The Nominal Accent System of the Yonaha Dialect of the Southern Ryukyuan Language of Miyako : A Preliminary Report

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1   Introduction

The Ryukyuan language group comprises five languages, namely Amami, Okinawan (together constituting the Northern Ryukyuan group), Miyako, Yaeyama, and Yonaguni (together constituting the Southern Ryukyuan group) (Pellard 2009, 2011; Shimoji 2010). The Yonaha dialect, which will be the subject of analysis in this chapter, is a dialect of Miyako, a language in the Southern Ryukyuan group. It is spoken in the Yonaha district of Shimoji, Miyakojima City, Okinawa Prefecture.

My aim in this chapter is to describe the nominal accent system of the Yonaha dialect by analyzing the data obtained in a one-hour accent survey conducted with one native speaker, focusing especially on the surface realizations of accent patterns and the classification of vocabulary items falling under each pattern.

2   Descriptions in the literature

2.1   Overview

A description of the accent system of the Yonaha dialect may be found in the work of Teruo Hirayama et al. (1967). They state that while pitch is generally level, so that it can easily be mistaken for a one-pattern accent system, there is in fact a contrast between a low level pattern and a high level pattern (Hirayama et al. 1967:27). This description tells us, firstly, that the Yonaha dialect has a two-pattern accent system (see Uwano 1984), and secondly, that no marked pitch movements are observed in utterances of this dialect.

Hirayama et al. indicate that although the Yonaha dialect has a two-pattern accent system, a phenomenon is observed in which the distinction between the accent patterns is becoming unclear in the speech of younger speakers, which they call 'accent conflation'. In particular, they state, a partial or complete coalescence of the accent patterns has occurred in verbs and adjectives. If the younger generation of the 1960s, when Hirayama et al. conducted their survey, can be defined as ranging from 10 to 25 years of age, the speakers in question must have been between their early sixties and late seventies in 2011, when our survey was conducted. As will be detailed below, the

analysis in this chapter is based on the utterances of a native speaker that was 75 years of age at the time. If, therefore, the description by Hirayama et al. is accurate, the distinction between the Yonaha dialect accent patterns that are the subject of the analysis in this chapter might have become unclear.

2.2   Classification of vocabulary items

According to Hirayama et al. (1967), the two-mora nouns of classes 1 through 3 (see Kindaichi 1974) fall under one accent pattern and those of classes 4 and 5 under the other in the Yonaha dialect (II-1,2,3/4,5). As regards three-mora nouns, however, the majority of classes 1 through 4 and part of class 5 fall under one accent pattern, while the majority of class 5 and almost all of classes 6 and 7 fall under the other (III-1,2,3,4,(5)/5,6,7). It has already been demonstrated sufficiently, however, that the classification of vocabulary items under accent patterns in the Ryukyuan languages cannot be explained by positing only the coalescence of classes (Hattori 1958, 1979; Matsumori 1998, 2000a, 2000b, 2008, 2010, 2011). When discussing the classification of vocabulary items under accent patterns in the Ryukyuan languages, it is useful to adopt the concept of classifying vocabulary items into 'series', as proposed by Akiko Matsumori.

These 'series' are classes of words distinguished by the accent patterns of Proto-Ryukyuan, as reconstructed by comparing the modern Ryukyuan dialects (Matsumori 2000b). Matsumori posits the existence of a distinction in Proto-Ryukyuan between at least two accent patterns for one-mora words and at least three for those with two or more morae, and calls the word classes distinguished by these accent patterns 'series A', 'series B', and 'series C'. The order of the uppercase letters in these names is based on the correspondences between these series and the traditional classes. Specifically, the series that comprises almost all of the two-mora nouns of classes 1 and 2 is called 'series A', the series that comprises the majority of class 3 and part of classes 4 and 5 is called 'series B', and the series that comprises a minority of class 3 and part of classes 4 and 5 is called 'series C'.

When the description by Hirayama et al. regarding which words fall under which accent pattern in the Yonaha dialect is re-examined using this classification by series, it is observed that series A and series B have coalesced into one accent pattern, series C constituting the other (A,B/C), as is pointed out by Matsumori (2011).

In the following, I will use the term 'pattern AB' for the accent pattern of the majority of the vocabulary items of series A and B in the Yonaha dialect and the term 'pattern C' for the accent pattern of the majority of the vocabulary items of series C. When referring to the accent patterns of Ryukyuan dialects that have a three-pattern accent system, I will use the terms 'pattern A', 'pattern B', and 'pattern C' for the accent patterns of the majority of the vocabulary items of series A, B, and C, respectively.

General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

2.3   Surface realizations

The surface realizations of the accent patterns of the Yonaha dialect according to Hirayama et al. (1967) are given in Table 1. Below, I will follow custom in indicating the position of a pitch rise with '[' and that of a pitch drop with ']'. Judging by the realizations and the vocabulary items falling under the two patterns, the pattern that Hirayama et al. call the 'low level pattern' appears to correspond to our pattern AB, while the pattern they call the 'high level pattern' appears to correspond to our pattern C. Although Hirayama et al. give realizations of two-mora nouns both in isolation and followed by the particle *nudu* (nominative case + focus marker) and a predicate, they only give realizations in isolation for three-mora nouns.

Table 1. The descriptions by Hirayama et al. (1967) of the realizations of
each of the accent patterns; the transcription is that of Hirayama et al. (1967).

No. of morae	Accent pattern	Utterance in isolation	Utterance followed by the marker *nudu* (nominative case + focus marker)
Two morae	Low level pattern (AB pattern)	jama 'mountain'	jama nudu [ʔaɨ. 'There is a mountain.'
	High level pattern (C pattern)	[usɨ 'mortar; millstone'	[usɨ nudu ʔaɨ. 'There is a mortar.'
Three morae	Low level pattern (AB pattern)	fu̥kuru 'bag; sack; pouch'	
	High level pattern (C pattern)	[fu̥suɨ 'medicine'	

As is clear from Table 1, pattern-AB words are realized entirely at low pitch, while pattern-C words are realized entirely at high pitch. When a two-mora noun is followed by the particle *nudu*, the pitch of the noun is maintained in the particle. In other words, the particle is realized with low pitch in the case of a pattern-AB noun and with high pitch in the case of a pattern-C noun.

3   Analysis

3.1   Methodology

3.1.1   Survey date and location

The data were obtained on September 7, 2011 in Shimoji, Miyakojima City, Okinawa Prefecture.

3.1.2   Informant

The survey was conducted with one male informant, born in 1936 (75 years of age at the time of the survey), who has lived in Yonaha his entire life. His parents and wife are also all from Yonaha.

3.1.3   Surveyed vocabulary

When compiling the vocabulary list used in the survey, I referred to the word forms of cognates in the Tarama (Matsumori 2010) and Ikema (Igarashi et al. 2012) dialects, which are also dialects of Miyako, to make sure that roughly the same number of two-mora nouns and three-mora nouns would be included. Vocabulary items were selected with the purpose of examining the correspondences between the traditional classes and the series in mind.

There is as yet no established view on what words constitute each series. I therefore used data from the Tarama dialect (Matsumori 2010) as a substitute for a classification into series in selecting items for the vocabulary list. This dialect has a three-pattern accent system and is among the dialects whose accent patterns display a systematic correspondence with those of other Ryukyuan languages. I made sure that of the items on the vocabulary list, roughly the same number would fall under each of the three Tarama dialect accent patterns (patterns A, B, and C).

