unaccentual system respectively. Miyakonojo Japanese and Izumi Japanese are examples of (3a). Kagoshima Japanese is a celebrated example of (3b). Both of these patterns differ from the remaining ones in that they are unaccentual systems whereas the rest are accentual systems. Kumi Japanese is an example of (3c).

The n-accentual or tonal pattern type as witnessed in Fukuoka Japanese can be found in accentual systems only. The n+1 accentual or tonal patterns are the most common in Japanese dialects. The existence of an n+2 accentual pattern type is rather amazing in that the largest logical possibility should be n+1. It is shown in Haraguchi (1977, 1979a, 1979b, 1998) that Tsuruoka Japanese, which is an example of (3f), can be analyzed as having an underlying n+1 accentual system.

Systems incorporating 2n+1 accentual or tonal patterns, as in (3g), are analyzed as consisting of two-melody systems. Most of the Kansai dialects, including Osaka Japanese, belong to this class. What is interesting with respect to this class is that there is no dialect with 2n patterns or 2n+2 patterns. Furthermore, systems with 3n+2 accentual or tonal patterns, as in (3h), are analyzed as having three-melody systems. The only dialect which belongs to this class is the Old Kyoto dialect. Notice that within the three-melody class, there are no cases with 3n patterns, 3n+1 patterns, or 3n+3 patterns.

Japanese dialects can also be classified into a number of types in terms of tonal systems. The most complicated dialect is that of the Old Kyoto Japanese as found in *The Ruizyuumyougisyou*. This dialect is peculiar in that it has three tonal melodies for nouns: HL/LH/LHL. To the best of my knowledge, there seems to be no accentual Japanese dialect with any other logically possible combination of tonal melodies, such as H/HL/L, or H/LH/LHL, or L/HL/LH.

Interestingly enough, some Japanese dialects have a smaller number of tonal melodies. There are a number of contemporary Japanese dialects with two tonal melodies. Thus, the so-called Kansai-type dialects, such as Kyoto Japanese, Osaka Japanese, Kameyama Japanese, and Kochi Japanese, have two tonal melodies: HL and LHL. Another type of dialect with two tonal melodies is Kagoshima Japanese, which has LH and LHL melodies. For some unknown

reason, there is no Japanese dialect with HL and LH melodies. I suspect that this gap is accidental, and not systematic.

Japanese dialects belonging to the accentual system are divided into three types: the HL melody class, the LH melody class, and the LHL melody class. A large number of the Tokyo-type dialects have the HL melody system. Only a limited number of accentual dialects have the LH melody system. Hirosaki Japanese and Shizukuishi Japanese belong to this class. Other dialects have an LHL melody system, to which Narada Japanese, Kumi Japanese, Tsuruoka Japanese, etc. belong. There seems to be no accentual dialect with an H melody or an L melody, or an M (Mid) melody for that matter.

In contrast, dialects which are classified as unaccentual are either LH, HL, M, or have no perceivable melodic shape. Miyakonojo Japanese, spoken in an area located near that where Kagoshima Japanese (which has LH and LHL melodies) is spoken, has an LH melody system. Another well-known unaccentual dialect is Sendai Japanese, which is analyzed as having an HL melody system. As shown by Haraguchi (1977), Uchiko Japanese has an M melody system. It is widely recognized that a fair number of Japanese unaccentual dialects do not have a fixed melodic system. Thus, their melody can change depending on certain circumstances.

The observations above can be summarized in the following diagram.

(4) a. 3-melody system: HL, LH, LHL ---------------- Old Kyoto Japanese
     b. 2-melody system: (i)   HL, LHL ------------- Kansai-type dialects
                           (ii)   LH, LHL ------------ Kagoshima Japanese
                           (iii)   HL, LH -------------- Gap
     c. 1-melody system: (i)   HL (accentual) ------ Tokyo-type Japanese
                                      (unaccentual) -- Sendai Japanese
                           (ii)   LH (accentual) ------ Hirosaki,
                                                        Shizukuishi Japanese
                                      (unaccentual) -- Miyakonojo Japanese
                           (iii)   LHL ------------------ Kumi, Narada,
                                                        Nakamura Japanese,
                                                        etc.
                           (iv)   M ---------------------- Uchiko Japanese
                           (v)   H ---------------------- ? Gap
                           (vi)   L ------------------------ ? Gap
                           (vii)   No fixed melody --- Other unaccentual
                                                        Japanese

The characteristics of the Japanese melodic systems in (4) will be made clearer if we compare them to the melodic systems of tonal languages such as Chinese or Mende.

(5) a. Chinese: 4-melody system: H, L, HL, and LH
     b. Mende: 5-melody system: H, L, HL, LH, and LHL

A comparison of (4) and (5) shows clearly that Japanese dialects use a subset of the melodic systems permitted in other languages. In addition to this, a large number of Japanese dialects make use of accentual information to distinguish lexical differences.

   With this much background information in mind, let us now turn to the analysis of two typical Japanese dialects: Tokyo Japanese and Osaka Japanese. The remainder of this chapter is organized as follows: section 1 discusses the accentual and tonal system of Tokyo Japanese. Section 2 is devoted to a detailed discussion of the accentual and tonal system of Osaka Japanese. Section 3 is a brief summary and conclusion.

1   Accentual and Tonal System of Tokyo Japanese

1.1   Introduction

Tokyo Japanese is a typical dialect with a pitch accent system. Words can be distinguished only by accent, as is illustrated by the examples in (6). Notice that the location of the accent corresponds to the mora before the pitch drop: that is, the accent is on the H immediately before L.

(6)   *Nouns*   *Glosses*   *Analyses*
     a.   ka'ki (-ga)   "oyster"+Nom   o' o (o): initial-accented
            H L   L
     b.   kaki' (-ga)   "fence"+Nom   o o' (o): final-accented
            L H   L
     c.   kaki (-ga)   "persimmon"+Nom   o o (o): unaccented
            L H   H
          (where the diacritic mark (') indicates that the immediately preceding
          syllable (o) has an accent.)

In isolation, *kaki* in (b) and (c) have the same melody, LH. However, they are distinguished when followed by, for example, the Nominative morpheme *ga*. Thus, they should be analyzed as different in terms of accent, as indicated in (6).

   Tokyo Japanese has a number of accentual and tonal characteristics, some of which are summarized as follows:

(7)   a.   It has n+1 accentual patterns for n-mora words.
      b.   Words are divided into two classes: accented and unaccented (more than 50 percent of nouns are unaccented).
      c.   Approximately 75 percent of accented nouns have an accent on the head of the syllable head containing the antepenultimate mora.
      d.   The basic tone melody is HL.
      e.   It has a number of tonal and accentual rules.
      f.   Present forms of accented verbs and adjectives have an accent on the penultimate mora.

In what follows, I will discuss these characteristics, on the basis of a number of examples.

1.2   The accentual pattern of Tokyo Japanese

Dialects of type (3e) above are different from those of (3d) in that they have unaccented words in addition to n accented words. A well-known example of this type of dialect is Tokyo Japanese, which has the tonal surface melodies for nouns.

