[REVIEW]

The Phonology of Japanese

By Laurence Labrune, Oxford University Press, Oxford, 2012, xiii+296pp.

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1. Introduction

The book under review is the seventeenth book in the series of *The Phonology of the World's Languages* and, as the author states in the acknowledgements section, it is a substantially revised and updated version of her book in French (Labrune (2006)). The details of the revision are not available, but 23 among more than 350 studies in the references section were published in or after 2006, which might have helped prompt this updated version.

The purpose of this book is twofold. One is to overview the achievements by two major research streams, *kokugogaku* and Western scholarship, and “to integrate them into a uniform approach in order to make the results available to a larger scientific community” (p. 1). The other is to provide new analyses and data on some of the central issues of Japanese phonology. Throughout the book, Labrune develops a syllable-free model of Japanese phonology and claims that Tokyo Japanese is a mora-counting mora language where the syllable plays no relevant role.

The book under review consists of seven chapters: Introduction (Chapter 1), Vowels (Chapter 2), Consonants (Chapter 3), The Phonology of Consonant Voicing (Chapter 4), Special Segments (Chapter 5), Prosodic Units (Chapter 6), and Accent (Chapter 7). Each chapter deals with a number of phenomena and data and offers analyses of them. In the following sec-

* I would like to thank two anonymous reviewers for their valuable comments and suggestions. Needless to say, all remaining errors are mine.

tions, I will summarize the main points and issues addressed in each chapter (section 2) and conclude with a few overall comments on the book (section 3).

2. Overview

Chapter 1 is the introductory chapter and briefly introduces theoretical frameworks adopted in the book and surveys the history of the Japanese language, the history of the study of Japanese phonology, the Japanese writing system, and the stratification of the lexicon. Among these topics, this chapter devotes much space to the stratification of the lexicon.

Chapter 2 focuses on vowels and deals with the general characteristics and outline of the vowel system of standard Japanese, old and dialectal vowel systems, the distributional characteristics of /e/, the phonological status of /i/ and /u/, vowel insertions and deletions, vowel devoicing, vowel length, sequences of two different vowels (the problem of 'diphthongs'), and the relative frequency of vowels.

The problem regarding diphthongs in Japanese linguistics is that there is no commonly accepted definition of 'diphthong.' Kawakami (1977) considers that the possible diphthongs in Japanese are *ai*, *ui*, *oi*, *ae*, *ao*, and *oe*. Amanuma et al. (1989: 93–98) distinguish diphthongs and *renboin* 'vowels in succession' and regards only the *Vi* without morphological boundary between *V* and *i* as a diphthong, whereas Saitô (1997: 85) claims that *ai*, *ui*, *ae*, and *au* can be diphthongs in Japanese. Whether diphthongs exist in Japanese is nonetheless a major issue in Japanese phonology, because the existence of diphthongs implies that there is a distinction between the mora and the syllable in Japanese.

With regard to the existence of diphthongs, Labrune offers three reasons why V_1V_2 sequences in Japanese are not diphthongs but simply a succession of two distinct vocalic nuclei. The first reason is the quality of vowels. The quality of vowels in sequences is not notably different from what it is when they are realized in isolation and there is no significant gradual change of the quality of V_1 towards V_2 , which is generally observed in diphthongs in other languages. Second, a pause can be inserted between the two vowels, while this would be impossible in diphthongs in English or Chinese. Third, no sequence of two vowels results from the evolution $V(:) > V_1V_2$, which is common in Romance or Germanic phonology.

Labrune further argues that, although Japanese scholars do not usually categorize them as diphthongs, the label 'diphthong' can be used in

Japanese only for *yoon* in words like *hyaku* ‘hundred,’ *ryokou* ‘trip,’ and *nyuusu* ‘news,’ since they share all the characteristics of phonetic diphthongs. These elements could belong to the category of diphthongs from the phonetic point of view. However, Labrune claims, based on certain phonological characteristics, that they should be treated as palatalizations of the preceding consonant at the phonological level.