As regards the traditional classes, I referred to *Akusento Chōsa Goi (B)* (*Accent Survey Vocabulary Items (B)*), a private printing by Zendo Uwano (see Uwano 1985 for the included vocabulary items), to make sure that at least one word of each class would be included in my selection of items for the vocabulary list.

Although 71 words had been included on the vocabulary list, the number of words that were actually recorded in the field and whose accent patterns could be identified through analysis is 66 (36 two-mora nouns, 25 three-mora nouns, and 5 four-mora nouns). They are given in Tables 3 and 4. Below, I will use a simplified phonetic transcription for words of the Yonaha dialect. [ɿ] represents an apical vowel; long vowels are transcribed using doubled vowel symbols.

In the survey, the vocabulary was recorded both uttered in isolation and inserted into the carrier sentences given in Table 2. One carrier sentence consisted of the surveyed vocabulary followed by the particle *nudu* (nominative case + focus marker) and a predicate; a second consisted of the surveyed vocabulary followed by the particle *mee* 'too; also' and a predicate[1]. The various predicates used are also given in Table 2.

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[1] A carrier sentence in which the demonstrative *kunu* 'this' was placed before and the particle *ja* (topic marker) after the surveyed vocabulary was used, as well, but as only a small portion of the surveyed vocabulary was uttered with this carrier sentence, I excluded it from the data for the analysis.

General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

Table 2. Carrier sentences; X indicates the surveyed vocabulary.

Utterance in isolation	X.	'X.'
Surveyed vocabulary + particle *nudu* + predicate	X nudu nʲaaŋ / uɾaŋ.	'There is no X.' (*nʲaaŋ* for inanimate; *uɾaŋ* for animate)
	X nudu aa / uu.	'There is X.' (*aa* for inanimate; *uu* for animate)
Surveyed vocabulary + particle *mee* + predicate	X mee nʲaaŋ / uɾaŋ.	'There is no X, either.' (*nʲaaŋ* for inanimate; *uɾaŋ* for animate)
	X mee aa.	'There is X, too.' (inanimate)
	X mee aa dussɿ.	'There is X, too.' (inanimate)
	X mee aɾii duu.	'There is X, too.' (inanimate)

3.1.4   Analysis procedure

The analysis is based on a combination of my own auditory impression of the recorded utterances and a visual inspection of the fundamental frequency (F0) curves extracted from the utterances. As the analysis in this chapter is of a preliminary nature and the quality and quantity of the data are limited, I did not perform a quantitative analysis. I used *Praat* (Boersma & Weenink 2011) to analyze the F0 curves.

3.2   Results

3.2.1   Overview

The validity of the descriptions in the existing literature was mostly confirmed. The range of pitch movement in the Yonaha dialect seems to be mostly narrow; one gets the impression that there are no marked fluctuations. This can be considered to be consistent with the description by Hirayama et al. (1967), who state that pitch is generally level. Furthermore, there is a distinction between at least two accent patterns in this dialect, again matching the description by Hirayama et al. (1976). Definitive evidence for a three-way distinction was not found (see Section 3.2.4, however). As regards the classification of vocabulary items, series A and series B have mostly merged to fall under one accent pattern, series C falling under the other (A,B/C), which again matches the description in the literature (Matsumori 2011).

Facts contradicting descriptions in the literature were also found, however. Hirayama et al. (1967) stated that a phenomenon was underway in which the distinction between the accent patterns was becoming unclear in the generation of our informant (accent conflation), but the results of our analysis indicate that a clear distinction between the accent patterns has been retained. The surface realizations of the accent patterns according to the analysis results do not completely match the description by Hirayama et al. (1967), which was given in Table 1.

3.2.2   Classification of vocabulary items

The accent patterns of the surveyed vocabulary according to the analysis results are given in Tables 3 and 4. In cases where the traditional classification contains a corresponding vocabulary item (a cognate), its class is indicated to the left of the Yonaha dialect word form.

As is clear from the table, all of the vocabulary items falling under pattern A in the Tarama dialect fall under pattern AB in the Yonaha dialect, with the exception of one word (*munuŋ* 'language; word'). All of the vocabulary items falling under pattern B in the Tarama dialect, too, fall under pattern AB in the Yonaha dialect, again with the exception of one word (*pɹsɹ* 'star; celestial body'), and all of the vocabulary items falling under pattern C in the Tarama dialect also fall under pattern C in the Yonaha dialect. This result supports Matsumori's (2011) view that series A and series B have merged in the Yonaha dialect (A,B/C).

Table 3. The correspondences between the accent patterns of
the Yonaha dialect and those of the Tarama dialect (first half).

			Accent patterns of the Yonaha dialect		
			Pattern AB		Pattern C
Accent patterns of the Tarama dialect	Pattern A	1-mora class 1	puu	'sail; canvas'	— munuŋ 'language; word'
		1-mora class 2	naa	'name'	
		2-mora class 1	ika / ikʲa	'squid'	
		2-mora class 1	usɹ	'cattle (i.e. cow or bull)'	
		2-mora class 1	zzu	'fish'	
		2-mora class 1	fʊtsɹ	'mouth'	
		2-mora class 1	kʊsɹ	'lower back; waist'	
		2-mora class 1	juda	'branch'	
		2-mora class 1	musɹ	'bug; insect'	
		2-mora class 2	kabɹ	'paper'	
		2-mora class 2	p̥tu	'person; human being'	
		2-mora class 2	isɹ	'stone'	
		2-mora class 2	kaa	'water well'	
		2-mora class X	kami	'turtle; tortoise'	
		2-mora class X	tuŋ	'bird'	
		3-mora class 1	butu	'husband'	
		3-mora class 1	kḁtaa	'shape; form'	
		3-mora class 1	buduŋ	'dancing; dance'	
		3-mora class 1	judaŋ	'drool'	
		3-mora class 1	panatsŋŋ	'nosebleed'	
		3-mora class 4	kagam	'mirror'	
		3-mora class 4	fʊkuru	'bag; sack; pouch'	
		3-mora class 4	kujum	'calendar'	
		—	ffa	'child; offspring'	
		—	tuzɹ	'wife'	
		—	bikidumu	'man; male/husband'	

General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

Table 4. The correspondences between the accent patterns of
the Yonaha dialect and those of the Tarama dialect (second half).