(8)

	Unaccented	*Initial-accented*	*Second-accented*	*Third-accented*	*Fourth-accented*
1.	e-ga	e'-ga			
	L H	H L			
	"handle"-Nom	"picture"-Nom			
2.	hasi (-ga)	ha'si (-ga)	hasi' (-ga)		
	LH H	H L L	LH L		
	"edge"-Nom	"chopstick"-Nom	"bridge"-Nom		
3.	sakura (-ga)	ka'rasu (-ga)	koko'ro (-ga)	otoko' (-ga)	
	L HH H	H LL L	L H L L	LH H L	
	"cherry"-Nom	"crow"-Nom	"heart"-Nom	"man"-Nom	
4.	kamigata (-ga)	se'kitan (-ga)	asa'gao (-ga)	aozo'ra (-ga)	kaminari' (-ga)
	L HHH H	H LLL L	LH LL L	LHH L L	L HHH L
	"hair style"-Nom	"coal"-Nom	"morning-glory"-Nom	'blue sky"-Nom	"thunder"-Nom

   (where the diacritic mark (') stands for accent on the immediately preceding mora.)

Tokyo Japanese is peculiar in that we cannot predict where the H to L falling tone occurs. Thus, we need lexical information regarding where the fall in tone (i.e. the accent) appears. According to traditional analyses of this dialect, the words of the first column, which do not have a fall in pitch even when they are followed by the Nominative morpheme *ga*, are analyzed as unaccented, while the words of the other columns are accented as indicated in (8).

   Almost all of the Tokyo-type dialects consist of n+1 accentual systems, while they are divided into a number of different subtypes depending on their basic tonal melody. I will omit the discussion of these differences in this chapter.

1.3   The tonal system of Tokyo Japanese

Most works on Japanese accent begins with a discussion of the tonal system of Tokyo Japanese. This is because Tokyo Japanese is virtually equivalent to so-called Standard Japanese or Common Japanese. In addition to this, Tokyo Japanese has been examined extensively and the accumulated data are detailed

and numerous. Furthermore, there are a number of accent dictionaries for Tokyo Japanese.

1.3.1 *The tonal melody of nouns*

Let us begin with a discussion of nouns. The accentual pattern of Tokyo Japanese is, as discussed in section 1.2, considered to be a typical n+1 type; i.e. it has n+1 accentual variations for n-syllable words.

The largest number of words (approximately 55 percent) are unaccented. Among the accented words, approximately 75 percent have accent on the antepenultimate mora (see J. D. McCawley 1968b, Haraguchi 1991, E. Yamada 1990, and others for discussion concerning this point). Based on this observation, Haraguchi (1991) proposes that Tokyo Japanese has an accentual system virtually parallel to that of the English stress system. This finding is rather surprising taking into consideration the fact that Tokyo Japanese and English are not related to each other in terms of origin and language typology.

How do we decide the basic tone melody of Tokyo Japanese? Examination of the tonal melodies in (8) above suggests that the L tone on the initial syllable is automatically accounted for. What we need to assume is a dissimilation process schematically shown in (9), which is commonly referred to as initial lowering.

(9)   Dissimilation (Tokyo Japanese):
      #H H   →   L H

Notice, as pointed out by Hattori (1954, 1960), that this dissimilation does not apply in natural speech when the word-initial syllable is heavy, i.e. it is CVV or CVC. Thus, consider the following samples.

(10)   a.   kooban   "police station"
            HHHH
       b.   kondan   "familiar talk"
            HHHH

The lowering of the initial H tone on the initial mora will be possible only if the word is uttered in a slow, careful, unnatural fashion. In addition, initial lowering is not applicable if there is no preceding pause. A pause indicates the accentual phrase boundary. This observation shows that this dissimilation process is phonetic in nature and is dependent on factors such as the speed of speech, style of pronunciation, and others. For detailed discussion, see Haraguchi (1977) and the reference cited therein.

We can thus exclude the initial L tone from consideration when we determine the basic tonal melody of Tokyo Japanese. The tonal melody common to unaccented words and final-accented words is H whereas the tonal melody of all the other accented words is HL. These two melodies can be unified into the HL melody if we assume that the final moras of unaccented and final-accented

words are associated with the H tone of the HL melody, leaving the L tone unassociated with the final mora of the word in question. On the basis of this observation, I conclude that the basic tone melody of Tokyo Japanese is HL.

Let us now discuss some of the tonal phenomena related to phrases. The enclitic *ma'de* "even" and the predicate *de'su* "be" have their own accent on the initial mora. What happens when these morphemes are attached to nouns? As illustrated in (11), the left accent wins and the H tone of the HL melody is associated with the accent.

(11) a. sakura-ma'de   b. otoko'-ma'de
          L HH H L   LH H L L
          "cherry"-even   "man"-even
      c. koko'ro-ma'de   d. ka'rasu-ma'de
          L H L L L   H L L L L
          "heart"-even   "crow"-even

After the association of the HL melody to all the tone-bearing units, initial lowering applies and the initial H tone is turned into an L tone if it is followed by another H tone.

It is well known that the genitive morpheme *no* causes the accent on the final syllable to be deleted if the final-accented noun has two moras or more. To see this, examine the cases in (12) and (13).

(12)   *Noun*   *Gloss*   *Noun+Gen*   *Noun+Obj*
      a. uti'wa   "fan"   uti'wa-no   uti'wa-wo
          LH L   LH L L   LH L   L
      b. iro'gami   "color paper"   iro'gami-no   iro'gami-wo
          LH L L   LH L L L   LH L L   L
      c. a'rasi   "storm"   a'rasi-no   a'rasi-wo
          H L L   H L L L   H L L   L

(13)   *Noun*   *Gloss*   *Noun+Gen*   *Noun+Obj*
      a. kawa'   "river"   kawa-no   kawa'-wo
          L H   L H H   L H   L
      b. atama'   "head"   atama-no   atama'-wo
          LH H   LH H H   LH H   L
      c. niho'n   "Japan"   nihon-no   niho'n-wo
          LH L   LHH H   LH L   L
      d. kino'o   "yesterday"   kinoo-no   kino'o-wo
          LH L   LH H H   LH L   L

A comparison of (12) and (13) indicates that accent deletion applies only when accent is on the final syllable of a noun followed by the genitive morpheme. Thus, the accent on the other syllables is preserved when *no* is attached to a noun.

Furthermore, compare the examples in (13) to those in (14). The examples in (13) undergo accent deletion, while those in (14) do not.

(14)   *Noun*   *Gloss*   *Noun+Gen*   *Noun+Obj*
    a.   ha'   "teeth"   ha'-no   ha'-wo
      H   H   L   H   L
    b.   kyo'o   "today"   kyo'o-no   kyo'o-wo
      HL   HL L   H L   L
    c.   ho'n   "today"   ho'n-no   ho'n-wo
      H L   H L L   H L   L

Where does this difference in accent loss come from? Notice that the examples in (14) are monosyllabic while those in (13) are polysyllabic. Thus, we can summarize the above observation as follows:

(15)   Accent is deleted when a polysyllabic noun with accent on the final syllable is followed by the Genitive *no*.

This generalization can be put differently, if we note the fact that the examples in (14) can be interpreted as either initial-accented or final-accented, while those in (13) can only be interpreted as final-accented.

(15)′   Accent is deleted when a noun which is uniquely interpreted as having accent on the final syllable is followed by the Genitive *no*.

I have nothing to say here about whether these two generalizations are merely notational variants or whether they are qualitatively different conceptualizations and thus have theoretically independent implications.

    In contrast to accent deletion, Tokyo Japanese has at least one case of accent insertion. A typical case is the insertion of accent on the initial mora of a noun when the word is preceded by the honorific prefix *o*. Consider the following samples.