Chapter 3 is devoted to consonants and deals with the general characteristics of the consonant system, the status of consonants in Japanese, new consonants, and the relative frequency of consonants. Among the various issues discussed in Chapter 3, I focus on the /r/ in Japanese, because it is unique in a number of aspects.

The flap /r/ in Japanese is phonetically the shortest of all Japanese consonants. It is the most frequent consonant in Yamato words, although it never appears word-initially. Only one /r/ per word is allowed and /r/’s are more likely to appear late in words (Kuginuki (1982)), which makes sense, if one supposes that /r/ was added to the phonemic inventory relatively late to increase the length of monomoraic or bimoraic words. Mester and Itô (1989) claim that /r/ is an unmarked sonorant in Japanese and is underspecified for the feature [Coronal].

Labrune argues that /r/, which is a transparent consonant and lacks phonological content, primarily developed as a default epenthetic consonant in the intervocalic position and that its present-day characteristics are due to the conditions of its development. The evidence provided is the following. First, /r/ fails to undergo palatalization (e.g. *noronoro* → *nyoronyoro* (**noryonoryo*) ‘wiggly and curving movement’), gemination, or prenasalization (e.g. *koro* → *korori* (?**korrori*, ?**konrori*) ‘without effort’). Second, /r/ is the most unstable consonant, and *rV* sequences have undergone syncope (e.g. *karate* → *kate* ‘provisions’) or unexpected addition (e.g. *kabu* → *kabura* ‘turnip’) and frequently turn into /N/ or /Q/ (e.g. *wakaranai* → *wakannai* ‘not to understand,’ *sou suru to* → *sousutto* ‘doing this’). Moreover, whereas there is no case where a consonant assimilates /r/, it frequently assimilates to a surrounding segment. Lastly, /r/ appears as an epenthetic consonant in the verbal inflection or at the beginning of several other nominal, adjectival, and verbal suffixes.

Chapter 4 concerns the phonology of consonant voicing and deals with general properties of Japanese voiced obstruents, *rendaku*, post-nasal voicing, and voicing in Japanese as a supra-segmental feature. With respect to the internal structure of voiced obstruents in Japanese, Labrune proposes a structure like in (1) below where voicing is accounted for by a nasal speci-

fication under a Spontaneous Voicing (SV) node and she claims that voiced obstruents in Yamato words have two root nodes and must be viewed as heavy segments. This approach accounts for certain forms where the presence of an inter-morphemic nasal is apparently unexplainable (e.g. *o* ‘male’ + *tori* ‘bird’ → *on-dori* ‘cockrel,’ *kuma* ‘bear’ + *hachi* ‘wasp’ → *kuman-bachi* ‘hornet’), and for alternations involving a nasal (e.g. *kobu/konbu* ‘sea tangle,’ *togaru/tongaru* ‘to be sharp,’ *tabi/tanbi* ‘time’), and it accounts for why voiced obstruents sometimes alternate with voiceless geminates (e.g. *migi* + *kawa* → *migi-gawa*(←*migi-ngawa*)/*migi-kkawa* ‘right side’).

- (1) Internal structure of voiced obstruents (place features are omitted)

Chapter 5 is the initial discussion of special segments in Japanese, which are further discussed in Chapter 6, and it deals with the status of the three types of special segments (/N/, /Q/, and /R/), the origin and properties of special segments, and relative frequency of special segments.

Chapter 6 focuses on the prosodic units of Japanese: the mora, the syllable, the foot, the prosodic word, and the other upper units. In this chapter, Labrune claims that Tokyo Japanese is a mora-counting mora language where the syllable plays no relevant role. It has been agreed in the literature that some dialects such as Aomori, Akita, or Kagoshima dialects are syllabic and some dialects such as Kansai or Izu dialects are moraic. But, Tokyo Japanese is problematic with respect to its classification as a mora or syllable dialect. Following the Japanese native linguistic tradition, Labrune argues that Tokyo Japanese is a mora language. Among the claims Labrune develops in this book, this claim is the most controversial.