			Accent patterns of the Yonaha dialect				
			Pattern AB			Pattern C	
Accent patterns of the Tarama dialect	Pattern B	1-mora class 3	tii	'hand; arm'	2-mora class 1	pu̥sɿ	'star; celestial body'
		2-mora class 3	mm	'sweet potato'			
		2-mora class 3	pana	'flower'			
		2-mora class 4	jadu	'door'			
		2-mora class 4	dʑiŋ	'money'			
		2-mora class 5	ami	'rain'			
		3-mora class 1	kuɾuma	'car'			
		3-mora class 4	uza	'quail'			
		3-mora class 5	maffa	'pillow'			
		3-mora class 5	avva	'oil'			
		—	ŋki	'scale (of an animal)'			
		—	kaina	'arm'			
		—	kamatsɿ	'cheek'			
		—	midumu	'woman; female'			
		—	sajafu	'carpenter'			
	Pattern C				2-mora class 3	puni	'bone'
					2-mora class 3	uja	'grandfather'
					2-mora class 3	maaɿ	'ball'
					2-mora class 4	usɿ	'mortar; millstone'
					2-mora class 4	im	'sea'
					2-mora class 4	funi	'boat; ship'
					2-mora class 5	madu	'(spare) time'
					2-mora class 5	nabi	'pot; pan'
					3-mora class 4	oogɿ	'(folding) fan'
					3-mora class 4	paa̯sam	'scissors; shears'
					3-mora class 5	pookɿ	'broom'
					3-mora class 6	ssam	'louse'
					3-mora class 7	fu̥suɿ	'medicine'
					—	sa̯ta	'sugar'
					—	tida	'the sun'
					—	waa	'pig'
					—	aagu	'song'
					—	gazam	'mosquito'
					—	mmaga	'grandchild'
					—	jaɾabi	'child; minor'
					—	miipana	'face'
					—	nuʑʑuu	'thread; string'
					—	ɕiibuni	'spine'

Below, I will briefly discuss the words with irregular series or class correspondences. I will consider not only correspondences with the Tarama dialect, but also those with the Okinoerabu

dialect of Amami (Matsumori 2000b) and the Kin dialect of Okinawan (Matsumori 2008). Like the Tarama dialect, these dialects have a three-pattern accent system.

As *pu̥sɿ* 'star; celestial body' is a two-mora class 1 word in the traditional classification, the views given in the literature regarding the correspondences between the traditional classification and the accent patterns of the Ryukyuan languages would lead one to expect it to be a series-A word (Hattori 1958, 1979; Matsumori 1998 et seq.). As it has a pattern-B accent in the Tarama dialect of Miyako and a pattern-C accent in the Yonaha dialect, however, the correspondence is irregular. In the Kin dialect of Okinawan, on the other hand, the correspondence is regular, it having a pattern-A accent (Matsumori 2008).

As *fu̥kuru* 'bag; sack; pouch' is a three-mora class 4 word in the traditional classification, one would expect it to be either a series-B or a series-C word, but as it has a pattern-A accent in the Tarama dialect of Miyako, the correspondence is irregular. In the Yonaha dialect, on the other hand, it has a pattern-B accent, so the correspondence appears to be regular. It has a pattern-C accent in the Kin dialect of Okinawan, however, so the correspondences among the dialects are nonetheless irregular.

Similarly, *pasam* 'scissors; shears' is a three-mora class 4 word in the traditional classification, so one would expect it to be a series-B or a series-C word. This word has a pattern-C accent both in the Tarama dialect of Miyako and in the Yonaha dialect, but as it has a pattern-B accent in the Kin dialect of Okinawan, the correspondences among the dialects are irregular.

As *kagam* 'mirror' and *kujum* 'calendar', too, are three-mora class 4 words in the traditional classification, one would expect them to be either series-B or series-C words. Although the correspondences appear to be regular in the Kin dialect of Okinawan, where these words have a pattern-B accent, they are irregular in the case of the Tarama dialect of Miyako, where they have a pattern-A accent. In the Yonaha dialect, on the other hand, they have a pattern-AB accent, so it cannot be determined whether the correspondences are regular.

Lastly, although no cognate of the word *munuɿ* 'language; word' is included in the traditional classification, it has a pattern-B accent both in the Tarama dialect of Miyako and in the Okinoerabu dialect of Amami. In the Yonaha dialect, however, it has a pattern-C accent, so the correspondence is irregular.

3.2.3 Realizations in 'noun + *nudu* + predicate'

Let us first examine the realizations of nouns followed by the particle *nudu* and a predicate. Two examples of realizations of two-mora nouns are given in Figure 1. The top portion of the figure contains the acoustic waveforms, the middle portion the F0 curves, and the bottom portion

General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

transcriptions of the words and their morae. The vertical lines crossing the acoustic waveforms and F0 curves indicate mora boundaries.

In the pattern-AB example, F0 rises in the second mora of the particle *nudu*; before that, F0 remains low. In the pattern-C example, on the other hand, F0 rises in the second mora of the noun and remains high until the end of the particle *nudu*. The pitch of the first mora of the pattern-C noun appears not to be stable. Although the pitch of this mora is sometimes perceived to be at the same level as that of the second mora (that is, high), it is also sometimes perceived as lower than that of the second mora. This may be connected to the 'sudden word-initial drop' discussed below.

Hirayama et al. (1967) give a description of the realization of two-mora nouns followed by the particle *nudu* (Table 1). Let us compare it to the results of our analysis. The description by Hirayama et al. is different from our analysis results in that they state that all morae are realized with low pitch in pattern AB, including those of the particle *nudu*. It is unclear whether this is due to a generational or individual difference or caused by something else. As regards pattern C, on the other hand, Hirayama et al. state that all morae, including those of the particle *nudu*, are realized with high pitch, which mostly matches the results of our analysis (this is limited, however, to realizations in which F0 remains at roughly the same level throughout the first and second morae).

As is clear from the left-hand part of Figure 1, a sudden word-initial drop of F0 is observed in two-mora pattern-AB nouns (it is unclear if this can also be observed in two-mora pattern-C nouns). It is at present unclear whether this drop is an attribute of the beginning of the word (the beginning of the prosodic word) or an attribute of the beginning of a higher-level prosodic unit. In the following, I will call this drop the 'sudden word-initial drop'.

This sudden word-initial drop is perceptible, but, at least in the case of two- and three-mora nouns, it does not give the same kind of auditory impression as initial-high-pattern nouns in the Tokyo dialect. This sudden word-initial drop gives one the auditory impression of the pitch of the voice tracing a concave curve. Moreover, while this sudden word-initial drop is perceived distinctly in some tokens, it is hardly perceived in others—in the case of two- and three-mora nouns, at least. It is at present unclear whether the sudden word-initial drop is a linguistically significant attribute. I will consider this question again when I will examine four-mora nouns.
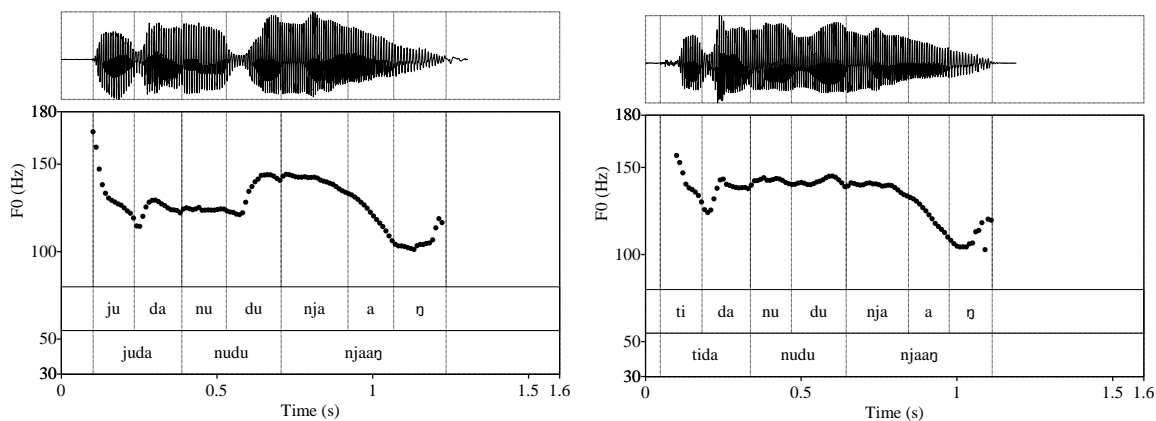
Figure 1. Two-mora noun + *nudu* + predicate;
pattern-AB *juda* 'branch' (left), pattern-C *tida* 'the sun' (right).