(16)   *Noun*   *Gloss*   *o+noun*
    a.   huro'   "bath"   o-hu'ro
      L H   L H L
    b.   susi'   "sushi"   o-su'si
      L H   L H L
    c.   ha'si   "chopsticks"   o-ha'si
      H L   L H L

(17)   *Noun*   *Gloss*   *o+noun*
    a.   tegami   "letter"   o-te'gami
      L H H   L H L L
    b.   sentaku "washing"   o-se'ntaku
      LHH H   L H LL L

Irrespective of the presence or absence of accent, accent is assigned to the initial mora of the noun to which honorific *o* has been attached. This accent assignment is, as suggested in Haraguchi (1977), interpreted as a type of compound formation in Tokyo Japanese.

1.3.2   Tonal patterns of verbs

Consider now verbal patterns in Tokyo Japanese. As mentioned briefly in the introduction of this section, verbs are divided into two types: accented and unaccented. Consider the data in (18).

(18)   Verbal classes in Tokyo Japanese:

		Unaccented		*Accented*		

(i)	a.	wur-u
		  L H
			"sell"	ka't-u
				  H L
					"win"	consonant-ending
						verb

	b.	ki-ru
		  L H
			"wear"	mi'-ru
				  H L
					"see"	vowel-ending
						verb

(ii)	a.	susum-u
		  L H H
			"advance"	kaku's-u
				  L H L
					"hide"	consonant-ending
						verb

	b.	kari-ru
		  LH H
			"borrow"	tate'-ru
				  L H L
					"build"	vowel-ending
						verb

(iii)	a.	utagaw-u
		  L H H H
			"doubt"	yoroko'b-u
				  L H H L
					"be glad"	consonant-ending
						verb

	b.	narabe-ru
		  LH H H
			"line up"	kakure'-ru
				  L H H L
					"hide"	vowel-ending
						verb

Taking into consideration the analysis of the tonal patterns of nouns, the surface LH melody class is analyzed as unaccented and the surface (L) H (H) L melody class is analyzed as penultimate-accented (or stem-final-accented).

Let us examine in more detail some verbal forms of Tokyo Japanese. As representatives of accented and unaccented verbs, consider various forms of the verbs in (18ii) shown in (19) and (20).

(19)

		Present	*Gloss*	*Imperative*[2]	*Causative*	*V+want*

	a.	susum-u
		  L H H
			"advance"	susum-e
				  L H H
					susum-ase-ru
					  L H HH H
						susum-i-ta-i
						  L H HHH

	b.	kari-ru
		  LH H
			"borrow"	kari-ro
				  LH H
					kari-sase-ru
					  LH HH H
						kari-ta-i
						  LH HH

(20)

		Present	*Gloss*		*Causative*	*V+want*

	a.	kaku's-u
		  L H L
			"hide"	kaku's-e
				  L H L
					kakus-ase'-ru
					  L H HH L
						kakus-i-ta'-i
						  L H HHL

	b.	tate'-ru
		  LH L
			"build"	tate'-ro
				  L H L
					tate-sase'-ru
					  LH HH L
						tate-ta'-i
						  L H HL

Imperative forms, Causative forms, and V+*want* forms are all parallel to the Present forms in that unaccented verbs are unaccented and accented verbs are

penultimate-accented. Accent is assigned by the same mechanism as that of the Present form.

Consider now what happens when the morphemes *(y)o'o* "let" and *ma'su* "Polite-Present" are attached to these verbs.

(21) | | *Present* | | *(y)o'o "let"* | *ma'su "Polite-Present"* |
|---|---|---|---|---|
| a. | susum-u | "advance" | susum-o'o | susumi-ma's-u |
| | L H H | | L H HL | L H H H L |
| b. | kari-ru | "borrow" | kari-yo'o | kari-ma's-u |
| | LH H | | LH HL | L H H L |

(22) | a. | kaku's-u | "hide" | kakus-o'o | kakusi-ma's-u |
|---|---|---|---|---|
| | L H L | | L H HL | L HH H L |
| b. | tate'-ru | "build" | tate-yo'o | tate-ma's-u |
| | LH L | | LH HL | LH H L |

Examination of (21) and (22) shows that these morphemes remove the accent of the accented verbs and their own accent is realized on the penultimate mora.

Consider next Negative and Preverbal forms.

(23) | | *Present* | | *Negative* | *Preverbal* |
|---|---|---|---|---|
| a. | susum-u | "advance" | susum-a-na-i | susun-de |
| | L H H | | L H H HH | L HHH |
| b. | kari-ru | "borrow" | kari-na-i | kari-te |
| | LH H | | LH HH | LH H |

(24) | a. | kaku's-u | "hide" | kakus-a'-na-i | kaku'si-te |
|---|---|---|---|---|
| | L H L | | L H H LL | L H L L |
| b. | tate'-ru | "build" | tate'-na-i | ta'te-te |
| | LH L | | LH LL | H L L |

With the exception of some segmental variation, nothing happens when the negative morpheme *na-i* or the connective morpheme *te* is attached to unaccented verbs. When these forms are attached to accented verbs, the final mora becomes extratonal or invisible and accent is assigned to the penultimate mora of the visible part; that is, accent is placed on the antepenultimate mora. Note that the negative morpheme *-nai*, which is an adjective, is assigned accent by the mechanism of accent assignment for adjectives.

Consider finally Conditional forms and Past forms.

(25) | | *Present* | | *Conditional* | *Past* |
|---|---|---|---|---|
| a. | susum-u | "advance" | susum-e'-ba | susu'n-da |
| | L H H | | L H H L | L H L L |
| b. | kari-ru | "borrow" | karir-e'-ba | kari'-ta |
| | LH H | | LH H L | LH L |

(26) a. kaku's-u   "hide"   kaku's-e-ba   kaku'si-ta
            L H L   L H L L   L H L L
      b. tate'-ru   "build"   tate'-re-ba   ta'te-ta
            LH L   LH L L   H L L

It seems that the Conditional morpheme *(r)e-ba* and the Past morpheme *ta* assign accent on the penultimate mora when they are attached to unaccented verbs, while they assign accent on the antepenultimate mora when they are attached to accented verbs. One possible way to interpret these facts is that the final mora of Conditional forms and Past forms becomes extrametrical or invisible when the morphemes in question are attached to accented verbs.

   Another possible interpretation is to assume that the Conditional and Past morphemes are extratonal or invisible to tone association of the HL melody and that accent is assigned to the penultimate mora of accented verbs just like the Present form. Thus the derivations would be as illustrated in (27), where extratonality is represented by < >.