There are a number of previous studies that make explicit or implicit reference to the syllable to account for phonological phenomena in Japanese such as accentuation (e.g. Kubozono (1997)), and models of the syllable in Japanese are proposed in the literature as illustrated in (2): Hyman (1985) and Hayes (1989) (2a), Kubozono (1989, 1995) (2b), Terao (1992) and Kubozono (1994, 1998) (2c), and Haraguchi (2003) (2d).

(2) Models of the syllable in Japanese

Labrune develops her claim that Tokyo Japanese is a mora-counting mora language as follows. First, in section 6.2.3, Labrune presents five arguments to support the claim. First, there is no psycholinguistic study that establishes the cognitive reality of the syllable in Japanese, whereas there are a number of studies that establish the central role of the mora and the foot both at the perceptual and cognitive levels. Second, the rhyme does not exist in Japanese. The models of the syllable in Japanese proposed in the literature are shown in (2), but none of them recognizes the existence of the rhyme. Segments that can be interpreted as belonging to the rhyme of a heavy syllable in Japanese do not behave like the rhyme or the coda in other languages. Third, onset optimization does not apply to the mora nasal /N/, which is contradictory to what is generally assumed in phonology. Fourth, as Poser (1990) points out, the boundaries of feet need not coincide with syllable boundaries. Lastly, in slips of the tongue, a ‘heavy syllable’ tends to be replaced by a succession of two ‘light syllables’ or a ‘heavy syllable’ more often than by a ‘light syllable,’ which implies that the syllable does not have cognitive reality. Terao (1992, 2002) observes that the fundamental unit in slips of the tongue in Japanese is not the syllable but the mora.

Next, in section 6.2.4, Labrune critically reexamines five phenomena: initial dissimilation, unaccentedness of special moras, accentuation of foreign toponyms, accentual behavior of *no*, and accentual behavior of given names ending with *-tarou*, which are supposed to support the existence of (heavy) syllables in Japanese, and claims that the mora is the basic prosodic unit in Japanese.

Finally, in section 6.3, Labrune proposes a strictly binary model of the basic prosodic unit in Japanese, which is inspired by Hyman’s (1985) theory of phonological weight. Labrune claims that this model “enables us to capture under the same phonological category a set of objects (namely onsetless vowels, epenthetic vowels, voiceless vowels, the mora nasal, the first part of a geminate, and the second part of a long vowel) which share a number of characteristics in Japanese phonology” (p. 176). In this model, the structures of the basic prosodic unit and the four types of deficient prosodic

units are as in (3)–(7) below, where the dots represent linear positions corresponding to the skeleton as conceived in multilinear phonology.

The four types of deficient moras in (4)–(7) share a common empirical characteristic. They are not readily accentable. It is commonly admitted in the literature that onsets do not contribute to prosodic weight and the avoidance of accent on onsetless moras is problematic. Labrune's model, however, accounts for this straightforwardly. All four types of deficient moras contain an empty slot at some level of representation and, because of this structural weakness, they fail to receive accent, which Labrune calls the Non-Accentuation of Deficient Moras principle defined as in (8).

Labrune further proposes possible structures for Japanese feet in (9) and argues the following: 1) feet are trochaic in Tokyo Japanese and directly made up of moras, 2) feet start with a full CV mora, and 3) the inability of deficient moras to be tonic comes from their position within feet.

- (3) The structure of the basic prosodic unit

- (4) The structure of deficient prosodic units made up of a vowel (with empty onset)

- (5) The structure of deficient prosodic units made up of a special mora

- (6) The structure of deficient prosodic units made up of a devoiced vowel

- (7) The structure of deficient prosodic units containing an epenthetic vowel

- (8) Non-Accentuation of Deficient Moras (NADM)
Deficient moras must not be accented.
- (9) Structures of Japanese feet

Finally, Chapter 7 is devoted to accent and deals with general principles of Tokyo Japanese accentuation, the accent of simplex and compound words in Tokyo Japanese, the accentuation of phonological phrases, dialectal and sociological variation in accent, and the Japanese word-prosodic system from a typological point of view. In this chapter, Labrune analyzes the data in the framework of Optimality Theory (OT: Prince and Smolensky (1993)) and further develops the claim that Tokyo Japanese is a mora-counting mora language where the syllable plays no relevant role.