Two examples of realizations of three-mora nouns are given in Figure 2. In the pattern-AB example, F0 rises in the second mora of the particle *nudu*, similarly to two-mora pattern-AB nouns. It is also similar to two-mora pattern-AB nouns in that a sudden word-initial drop is observed.

In the pattern-C example, F0 rises in the third mora of the noun and remains high until the end of the particle *nudu*; it remains low before the third mora of the noun. At the beginning of the word, a sudden word-initial drop is observed.

Differently from Figure 1, a drop in F0 is observed from the particle *nudu* into the predicate in Figure 2; this is not due, however, to the accent pattern of the noun, but rather to that of the predicate (*nʲaaŋ* vs. *uraŋ*).
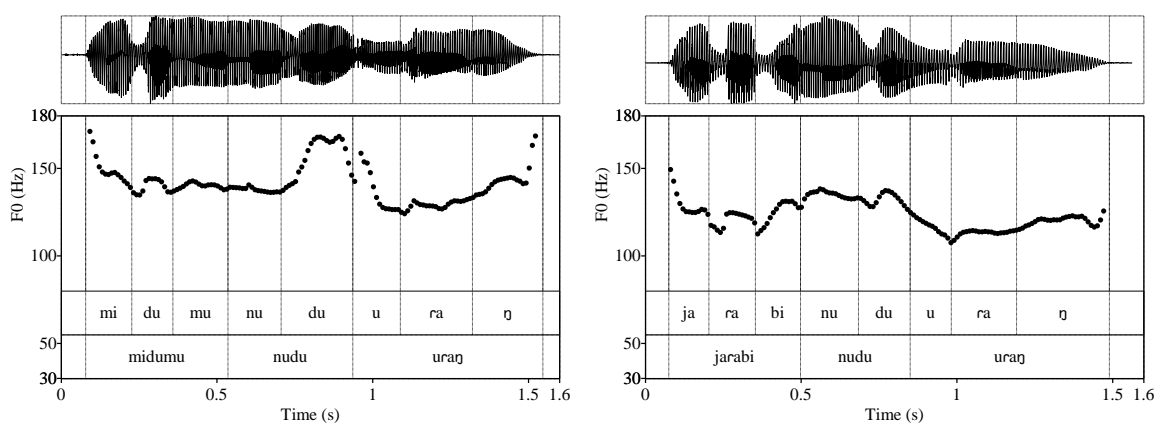

Figure 2. Three-mora noun + *nudu* + predicate;
pattern-AB *midumu* 'woman; female' (left); pattern-C *jaɾabi* 'child; minor' (right).

General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

Two examples of realizations of four-mora nouns are given in Figure 4. In the pattern-AB example, F0 rises in the second mora of the particle *nudu*, similarly to two- and three-mora pattern-AB nouns. In the pattern-C example, on the other hand, F0 rises in the third mora of the noun and remains high until the end of the particle *nudu*, similarly to three-mora pattern-C nouns.

Both in the pattern-AB example and in the pattern-C example, a drop in F0 is observed from the first mora of the noun into the second mora. This drop is different from the sudden word-initial drop observed in two- and three-mora nouns, both acoustically and in terms of the auditory impression it gives. In two- and three-mora nouns, the F0 drop is completed in a very short time, so F0 has a low value for most of the first mora. In four-mora nouns, on the other hand, F0 has a high value for most of the first mora, the F0 drop occurring from around the end of the first mora into the second mora. Consequently, the beginning of four-mora nouns gives an auditory impression similar to initial-high-pattern nouns in the Tokyo dialect; that is, an impression of a high-pitched first mora and a low-pitched second mora. I will call the phenomenon observed in four-mora nouns 'word-initial prominence'. It is unclear whether this is an attribute of the beginning of the word or an attribute of the beginning of a higher-level prosodic unit.
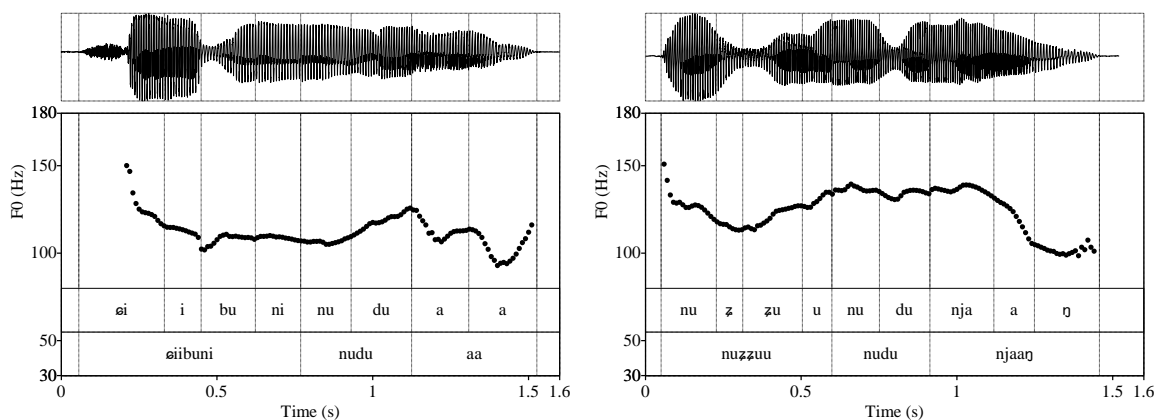

Figure 3. Four-mora noun + *nudu* + predicate;

pattern-AB *ɕiibuni* 'spine' (left), pattern-C *nuʐʐuu* 'thread; string' (right).

In the environment of 'four-mora noun + particle *nudu* + predicate', the combination of this word-initial prominence with the F0 rise that occurs in the second mora of the particle *nudu* in the case of pattern AB and in the third mora of the noun in the case of pattern C results in high-pitched morae being perceived in two places, surrounding morae perceived as low-pitched. In other words, a realization with what has traditionally been called 'double-contour pitch' is observed[2].

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[2] Akiko Matsumori had informed me before the survey that double-contour pitch can be observed in nouns comprising a large number of morae.

Whether there is a connection between this word-initial prominence in four-mora nouns and the sudden word-initial drop in two- and three-mora nouns or they are independent phenomena is a matter that has to be resolved in future research[3].

3.2.4   Realizations in 'noun + *mee* + predicate'

Next, let us examine the realizations of nouns followed by the particle *mee* and a predicate. As will become clear below, these realizations differ from those of nouns followed by the particle *nudu*. As the difference observed between these two environments is marked, it may be possible to view this phenomenon as an alternation between different accent patterns depending on the adjacent element[4].