(27)   a. susum-e<-ba>   b. susu<n-da>   c. karir-e<-ba>   d. kari<-ta>

Tone | | | |
association   H   L   H   L   H   L   H   L

        a. susum-e<-ba>   b. susu<n-da>   c. karir-e<-ba>   d. kari<-ta>

Tone   ⟍   ⟍   ⟍   ⟍
spreading   H   L   H   L   H   L   H   L

        a. susum-e<-ba>   b. susu<n-da>   c. karir-e<-ba>   d. kari<-ta>

Initial | ⟍ | | | ⟍ | |
lowering   L   H L   L H   L   L   H   L   LH L

        a. susum-e-ba   b. susun-da   c. karir-e-ba   d. kari-ta

Noncyclic | ⟍ | | |⟍ | ⟍ | |||
association   L   H L   L H   L   L   H   L   LH L

(28)   a. kakus-e<-ba>   b. kakusi<-ta>   c. tate-re<-ba>   d. tate<-ta>
Accent a. kaku's-e<-ba> b. kaku'si<-ta> c. tate'-re<-ba> d. ta'te<-ta>
assignment
        a. kaku's-e<-ba> b. kaku'si<-ta> c. tate'-re<-ba> d. ta'te<-ta>

Tone | | | | | | | |
association   H   L   H L   H L   H L

        a. kaku's-e<-ba> b. kaku'si<-ta> c. tate'-re<-ba> d. ta'te<-ta>

Tone   ⟍ | ⟍ | ⟍ | | |
spreading   H   L   H L   H L   H L

        a. kaku's-e<-ba> b. kaku'si<-ta> c. tate'-re<-ba> d. ta'te<-ta>

Initial | | | | | | | | | | |
lowering   L H L   L H L   L H L   H L

        a. kaku's-e-ba   b. kaku'si-ta   c. tate'-re-ba   d. ta'te-ta

Noncyclic | | ⟋ | | ⟋ | | ⟋ | ⟋
association L H   L   L H L   L H L   H L

The merit of this analysis is that there is no need to introduce an accent assignment rule for unaccented forms.

The observations above show that verbal suffixes are classified into three types in Tokyo Japanese. One type, such as *(r)u* and *te*, is unaccented in itself and forms a single prosodic word together with the preceding verbal root. A second type of verbal suffix, such as *yo'o* and *ma'su*, asserts its accentual integrity; i.e. the compound forms are accented, assigning accent to the penultimate mora. A third type of verbal affix, including the morphemes *(y)oo*, *te*, and *(r)e-ba*, makes the final mora extratonal or invisible when attached to verbs.

1.3.3   The tonal patterns of adjectives

Adjectives in Tokyo Japanese are also divided into two tonal classes: accented and unaccented. Accented adjectives have accent on the penultimate mora in the Present form.

(29)   Adjectival classes in Tokyo Japanese:

	Unaccented		*Accented*	
a.	aka-i	"red"	siro'-i	"white"
	L HH		LH L	
b.	tumeta-i	"cold"	tanosi'-i	"happy"
	L HHH		L HHL	
c.	namanuru-i	"lukewarm"	omosiro'-i	"interesting"
	L H H HH		L HHH L	

The fact that accented adjectives have penultimate accent is parallel to the situation with verbs, as demonstrated above. Let us now examine some of the inflectional forms of adjectives. Consider first the following cases.

(30)

		Unaccented			*Accented*	
	a.	aka-i	"red"	b.	siro'-i	"white"
		L HH			LH L	
Preverbal		aka-ku			si'ro-ku	
		LH H			H L L	
Nominal		aka-sa			si'ro-sa	
		LH H			H L L	
	c.	tumeta-i	"cold"	d.	tanosi'-i	"happy"
		L HHH			L HHL	
Preverbal		tumeta-ku			tano'si-ku	
		L HH H			L H L L	
Nominal		tumeta-sa			tano'si-sa	
		L HH H			L H L L	

Unaccented cases remain unaccented and accented cases with *ku* and *sa* have accent on the antepenultimate mora. The antepenultimate accent is analyzed as the consequence of the extrametricality of *ku* and *sa* and the ensuing accent assignment on the penultimate mora. Note that the extrametricality of these cases is restricted to the level of accent assignment only.

  Consider now the following cases of adjectival forms.

(31)   *Unaccented*   *Accented*
            a.   aka-i   "red"   b.   siro'-i   "white"
                 L HH   L H L
. . . *ku + wa*   aka-ku-wa   si'ro-ku-wa
                 L H L L   H L L L
Past   aka-kat-ta   si'ro-kat-ta
                 L H LL L   H L LL L
Conditional   aka-kere-ba   si'ro-kere-ba
                 L H LL L   H L LL L

            c.   tumeta-i   "cold"   d.   tanosi'-i   "happy"
                  L HHH   L HHL
. . . *ku + wa*   tumeta-ku-wa   tano'si-ku-wa
                  L HH L L   L H L L L
Past   tumeta-kat-ta   tano'si-kat-ta
                  L HH L L   L H L LLL
Conditional   tumeta-kere-ba   tano'si-kere-ba
                  L HH LL L   L H L LL L

  I assume that *-ku-wa*, *-kat-ta*, and *kere-ba* are all noncyclic or extratonal and thus they are irrelevant to accent assignment and tone association. Thus, the H tone of the HL melody is associated with the final mora of unaccented stems in (31) and accent is assigned to the penultimate mora of the visible part of each accented verb. Everything else is handled with virtually the same mechanisms as were necessary in the derivations illustrated in (27) and (28).

  Notice that the *ku-wa* forms, the Past form *kat-ta* and the Conditional form *kere-ba* all appear to assign accent to the stem-final mora when they are attached to unaccented adjectives. However, as noted in the preceding paragraph, there is no need to resort to accent assignment to account for these unaccented cases. All we need is to simply assume that the morphemes *ku-wa*, *kat-ta*, and *kere-ba* are either noncyclic or extratonal, both in unaccented and accented cases. Notice also that the extratonality works at the level of accent assignment and tone association, whereas the extrametricality mentioned above works at the level of accent assignment. Thus, these two notions must be distinguished from each other.

  Some sample derivations follow, where X stands for either *ku-wa, kat-ta*, or *kere-ba*.

(32)

	Unaccented	*Unaccented*	*Accented*	*Accented*
Extratonal accent assignment	aka-X aka<-X> n/a	tumeta-X tumeta<-X> n/a	siro-X siro<-X> si'ro<-X>	tanosi-X tanosi<-X> tano'si<-X>
Tone association	aka<-X> │ H L	tumeta<-X> │ H L	si'ro<-X> │ │ H L	tano'si<-X> │ │ H L
Tone spreading	aka<-X> \\ H L	tumeta<-X> \\ H L	si'ro<-X> │ │ H L	tano'si<-X> \\│ H L
Initial lowering	aka<-X> │ │ L H L	tumeta<-X> │ \\ L H L	si'ro<-X> │ │ H L	tano'si<-X> │ │ │ L H L
Noncyclic association	aka-X │ │ │ L H L	tumeta-X │ \\ │ H H L	si'ro-X │ / H L	tano'si-X │ │ / L H L

The derivations of the first two columns above show clearly that what appears to be accent assignment to unaccented cases is actually a result of extratonality of the relevant suffixes. In addition, accent assignment to the penultimate mora of the visible parts of accented cases is based on the same accent assignment process as is required for the accent assignment to the Present forms.

In the discussion so far, I have ignored the existence of marked cases. This is partly because marked irregularities are not important to the discussion of general properties of accentual phenomena of adjectives, and partly because I do not have enough space to go into the details of a variety of Japanese accentual phenomena that are described elsewhere. There are a number of dictionaries and papers on Japanese accent whose primary concern is a detailed description of accentual facts.

To briefly summarize this section, I have examined accentual and tonal properties of Tokyo Japanese, with special emphasis on the identification of the basic tone melody, and carefully analyzed a number of aspects of tonal and accentual phenomena of nouns, verbs, and adjectives.