Two examples of realizations of two-mora nouns are given in Figure 4. It appears that in this environment, the distinction between pattern AB and pattern C is neutralized. In both accent patterns, F0 is low in the first mora, rises in the second mora, and remains high until the end of the particle. In addition, a sudden word-initial drop is observed at the beginning of the word.
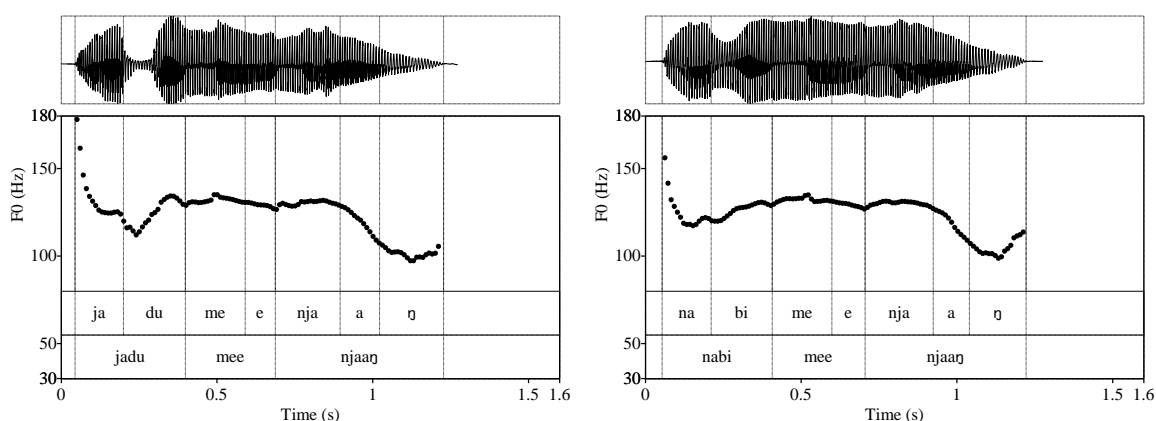

Figure 4. Two-mora noun + *mee* + predicate;
pattern-AB *jadu* 'door' (left), pattern-C *nabi* 'pot; pan' (right).

Two examples of realizations of three-mora nouns are given in Figure 5. In the pattern-AB example, F0 rises in the third mora of the noun and remains high until the end of the particle. At

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[3] In my subjective observation, sudden word-initial drops also occur in some of the Japanese dialects that, similarly to the Yonaha dialect, have an accent pattern in which pitch starts low word-initially and rises in the middle of the word, such as the Kagoshima dialect and the dialect of Goshogawara in Aomori Prefecture. It interesting that dialects with what is called 'double-contour pitch' are found in the vicinity of the areas where these dialects are spoken (for example, the dialect of Yamada Town in Iwate Prefecture (Onishi 1989) and the dialect of Koshikijima in Kagoshima Prefecture (Kamimura 1941)).
[4] Akiko Matsumori had informed me before the survey that such an alternation between accent patterns can be observed in this dialect.

General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

the beginning of the word, a sudden word-initial drop is observed. In the pattern-C example, on the other hand, the whole noun is realized with a high F0, after which it drops from the end of the noun into the beginning of the particle, rising again in the second mora of the particle. A sudden word-initial drop is observed in this environment, as well.
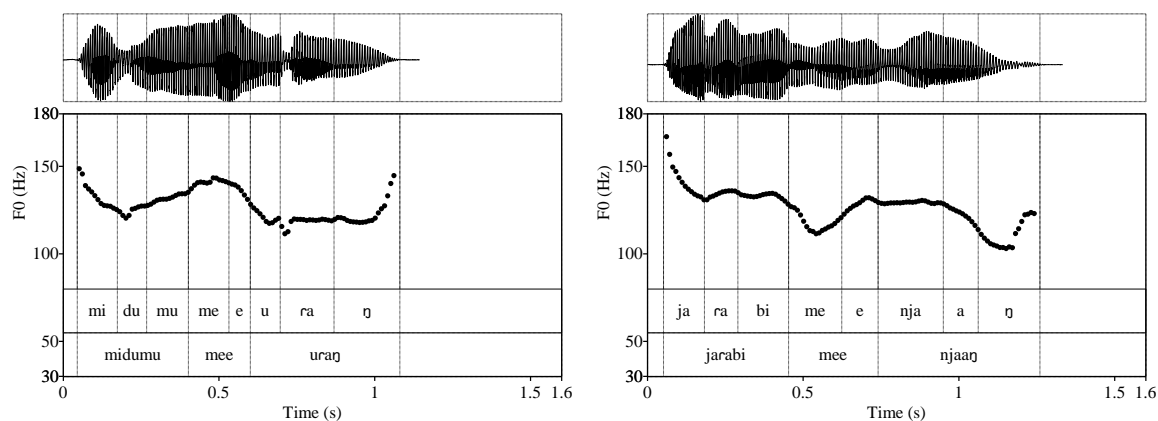

Figure 5. Three-mora noun + *mee* + predicate;
pattern-AB *midumu* 'woman; female' (left), pattern-C *jarabi* 'child; minor' (right).

Two examples of realizations of four-mora nouns are given in Figure 6. In the pattern-AB example, word-initial prominence is observed—in other words, the first mora is high-pitched and the second mora low-pitched—after which F0 rises in the third mora, remaining high until the end of the particle. In the pattern-C example, on the other hand, roughly the whole noun is realized with a high F0, after which a drop in F0 is observed from the end of the noun into the beginning of the particle; F0 rises again in the second mora of the particle.
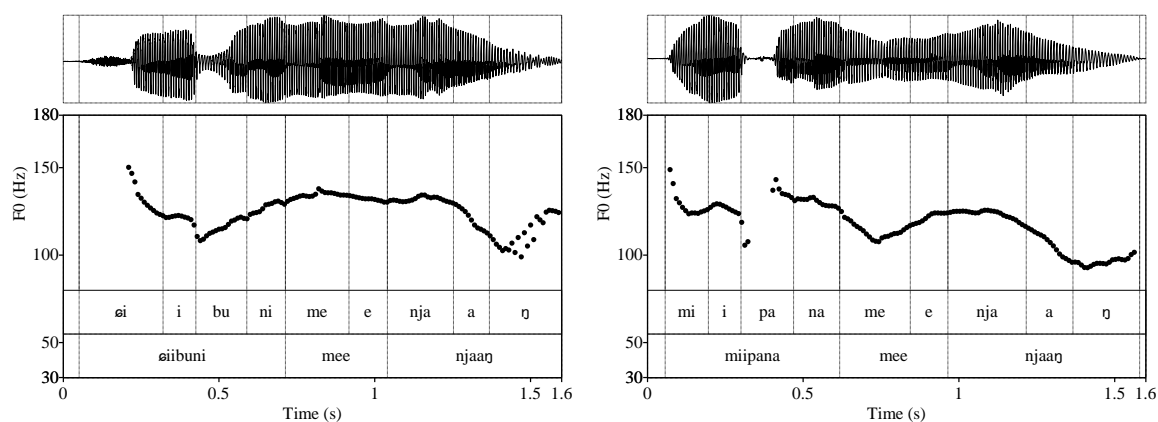

Figure 6. Four-mora noun + *mee* + predicate;
pattern-AB *ɕiibuni* 'spine' (left), pattern-C *miipana* 'face' (right).

3.2.5 Realizations in utterances in isolation

Lastly, let us examine the realizations of nouns uttered in isolation. In isolation, the realizations of two-mora nouns that fall under pattern AB as well as those that fall under pattern C fluctuate between a falling pattern and a rising pattern. A 'falling pattern' refers here to a realization in which the first mora has high pitch and the second mora low pitch, while a 'rising pattern' refers to a realization in which the first mora has low pitch and the second mora high pitch. Consequently, pattern AB and pattern C cannot always be distinguished when these words are uttered in isolation. As is explained below, however, a falling pattern and a rising pattern are not always equally likely to occur.

Pattern-C words are more often realized with the rising pattern. There were eleven two-mora pattern-C nouns, but among them, *uja* 'parent', *waa* 'pig', and *pusɿ* 'star; celestial body' are the only three words that were pronounced with the falling pattern at least once. If we use the term 'falling pattern ratio' for the number we get by dividing the number of tokens of a certain word that were realized with the falling pattern in isolation by the total number of tokens of that word and multiplying the result by 100, the falling pattern ratio for pattern-C words was 21.2% (N = 11, SD = 40.2). It therefore seems justified to view the rising pattern as the typical realization of pattern-C words when uttered in isolation.

In pattern-AB words, on the other hand, no marked difference is found between the number of realizations with the falling pattern and the number of realizations with the rising pattern. There were 25 two-mora pattern-AB nouns, among which 16 words were realized with the falling pattern at least once. The falling pattern ratio was 50.3% (N = 25, SD = 44.9). It is therefore difficult to determine whether the falling pattern or the rising pattern is the typical realization of pattern-AB words.

An example of a minimal pair with contrasting accent patterns (pattern-AB *usɿ* 'cattle (i.e. cow or bull)' and pattern-C *usɿ* 'mortar; millstone'), uttered in isolation, is given in Figure 7. At least in the data used for this analysis, pattern-AB *usɿ* 'cattle (i.e. cow or bull)' was always realized with a falling pattern and pattern-C *usɿ* 'mortar; millstone' always with a rising pattern. That there are pattern-AB words that are realized both with the falling pattern and with the rising pattern is shown in Figure 8. In this case, pattern-AB *ika* 'squid' was realized with both patterns.
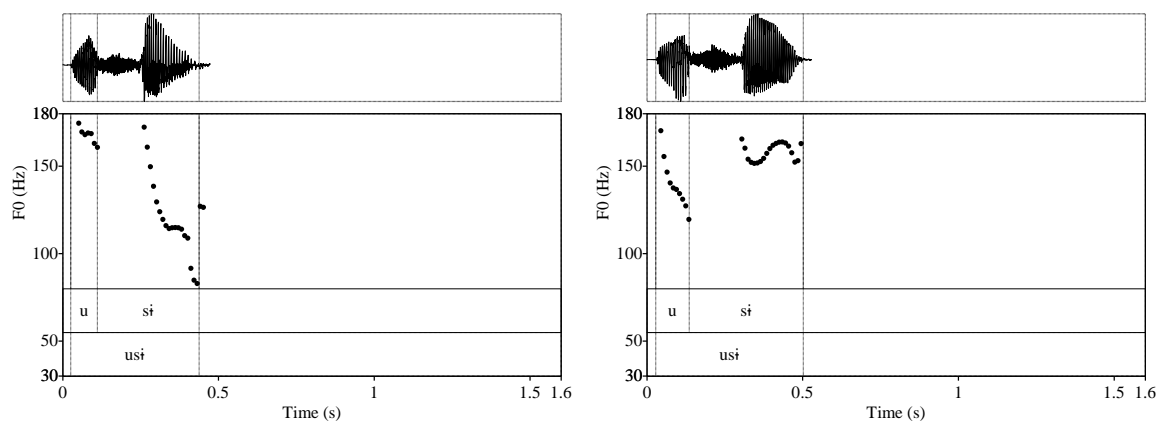
General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

Figure 7. Two-mora nouns uttered in isolation;

pattern-AB *usʔ* 'cattle (i.e. cow or bull)' (left), pattern-C *usʔ* 'mortar; millstone' (right).
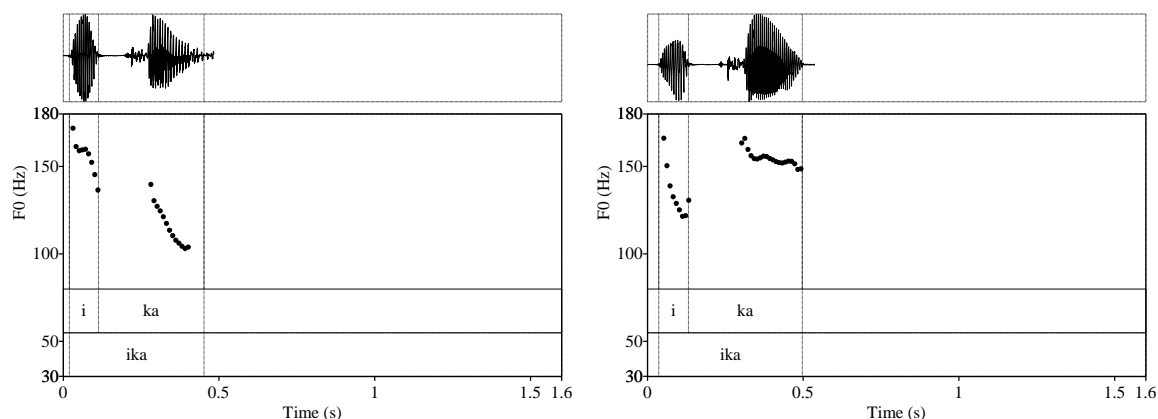

Figure 8. Fluctuation in a two-mora AB-pattern noun uttered in isolation;

pattern-AB *ika* 'squid' realized with falling pitch (left) and with rising pitch (right).

As Hirayama et al. (1967) give a description of the realization of two-mora nouns uttered in isolation (Table 1), let us compare it to the results of our analysis. According to the description by Hirayama et al., all morae are realized with low pitch in pattern AB; this does not match our analysis results. They state that all morae are realized with high pitch in pattern C; this, too, does not match our analysis results. It is unclear whether this is due to a generational or individual difference or caused by something else.

Let me next point out some interesting tendencies that were observed in the fluctuation in the realizations of two-mora pattern-AB words uttered in isolation, bearing in mind that as the quality and quantity of the data used for this analysis are limited, the likelihood that they are due to chance is very high.

A tendency towards one of the series was observed in the two-mora pattern-AB nouns that were realized with the rising pattern. The seven words among the two-mora pattern-AB nouns that are regarded as belonging to series B were always realized with the rising pattern, with the exception of one word (all except the last word of *ami* 'rain', *mm* 'sweet potato', *pana* 'flower', *tii* 'hand; arm', *jadu* 'door', *dziŋ* 'money', and *uza* 'quail'). The falling pattern ratio of the series-B words was 14.2% (N = 7, SD = 37.8). This result suggest that the rising pattern is the typical realization of series-B words. Among the eighteen words regarded as belonging to series A, on the other hand, no more than three words were always realized with the rising pattern (only the last three words of *butu* 'husband', *ffa* 'child; offspring', *fu̥cɿ* 'mouth', *ika* 'squid', *isɿ* 'stone', *kaa* 'river', *kami* 'turtle; tortoise', *musɿ* 'bug; insect', *naa* 'name', *pî̥tu* 'person; human being', *puu* 'sail; canvas', *tuɿ* 'bird', *tuzɿ* 'wife', *usɿ* 'cattle (i.e. cow or bull)', *zzu* 'fish', *kabɿ* 'paper', *ku̥sɿ* 'lower back; waist', and *juda* 'branch'). The falling pattern ratio of the series-A words was 64.4% (N = 18, SD = 40.0). This result suggests that the falling pattern is the typical realization of series-A words.