2   The Accentual and Tonal System of Osaka Japanese

2.1   Introduction

The so-called Kansai-type dialects all have two melodies. In this section, I will explain Osaka Japanese as a representative of two melody Kansai-type dialects.

Some of the characteristics of the accentual and tonal system of this dialect can be summarized as follows.

(i)   It has 2n+1 surface tonal classes.
(ii)   It has two basic tone melodies: HL and LHL.
(iii)   It has n+1 accentual patterns for nouns.
(iv)   Verbs and adjectives are divided into two classes: unaccented HL melody class and unaccented LHL melody class.
(v)   Application of the accent deletion rule for *no*-phrases is dependent on melodic class.
(vi)   It is mora-based and not syllable-based.
(vii)   The surface tonal melody of a compound is determined by the left member of the compound.

These characteristics will be illustrated below on the basis of a variety of data.

2.2.1   Nouns in Osaka

Let us first examine tonal melodies of nouns. Nouns in Osaka Japanese have 2n+1 surface tonal classes. Comparing the tonal system of nouns in this dialect with those of Old Kyoto Japanese, which had three basic tone melodies, HL, LHL, and LH, reveals that Osaka Japanese has one fewer melody: That is, Osaka Japanese lost the LH melody found in Old Kyoto Japanese in the course of historical change.

   Consider the following examples of Osaka nouns. Recall that the diacritic mark (') stands for accent on the immediately preceding mora.

(33)

	Sample	~+ga	Melody	Analysis
1a.[3]	ee "handle"	ee-ga	HL	unaccented
	HH	HHH		
1b.	na'a "name"	na'a-ga	HL	initial-accented
	HL	HL L		
1c.	ee "picture"	ee-ga	LHL	unaccented
	LH	LL H		
1d.	(o' o: gap1)	(o'o-ga: gap1)	LHL	initial-accented
	H L	HL L		
2a.	take "bamboo"	take-ga	HL	unaccented
	H H	H H H		
2b.	ya'ma "mountain"	ya'ma-ga	HL	initial-accented
	H L	H L L		
2c.	(o o': gap2)	(o o'-ga: gap2)	HL	final-accented
	HH L	HH L		
2d.	sora "sky"	sora-ga	LHL	unaccented
	L H	L L H		
2e.	(o' o: gap3)	(o'o-ga: gap3)	LHL	initial-accented
	H L	HL L		

2f.	ame' "rain" LHL	ame'-ga L H L	LHL	final-accented
3a.	sakura "cherry tree" H HH	sakura-ga H HH H	HL	unaccented
3b.	i'noti "life" H LL	i'noti-ga H LL L	HL	initial-accented
3c.	oto'ko "man" HH L	oto'ko-ga HH L L	HL	second-accented
3d.	(o o o' gap4) HHH L	(o o o'-ga gap4) HHH L	HL	final-accented
3e.	suzume "sparrow" L L H	suzume-ga L L L H	LHL	unaccented
3f.	(o' o o: gap5) H L L	(o'o o-ga: gap5) HL L L	LHL	initial-accented
3g.	kabu'to "helmet" L H L	kabu'to-ga L H L L	LHL	second-accented
3h.	matti' "match" LLHL	matti'-ga LLH L	LHL	final-accented
4a.	niwatori "chicken" H HHH	niwatori-ga H HHH H	HL	unaccented
4b.	u'guisu "nightingale" H LLL	u'guisu-ga H LLL L	HL	initial-accented
4c.	ben'too "lunch" HH LL	ben'too-ga HH LL L	HL	second-accented
4d.	kamina'ri "thunder" H HH L	kamina'ri-ga H HH L L	HL	third-accented
4e.	(o o o o' gap6) HHHHL	(o o o o'-ga gap6) H HHH L	HL	final-accented
4f.	tukemono "pickles" L L L H	tukemono-ga L L L L H	LHL	unaccented
4g.	(o' o o o: gap7) H L L L	(o' o o o-ga: gap7) H L L L L	LHL	initial-accented
4h.	bita'min "vitamin" LH LL	bita'min-ga LH LL L	LHL	second-accented
4i.	nokogi'ri "saw" L L HL	nokogi'ri-ga L L HL L	LHL	third-accented
4j.	(o o o o' gap8) L L L HL	(o o o o'-ga gap8) L L L H L	LHL	final-accented

Comparison of this list with (8), from Tokyo Japanese, shows that the accentual and tonal patterns of Osaka Japanese are more complicated than those of Tokyo Japanese. This is due to the fact that Osaka Japanese has two basic tone melodies, HL and LHL, while Tokyo Japanese has one basic tone melody, HL. Notice that one-mora nouns of the Osaka dialect undergo lengthening due to a constraint on minimal words, which forces all words to have at least one foot or two moras: [M M]$_F$.

When we consider the examples in (33), we will immediately notice some of the characteristics of Osaka Japanese:

(A)   As in Tokyo Japanese, unaccented nouns do not have a pitch fall.
(B)   For both HL and LHL melody nouns, the accent is on the mora before the pitch fall.
(C)   There are no final-accented HL melody nouns in Osaka Japanese (see gaps 2, 4, and 6).
(D)   Osaka Japanese is unique in that it has no initial-accented LHL melody class (see gaps 1, 3, 5, and 7).
(E)   Osaka Japanese permits a falling tone observed in the two- and three-mora LHL nouns.

(C) seems to be an accident. (D) seems to be due to the fact that the surface tonal melody of this class cannot be distinguished from that of the initial-accented HL melody class.

It is widely recognized that the basic prosodic unit that can carry accent in Osaka Japanese is a mora. This will be clear if we look at the following examples.

(34)   a.   ben'too   "lunch"   on'na   "woman"
                HHLL   HHL
         b.   sen'dati   "pioneer"   san'zi   "three o'clock"
                L HLL   L HL

(35)   a.   ee'si   "the rich"
                LHL
         b.   roo'zi   "alley"
                LH L
         c.   kyuu'sibai "old drama"
                 LH L LL

The examples in (34) indicate that the so-called moraic nasal *n* can carry accent, which is impossible in Tokyo Japanese. Those in (35) illustrate that the second member of the VV sequence can carry accent, which is also different from Tokyo Japanese.

Notice furthermore that there are a number of minimal pairs showing that Osaka Japanese is a mora system (examples due to Shin-ichi Tanaka, personal communication):

(36) (i)   a.   ko'oko   "archaeology"   (ii)   a.   se'ndo   "degree of freshness"
                   HL L   HL L
             b.   koo'ko   "pickles"   b.   sen'do   "last time"
                   LH L   L H L

The (a) examples in (36) are accented on the first mora, which means that the left member of the initial syllable is accented, while the (b) examples are accented on the second mora, which consists of the right member of the initial syllable.

Let us now turn to tonal melodies of compound nouns. Consider the following examples, which are cited from Wada (1942) and Haraguchi (1977).

(37) a. ya'ma   +   sakura   >   yama-za'kura
          H L   H HH   H H H L L
          "mountain"   "cherry tree"

      b. asa'   +   sakura   >   asa-za'kura
          LHL   H HH   L L H L L
          "morning"   "cherry tree"

(38) a. tuki'mi   +   dango   >   tukimi-da'ngo
          H H L   L LH   H H H HL L
          "appreciation of the moon"   "dumpling"

      b. kabu'to   +   dango   >   kabuto-da'ngo
          L H L   L LH   L L L HL L
          "helmet"   "dumpling"

Examination of these cases suggests that the surface tonal melody of a compound is determined by the left member of the compound in the following way.