Provided that these results are not due to chance, they show that in the Yonaha dialect, there is a distinction in accent patterns between series A on the one hand and series B and C on the other in two-mora nouns uttered in isolation (A/B,C). As was discussed in sections 3.2.2 through 3.2.4, in other environments a distinction in accent patterns is made between series A and B on the one hand and series C on the other in two-mora nouns (A,B/C). This means, in other words, that the Yonaha dialect does not have a two-pattern, but a three-pattern accent system—provided that these results are not due to chance. Further research is needed to confirm this.

Next, let us examine three-mora nouns uttered in isolation. Two examples of realizations of three-mora nouns uttered in isolation are given in Figure 9. In the pattern-AB example, F0 is low in the first two morae and rises in the third mora. At the beginning of the word, a sudden word-initial drop is observed. In the pattern-C example, on the other hand, F0 is high in the first two morae and drops in the third mora. At the beginning of the word, a sudden word-initial drop is observed.

As Hirayama et al. (1967) give a description of the realization of three-mora nouns uttered in isolation (Table 1), let us compare it to the results of our analysis. According to the description by Hirayama et al., all morae are realized with low pitch in pattern AB; this does not match our analysis results. They state that all morae are realized with high pitch in pattern C; this, too, does not match our analysis results. It is unclear whether this is due to a generational or individual difference or caused by something else.
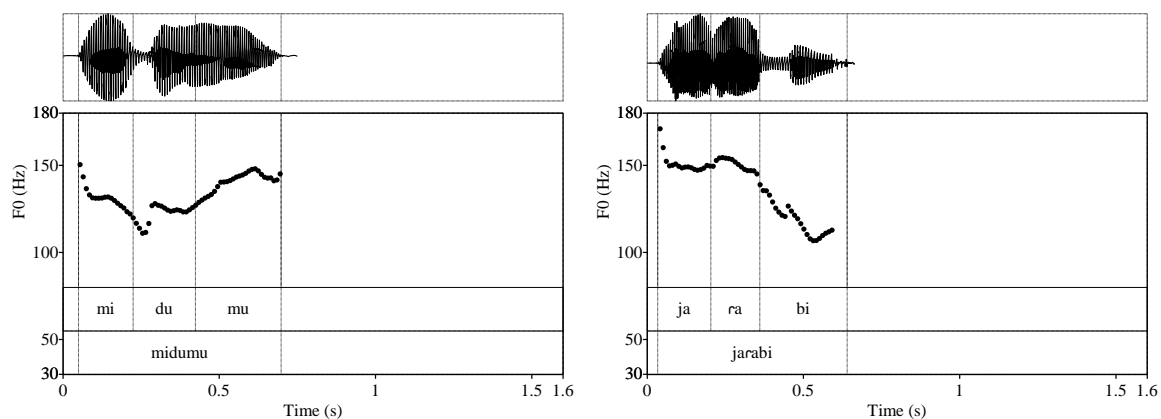
General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

Figure 9. Three-mora nouns uttered in isolation;

pattern-AB *midumu* 'woman; female' (left), pattern-C *jaɾabi* 'child; minor' (right).

Let us next examine four-mora nouns uttered in isolation. Two examples of realizations of four-mora nouns uttered in isolation are given in Figure 10. In the pattern-AB example, F0 is low in the first three morae and rises in the fourth mora. There appears to be no word-initial prominence, but a sudden word-initial drop is observed. In the pattern-C example, on the other hand, F0 is high in the first three morae and drops in the fourth mora.
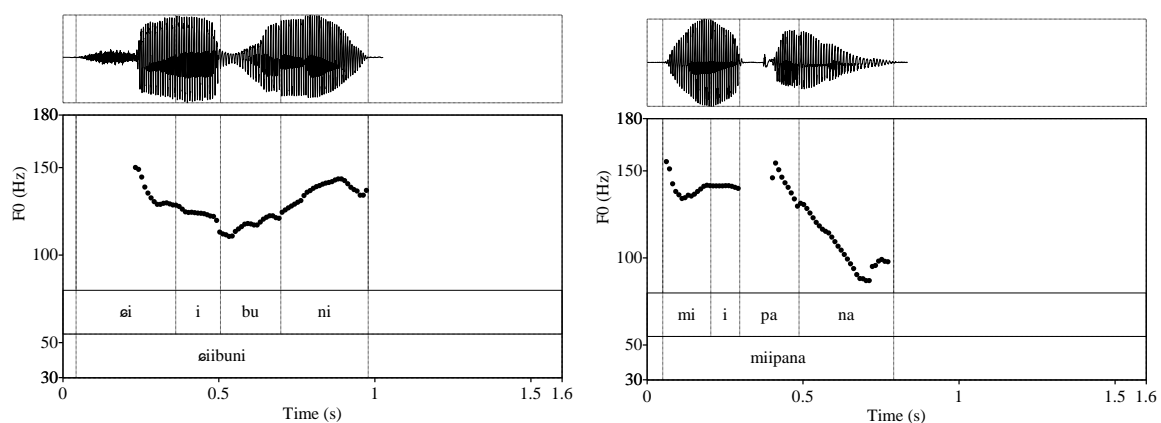
Figure 10. Four-mora nouns uttered in isolation;

pattern-AB *ɕiibuni* 'spine' (left), pattern-C *miipana* 'face' (right).

3.2.6 Summary of accent pattern realizations

In the above, we have examined the realizations of accent patterns in nouns comprising different numbers of morae in three different environments. As is clear from the discussion thus far, the Yonaha dialect presents us with a complicated picture as regards the realizations of its accent patterns. The fact that the realizations of the accent patterns differ markedly depending on the

presence and type of adjacent elements is especially interesting. As was mentioned in section 3.2.4, it may be possible to view this phenomenon as an alternation between different accent patterns.

An overview of the realizations of the accent patterns of the Yonaha dialect is given in Table 5. Although word-initial prominence has been transcribed in this overview, transcriptions of sudden word-initial drops have been omitted.

Table 5. Accent pattern realizations in the Yonaha dialect;
X indicates the surveyed vocabulary and periods indicate mora boundaries.