(39) *Selection of a tonal melody for the whole compound:*
      If the left member of the compound belongs to the LHL melody class, the whole compound has a surface LHL melody; and if it belongs to the HL melody class, the whole compound has a surface HL melody (Haraguchi 1977).

Notice that this principle of melody selection governing compounds is also valid in the case of compound verbs. This is clear from the following examples of compound verb formation.

(40)   *Left member*   *Right member*   *Compound verb*
      a. mak-u   +   naos-u   >   mak-i naos-u
          H H   HH H   H H HH H
          "wind"   "fix"   "wind again, rewind"

      b. hor-u   +   das-u   >   hor-i-das-u
          H H   L H   H H H H
          "throw"   "take out"   "throw out"

(41)   *Left member*   *Right member*   *Compound verb*
      a. mak-u   +   naos-u   >   mak-i naos-u
          L H   HH H   L L LL H
          "sow"   "fix"   "sow again"

      b. hor-u   +   das-u   >   hor-i-das-u
          L H   L H   L L L H
          "dig"   "take out"   "dig out"

The Present forms of Osaka verbs are all unaccented and their melodies are either the HL or LHL. In (40) and (41), the left members of the compound verbs decide the melodic class of the whole compound, irrespective of the melodic difference in the right members.

Accent assignment for nouns is, according to Wada (1942), dependent on the length of the right member of the compound. Thus, the rule can be summarized as follows.

(42)   *Accent assignment for a compound:*
   a.   If the right member of a compound consists of three or four moras, and its left member consists of either two, three, four, or five moras, then (i) the accent is, in principle, assigned to the initial mora of the right member; (ii) no accent is placed on any mora.
   b.   If the right member of a compound consists of two moras, then there are three cases:
      (i)   accent is placed on the initial mora of the right member of the compound;
      (ii)   accent is placed on the final mora of the left member of the compound;
      (iii)   no accent is placed on any mora.
   c.   If the right member of a compound consists of only one mora, then there are two cases:
      (i)   accent is placed on the final mora of the left member of the compound;
      (ii)   no accent is placed on any mora.

Notice that (42a), (42bi), (42bii), and (42ci) conspire to assign the accent on either the preantepenultimate, antepenultimate, or penultimate mora. What is remarkable with respect to (42) is that it never places an accent on the final mora of a compound. This rule seems to be responsible for the lack of final-accented nouns of at least four moras, for almost all long nouns are compounds in this dialect.

2.3.2   *Accent deletion before the Genitive morpheme* no

What is interesting with respect to *no*-phrases in Osaka Japanese is that the accent in the *no*-phrase is deleted if its head noun belongs to the HL melody class (Okuda, 1971: 26ff). This is illustrated by the following examples.

(43)   a.   kaga'mi + no   ana   >   kagami-no ana
            HH L   L H   HH H HL H
            "mirror" "Gen"   "hole"
       b.   huro?o'ke + no   ana   >   huro?oke-no ana
            HHH L   L H   HHHH HL H
            "bathtub"   "Gen" "hole"
            (Here and below "?" stands for a glottal stop.)

The all-H tone on the *no*-phrases in (43) shows that the accent on the penultimate mora is lost.

In contrast to this, the accent of LHL melody nouns is preserved before the morpheme *no*, as is clear from the following examples.

(44)   a.   hata'ke   + no   tu'ti   >   hata'ke-no tu'ti
             LH L   H L   LH L L H L
             "field"   "Gen"   "soil"
       b.   toka'ge   + no   mee   >   toka'ge-no mee
             L H L   LH   L H L L   LH
             "lizard"   "Gen"   "eyes"

These facts show that Deaccenting applies to the HL melody class only, excluding the LHL melody class from the domain of this process. This implies that this dialect has a process dependent on a tonal melodic class.

This observation shows that Deaccenting in Osaka Japanese is different from that in the so-called Tokyo-type dialects, which only applies to nouns with final accent (see section 1.3.1).

Taking these facts into consideration, we can show that the initial-accented nouns are of the HL melody class. Consider the following examples from Okuda (1971).

(45)   a.   ha'na   + no   miyako   >   hana-no miyako
             H L   HH H   H H H   HH H
             "flower"   "Gen"   "capital"   "glorious capital"
                                                     cf.   *hana-no miyako
                                                              L L H   HH H
       b.   hi'kari   + no   haya'sa   >   hikari-no haya'sa
             H LL   L H L   HHH H L H L
             "light"   "Gen"   "speed"

                                                              *hikari-no haya'sa
                                                              L LL H L H L

The very fact that Deaccenting applies to initial-accented nouns, and that the resultant surface melody is all H tone, indicates that these initial-accented classes belong to the HL melody class.

2.3.3   *Accentual patterns of verbs*

In Japanese, verbs tend to be divided into two classes. I suggested above that verbs in Osaka Japanese are of two types: the HL melody type and the LHL melody type.

(46)   *HL*   *LHL*
       (i)   a.   wur-u   "sell"   kat-u   "win"
                   H H   L H
             b.   ki-ru   "wear"   mi-ru   "see"
                   H H   L H

(ii)	a.	susum-u H H H	"advance"	kakus-u L L H	"hide"	
	b.	kari-ru HH H	"borrow"	tate-ru L L H	"build"	
(iii)	a.	yorokob-u HH H H	"be glad"	? gap L L L H		
	b.	narabe-ru HH H H	"line up"	kakure-ru L L L H	"hide"	

These examples indicate that all verbs are unaccented and are classified in terms of melodic classes.

In (46), the (a) verbs end in a consonant and the (b) verbs end in a vowel. For reasons that are not clear to me, there seems to be a gap in (46): there are no consonant-ending LHL melody verbs with four moras or more. To put it another way, all verbs of this type seem to be restricted to the HL melody class. Of course we can find a number of LHL melody verbs with four moras or more, if the verbs are vowel-ending, as exemplified in (46iii).

These two classes of verbs correspond basically to the unaccented and accented verbs of Tokyo Japanese, as is clear from the following data.

(47) Verbal classes in Tokyo Japanese:

		Unaccented		*Accented*		

(i)	a.	wur-u
		  L H
			"sell"	ka't-u
				  H L
					"win"	

	b.	ki-ru
		  L H
			"wear"	mi'-ru
				  H L
					"see"	

(ii)	a.	susum-u
		  L H H
			"advance"	kaku's-u
				  L H L
					"hide"	

	b.	kari-ru
		  LH H
			"borrow"	tate'-ru
				  LH L
					"build"	

(iii)	a.	yoroko'b-u
		  L H H L
			"be glad"	(odoro'k-u
				  L HH L
					"be surprised")	

	cf.	wutagaw-u LH H H	"doubt"			

	b.	narabe-ru
		  L H H H
			"line up"	kakure'-ru
				  L HH L
					"hide"	

Verbs of the HL melody class in Osaka Japanese correspond to those of the unaccented class in Tokyo Japanese, and those of the LHL melody class in Osaka Japanese correspond to those of the accented class in Tokyo Japanese, with a number of lexical exceptions like (47iiia). For a detailed analysis of the tonal melodies of verbs in Tokyo Japanese, see section 1.3.2.

Consider now the Past tense form of Osaka verbs. Let us begin with HL melody consonant-ending verbs. Present and Past forms are illustrated in (48).

(48)　　　　　*Present*　　　　　　　　*Past*
　I　a.　wur-u　　　"sell"　　　wu't-ta
　　　　　　H H　　　　　　　　　　HH L
　　　b.　tir-u　　　"scatter"　　ti't-ta
　　　　　　H H　　　　　　　　　　HHL
　II　　　?azaker-u　"mock at"　?azake't-ta
　　　　　　HH H H　　　　　　　　HHHH　L
　III　a.　kanasim-u　"feel sad"　kanasi'n-da
　　　　　　H HH　H　　　　　　　　H HHL　L
　　　b.　yorokob-u　"be glad"　yoroko'n-da
　　　　　　HH H　H　　　　　　　　HH HL　L

The Past tense forms of all of these verbs with two moras or more have accent
on the penultimate mora of the stems excluding the past tense morpheme *ta*
(or its allophonic form *da*). This accent is assigned by the following rule, which
assigns accent based on the left-headed binary constituent structure (see Halle
and Vergnaud 1987 and Haraguchi 1991, among others, for discussion of these
notions and their theoretical background).

(49)　　*
　　　(* *)　–　<ta>
　　　(where < > indicates that the Past morpheme *ta* is extrametrical or
　　　invisible.)

What is puzzling in (48II) is that the mora consisting of the geminate consonant
only is regarded as having an H tone.
　Let us now turn to the HL melody vowel-ending verbs in (50).

(50)　　　　　*Present*　　　　　　　　*Past*
　IV　a.　ne-ru　　　"sleep"　　　ne'-ta
　　　　　　H H　　　　　　　　　　H　L
　　　b.　ki-ru　　　"wear"　　　ki'-ta
　　　　　　H H　　　　　　　　　　H　L
　V　a.　?ake-ru　　"dawn"　　　?a'ke-ta
　　　　　　H H H　　　　　　　　　H　L L
　　　b.　kari-ru　　"borrow"　　ka'ri-ta
　　　　　　HH H　　　　　　　　　H L L
　VI　a.　?ata?e-ru　"give"　　　?ata'?e-ta
　　　　　　HHH H　　　　　　　　HH L L
　　　b.　narabe-ru　"line up"　　nara'be-ta
　　　　　　HH H H　　　　　　　　HH L L

These verbs also have accent on the penultimate mora (or on the final mora) of
the verb stem, excluding the Past morpheme *ta*. Rule (49) applies to these cases
with virtually no change. Notice that the HL melody verbs preserve the melody
in the Past forms.

Let us now consider the Past forms of the LHL melody verbs, the behavior of which is rather complicated. Examination of the following verbs shows that the LHL melody is preserved in their Past forms too.

(51)   *Present*   *Past*

   VII   a.   kat-u   "win"   kat-ta
            L H   LL H
       b.   nom-u   "drink"   non-da
             L   H   L L H
   VIII   a.   ?oki-ru   "get up"   ?oki'-ta
             L L H   L H L
       b.   tate-ru   "build"   tate'-ta
             L L H   L H L
   IX   ?asob-u "play"   ?aso'n-da
             L L H   L HL L

LHL melody verbs are peculiar in that accent is not assigned to the Past forms of the VII class verbs and that it is assigned to the stem-final mora of the VIII class verbs. The IX class verbs undergo the accent assignment rule in (49).

Now consider the following LHL melody verbs.

(52)   *Present*   *Past*

   a.   ku-ru   "come"   ki'-ta
        L H   H L
   b.   de-ru   "go out"   de'-ta
        L H   H L
   c.   mi-ru   "see"   mi'-ta
        L H   H L

The surface melody of these Past forms is apparently identical to that of HL melody nouns. However, note that the HL melody in (52) should be analyzed as a realization of the LHL melody with the initial accent. This is because the melody of all other verbs is kept even after the addition of the Past morpheme *ta*.

Finally, consider the following verbs, which are rather different from the other verbs in that they insert the stem vowel *i* and that consonant-ending *g* and *k* are deleted in the relevant Past forms.

(53)   *Present*   *Past*

   X   a.   ?ok-u   "place"   ?o'i-ta
             H H   HL L
       b.   sak-u   "bloom"   sa'i-ta
             H H   HL L
       c.   ?aruk-u   "walk"   ?aru'i-ta
             L L H   L HL L
       d.   ?odorok-u "be surprised" ?odoro'i-ta
             H HH H   H HHL L

XI   a.   kas-u   "lend"   ka'si-ta
          H H   H L L
     b.   kakus-u   "hide"   kaku'si-ta
          L L H   L H L L
     c.   ?arawas-u   "represent"   ?arawa'si-ta
          HH H H   HH H L L

In other respects these verbs are the same as most of the other HL and LHL melody verbs: the Past forms of these verbs preserve the tonal melody of the Present forms and the accent assignment rule in (49) applies to the Past forms of these verbs.

2.3.4   *Accentual patterns of adjectives*

Adjectives in Osaka Japanese are also divided into two classes, HL and LHL, as a cursory look at the following Present tense forms suggests.

(54)   *Present*   *Gloss*
     (i)   a.   ee < yo-i   "good"
                 LH
            b.   su'-i   "sour"
                  H L
     (ii)   a.   ta'ka-i   "high"
                 H LL
            b.   ?a'ka-i   "red"
                 H LL
     (iii) a.   ?ure'si-i   "glad"
                  HH LL
            b.   kana'si-i   "sad"
                  H H LL
     (iv)   ?omosi'ro-i   "interesting"
                 H HH LL

It should be clear that the two-mora adjective *ee*, which is derived from the underlying form /yo-i/, should be of the LHL melody class. All the other adjectives appear to belong to the HL melody class. Is this really the case? To answer this question, consider the following Past forms and nominal forms of the adjectives in (54iii) and (54iv).

(55)   *Past forms*
     (iii) a.   ?uresi'-kat-ta   "was glad"
                  H HH LL L
            b.   kanasi'-kat-ta   "was sad"
                  H HH LL L
     (iv)   a.   ?omosiro'-kat-ta   "was interesting"
                 H HHH L L L

(56)   *Nominals*
   (iii) a. ?uresi-sa   "gladness"
              H HH H
         b. kanasi-sa   "sadness"
              H HH H
   (iv) a. ?omosiro-sa   "interest"
              H HHH H

Past forms in (55) and nominals in (56) confirm that the corresponding adjectives in (54iii) and (54iv) belong to the HL melody class.

   Consider now the Past forms and nominals of the adjectives of (54i).

(57)   *Past forms*   *Nominals*
   (i) a. yo'-kat-ta   "was good"   yo-sa "goodness"
          H LL L   L H
        b. suu'-kat-ta "was sour"   su-sa "sourness"
          HH LL L   H H

It should be clear that, on the basis of the tonal melodies of the Past forms and the nominals in (57ib), the adjective *sui* "sour" belongs to the HL melody class. In contrast, the tonal melodies of the Present forms in (54i) and the nominals in (57ia) indicate that the adjective *ee* (*yo-i*) belongs to the LHL melody class. This compels us to interpret the surface HLLL melody of the Past form in (57ia) as a realization of the LHL melody of the initial-accented verb.

   Keeping the discussion above in mind, consider now the HLL melody adjectives in (54ii). If we take the corresponding Past forms and nominals into consideration, we can say that this melody is also a surface realization of the LHL melody.