Number of morae		X *nudu*		X *mee*		X (uttered in isolation)
2	Pattern AB	ju.da nu.[du 'branch'	Pattern AB	ju.[da me.e 'branch'	Pattern AB	[i.]ka ~ i.[ka 'squid'
	Pattern C	ti.[da nu.du ~ [ti.da nu.du 'sun'	Pattern C	na.[bi me.e 'pot; pan'	Pattern C	u.[sι̩ 'mortar; millstone'
3	Pattern AB	mi.du.mu nu.[du 'woman; female'	Pattern AB	mi.du.[mu me.e 'woman; female'	Pattern AB	mi.du.[mu 'woman; female'
	Pattern C	ja.ɾa.[bi nu.du 'child; minor'	Pattern C	[ja.ɾa.bi] me.[e 'child; minor'	Pattern C	[ja.ɾa.]bi 'child; minor'
4	Pattern AB	[ɕi].i.bu.ni nu.[du 'spine'	Pattern AB	[ɕi].i.[bu.ni me.e 'spine'	Pattern AB	ɕi.i.bu.[ni 'spine'
	Pattern C	nu.]ʐ.[ʐu.u nu.du 'thread; string'	Pattern C	[mi.i.pa.na] me.[e 'face'	Pattern C	[mi.i.pa.]na 'face'

4　　Conclusion

In this chapter, I have analyzed the nominal accent system of the Yonaha dialect of Miyako on the basis of the utterances of one native speaker. In doing this, I was able to confirm the validity of the description given by Hirayama et al. (1967), which states that this dialect has a two-pattern accent system. As regards what vocabulary items fall under each accent pattern, I was able to confirm the validity of the description given by Matsumori (2011), which states that series A and series B have merged in this dialect (A,B/C). The surface realizations of the accent patterns, on the other hand, were shown not always to match the description by Hirayama et al. (1967). Furthermore, a phenomenon was observed in which the realizations of the accent patterns of nouns differed markedly depending on the presence and type of adjacent elements, which may be viewed as an alternation between different accent patterns. This fact, too, had not yet been reported in the literature (see Footnote 4, however).

Further research is needed in order to elucidate the accent pattern realization rules of the Yonaha dialect, also in respect to the accent pattern alternation. The results of our analysis suggest that the accent pattern realization rules of this dialect are complex. Depending on the results of further

General Research for the Study and Conservation of Endangered Dialects in Japan
Research Report on the Miyako Dialects of Southern Ryukyuan
August 1, 2012, National Institute for Japanese Language and Linguistics

research, however, it may become possible to propose simple rules for accent pattern realization in this dialect. On the other hand, recent research by myself and others suggests that the accent pattern realization rules of the Ikema dialect, which, like the Yonaha dialect, is a dialect of the Miyako language, are also very complex (Igarashi et al. 2012). It is worth examining the possibility that complex realization rules are a characteristic of the accent systems of the Miyako language.

The analysis results of this chapter were based on data of a limited quality and quantity, obtained in a one-hour survey with one native speaker. What is required next is an analysis of accent pattern realizations in more diverse contexts based on utterance data from a larger number of native speakers.

References

Boersma, Paul & David Weenink. 2011. *Praat: Doing Phonetics by Computer*, version 5.2.16. Computer program (http://www.praat.org/).

Hattori, Shiro. 1958. 'Amami Guntō no Sho-Hōgen ni Tsuite: Okinawa, Sakishima Hōgen to no Hikaku'. *Jinrui Kagaku*, XI.

Hattori, Shiro. 1979. 'Nihon Sogo ni Tsuite', 21–22. *Gekkan Gengo*, 8(11):97–107; 8(12):504–516.

Hirayama, Teruo, Ichiro Oshima & Masachie Nakamoto. 1967. *Ryūkyū Sakishima Hōgen no Sōgōteki-Kenkyū*. Tokyo: Meiji Shoin.

Igarashi, Yosuke, Yukinori Takubo, Yuka Hayashi, Thomas Pellard & Tomoyuki Kubo. 2012. 'Ryūkyū Miyakogo Ikema Hōgen no Akusento Taikei wa San-Kei de Atte Ni-Kei de wa Nai'. *Onsei Kenkyū* (*Journal of the Phonetic Society of Japan*), 16(1):134–48.

Kamimura, Takaji. 1941. 'Koshikijima Hōgen no Akusento'. *Onseigaku Kyōkai Kaihō* (*Bulletin of the Phonetic Society of Japan*), 65–66:12–15.

Kindaichi, Haruhiko. 1974. *Kokugo Akusento no Shiteki-Kenkyū: Genri to Hōhō*. Hanawashobo.

Matsumori, Akiko. 1998. 'Ryūkyū Akusento no Rekishiteki–Keisei Katei: Ruibetsu Goi 2-Haku Go no Tokui na Gōryū no Shikata o Tegakari ni'. *Gengo Kenkyū*, 114:85–114.

Matsumori, Akiko. 2000a. 'Ryūkyū no Tagata Akusento Taikei ni Tsuite no Ichi-Kōsatsu: Ryūkyū Sogo ni Okeru Ruibetsu Goi 3-Paku no Gōryū no Shikata'. *Kokugogaku* (*Studies in the Japanese Language*), 51(1):93–108.

Matsumori, Akiko. 2000b. 'Ryūkyū Akusento Chōsa no Tame no Ruibetsu Goi no Kaihatsu: Okinoerabujima no Chōsa kara'. *Onsei Kenkyū* (*Journal of the Phonetic Society of Japan*), 4(1):61–71.

Matsumori, Akiko. 2008. 'Okinawa Hontō Kin Hōgen no Taigen no Akusento-Gata to Sono Keiretsu: "Ryūkyū Chōsa–Yō Keiretsu-Betsu Goi" no Kaihatsu ni Mukete'. *Nihon Joshi Daigaku Kiyō—Bungakubu* (*Japan Women's University Journal—Faculty of Humanities*), 58:97–122.

Matsumori, Akiko. 2010. 'Taramajima no 3-Gata Akusento to "Keiretsu-Betsu Goi"'. In: Zendo Uwano (ed.), *Nihongo Kenkyū no 12-Shō*, 490–503. Tokyo: Meiji Shoin.

Matsumori, Akiko. 2011. 'Kikaijima Sogo ni Okeru 3-Gata Akusento Taikei no Shozoku Goi: Akaren to Onotsu no Hikaku kara'. *Nihon Joshi Daigaku Kiyō—Bungakubu* (*Japan Women's University Journal—Faculty of Humanities*), 60:87–106.

Onishi, Takuichiro. 1989. 'Iwate-Ken Yamada-Chō Hōgen no Akusento'. *Kokugogaku Kenkyū*, 29:1–10.

Pellard, Thomas. 2009. *Ōgami: Éléments de Description d'un Parler du Sud des Ryūkyū*. Doctoral dissertation, École des Hautes Études en Sciences Sociales.

Pellard, Thomas. 2011. 'The Historical Position of the Ryukyuan Languages'. *ICHL20 Symposium: Historical Linguistics in the Asia-Pacific Region and the Position of Japanese*, 55–64. Osaka: National Museum of Ethnology.

Shimoji, Michinori. 2010. 'Ryukyuan Languages: An Introduction.' In: Michinori Shimoji & Thomas Pellard (eds.), *An Introduction to Ryukyuan Languages*, 1–13. Tokyo: Research Institute for Languages and Cultures of Asia and Africa.

Uwano, Zendo. 1984. 'N-Gata Akusento no Ippan Tokusei ni Tsuite'. *Gendai Hōgengaku no Kadai Dai-2-Kan: Kijutsuteki Kenkyūhen*, 167–209. Tokyo: Meiji Shoin.

Uwano, Zendo. 1985. 'Murakami Hōgen no Meishi no Akusento Shiryō: 1–3-Mōra Go'. *Tōkyō Daigaku Gengogaku Ronshū* (*Tokyo University Linguistics Papers*), 25–60.