(58)   *Past forms*
   (ii) a. taka'-kat-ta   "was high"
          L H LL L
         b. ?aka'-kat-ta "was red"
          L H LL L

(59)   *Nominals*
   (ii) a. taka-sa   "height"
          L L H
         b. ?aka-sa   "redness"
          L L H

The surface tonal melodies of the Past forms in (58) and the nominals in (59) are those of a typical LHL melody class. Thus we can conclusively answer the question whether the HLL melody adjectives in (53ii) belong to the HL melody class: they do not.

Assuming that this line of argument is sound, we are forced to regard the absence of initial-accented LHL melody nouns in Osaka Japanese, or more generally in the Kansai-type dialects, as characteristic to nouns. This gap is not applicable to adjectives. This finding is noteworthy because the absence of the initial-accented LHL melody class nouns in Osaka Japanese, or in the Kansai-type dialects in general, is nothing but accidental and not systematic in nature.

3   Concluding Remarks

Up to now, I have discussed accent in Tokyo Japanese and Osaka Japanese in terms both of the types of accentual patterns and the tonal systems. I would like to summarize briefly what has been shown.

(60)

	Tokyo Japanese	*Osaka Japanese*
surface tonal classes	n+1	2n+1
basic tone melody	1BTM: HL	2BTM: HL and LHL
Initial Lowering	Yes	No
Deaccenting of	applicable to final	applicable to the HL
no-phrases	accent only	melody only
verbs and adjectives	accented and	HL melody and
	unaccented	LHL melody
Contour tone	not permitted	permitted on the
		final mora
Vowel lengthening for		
one-mora words	No	Yes

Note that we can deduce a number of characteristics from the discussion above.

(61)   a.   If a dialect has n+1 surface melodies for n-mora (or n-syllable) words (or accentual phrases) as in Tokyo Japanese, it has an accentual system with one basic tone melody.
   b.   If a dialect has 2n+1 surface melodies as in Osaka Japanese, it is a two-melody system with n+1 accentual patterns.
   c.   Japanese dialects select their own basic tone melody or melodies from the universally permitted melodic set.

A large number of Japanese dialects have accentual systems, while some dialects have a tonal system. The accentual systems of these accentual dialects consist of a pitch accent system, which is handled in a way parallel to the stress accent systems of languages such as English, Spanish, Polish, etc. at a deeper level.

Japanese accentual and tonal properties can be schematically shown as follows.

(62)	Type of BTM					
No. of AP	HL/LH/LHL	HL/LHL	LH/LHL	LHL	HL	LH
1	n/a	n/a	n/a		Sendai	Miyakonojo
2	n/a		Kagoshima	n/a	n/a	n/a
3				Kumi		
n				Fukuoka		
n+1				Narada	Tokyo	Hirosaki
n+2				Tsuruoka		
2n+1		Kansai-type				
3n+2	Old Kyoto					

(BTM stands for the "basic tone melody," and AP for "accentual patterns.")

Most Japanese dialects have richer accentual properties for nouns than for verbs and adjectives. Tokyo-type Japanese and Osaka Japanese (or more generally Kansai-type Japanese) have two accentual or tonal distinctions for verbs and adjectives, while Kumi Japanese is peculiar in that it has three accentual distinctions for nouns and verbs (see Haraguchi 1998 for discussion on this point). The melodic and/or accentual selection for compounds is determined by the left-hand member of the compound in question.

Due to limitations of time and space, I have to omit discussion of other dialects listed in (62). See Haraguchi (1977, 1979a, 1979b, 1991, and 1998) for discussion of these and other dialects, as well as more detailed discussion of theoretical implications of the analyses above.

Before closing the discussion of Japanese accent in this chapter, I would like to mention briefly some remaining problems and directions for future research, including both observational/descriptive and theoretical/explanatory aspects. More descriptive work is needed to obtain more detailed, abundant, and systematic data with high quality and reliability; whereas explanation is the main concern of theoretical phonologists.

To gather good accentual data, a fieldworker should, on the one hand, be well trained as a phonetician and have a fair knowledge of theoretical problems. On the other hand, good and accurate data are indispensable when trying to solve theoretical problems and to improve existing theories or even to develop an entirely new theory with greater explanatory adequacy.

I suggest that we need more large-scale joint enterprises by theoretical phonologists and fieldworkers in order to collect abundant data of good quality which are profitable to theoretical research. Most, if not all, of the accentual data collected by traditional linguists are, for example, devoid not only of accentual information on long words, compound words, verbal inflectional forms, and adjectival inflectional forms, but also of accentual information on phrases and sentences. Since long and compound words, for example, often turn out to be

indispensable for determining the underlying accentual pattern of a language or a dialect, we must have access to such data in order to make clear the whole picture of the accentual system of the language or the dialect. The need for systematic accentual data is growing due to the advancement and deepening of theoretical investigations and typological studies.

Past efforts by Haraguchi (1991), E. Yamada (1990), Kubozono and Ohta (1998), and others have made it clear that the pitch accent system of Tokyo Japanese and the stress accent system of English have common properties. This is an amazing finding taking into consideration the fact that these two languages have no common ancestral relations and that they are typologically diagonal to each other. This is also theoretically interesting in that it illustrates that truly deep analyses based on a well-developed theory make it possible to bring to light underlying similarities which are often hidden by apparent surface differences. To reach a deeper and more insightful understanding of a variety of accentual systems, we must pursue more systematic and profound comparative and contrastive inquiries into various accentual systems.

From the perspective of theoretical investigation, the accentual systems of a number of Japanese dialects contribute to determining some of the theoretical controversies. These systems provide us with good data to test several tenets of the existing prosodic theories, such as the stress theory proposed by Halle and Idsardi (1995), Idsardi (1992), and Haraguchi (1991), and Optimality Theory, proposed by McCarthy and Prince (1993b), Prince and Smolensky (1993), and others. The systems also play an important role in improving existing theories and even in developing new and more appealing ones.

Comparative studies of Japanese and Korean accentual systems and contrastive studies of the accentual systems of genetically and typologically different languages must be done on a more systematic and larger scale. Such studies will be helpful to distinguish accentual properties common to languages from those particular to each language. This distinction is no doubt essential to the correct understanding of accentual properties.

Finally, I would like to draw the reader's attention to the fact that we must conduct thorough investigation of the relation between accent and properties of consonants and vowels, intonation, meaning, various pragmatic properties, and so on. Though past effects undoubtedly made it possible for us to attain a fair amount of insight on Japanese accentual phenomena, there still spreads a vast ocean of accentual problems before us, awaiting to be uncovered.

NOTES

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1   This survey of Japanese accent has benefited enormously from the findings of phonologists, whose work is mainly conducted by traditional Japanese linguists, with a fair number of recent insights provided by generative phonologists and government phonologists. Most of these works are published only in Japanese.

2. Note that the imperative suffix of a consonant-ending verb is *e* and that of a vowel-ending verb is *ro*. Note also that the Causative morpheme *ase* is selected for a consonant-ending verb and *sase* is selected for a vowel-ending verb. When the morpheme -*tai* is attached to a consonant-ending verb, the stem vowel *i* is inserted to the end of the verb root.

3   In Kansai-type dialects, one-mora nouns undergo lengthening obligatorily in isolation and optionally with an enclitic *ga*. This lengthening is due to the constraint on minimal words that requires two moras for prosodic words.