OT is an output-oriented, constraint-based theory. In this theory, there are no rules and no serial derivations, and the set of constraints plays a central role. The set of constraints is provided by Universal Grammar. In OT, constraints are all considered to be universal whereas the ranking of constraints is language-specific. All the constraints in OT, in principle, are violable, but the violation must be minimal. A candidate is considered to be optimal when it violates constraints minimally and best satisfies the constraint hierarchy. Output candidates are evaluated and the best output form is determined in a tableau, as in (10) where Candidate A is the optimal output because Candidate B's violation of Constraint 1 is fatal.

(10)

Input	Constraint 1	Constraint 2
a. φ Output Candidate A		**
b. Output Candidate B	*!	*

It has been said in the literature that the accent of compounds is determined by the length of the second constituent (C2). Kubozono (1997) tries to account for compounds with short (one or two mora long) and long (three or four mora long) C2's in a unified manner. He adopts constraints in (11) and accounts for the accentuation of compound words in Tokyo Japanese as illustrated in (12) where the undominated constraint OCP is omitted for simplification. The constraints in (11) and tableau in (12) are adapted by Labrune. In the rest of this section, the accented moras will be shown in bold.

- (11) OCP: No more than one prominence peak (i.e. word accent) is allowed in a single PrWd.
- PARSE(ACCENT): Parse the lexical accent of the C2 in compound nouns.
- NONFINALITY(μ): The head mora, i.e. the accented mora, is not final in PrWd.
- NONFINALITY(σ): The head syllable, i.e. the accented syllable, is not final in PrWd.
- NONFINALITY(π): The head foot, i.e. the accented foot, is not final in PrWd.
- EDGEMOSTNESS/RIGHTMOSTNESS: A peak of prominence lies at the right edge of the Word.

- (12) *perusha* + *neko* $\rightarrow$ *perusha-neko* 'Persian cat'

/perusya/ + /neko/	NONF(μ , σ)	PARSE	NONF(π)	EDGEMOST
a. perusha)-(neko)			*	σ #
b. perusha)-(neko)		*!		$\sigma\sigma$ #
c. perusha)-(neko)	μ , σ !	*	*	

Kubozono's analysis accounts for compounds with short and long C2's in a unified manner, but it generates two types of exceptions: the 'Little Mermaid' pattern (e.g. *ningyo* + *hime* $\rightarrow$ *ningyo-hime* 'Little Mermaid') where the initial accent of the C2 is not faithfully parsed and the 'snack-bar' pattern (e.g. *sunakku* + *baa* $\rightarrow$ *sunakku-baa* 'snack-bar') where the accent of C2 on the final putative 'syllable' is preserved.

Next, Labrune adopts constraints in (13), none of which refers to the syllable, and accounts for the accentuation of compound words in Tokyo Japanese as illustrated in (14) and (15). Labrune's analysis also accounts for compounds with short and long C2's in a unified manner. Furthermore,

Labrune's analysis accounts for the 'snack-bar' pattern, which is a class of exceptions in Kubozono's analysis, in a unified manner as illustrated in (14).

- (13) FAITHIO(HEAD ACCENT): The accent kernel of the head noun occupies the same position in the input and in the output.
- NONFINALITY(μ): The accented mora must not be final.
- NONFINALITY(FOOT): The head foot must not be final.
- ALIGNCA: Align the accent with the boundary between C1 and C2.
- ALIGNRIGHT: The accent lies at the right edge of the word.

- (14) Short C2: *sunakku* + *baa* → *sunakku-baa* 'snack-bar'

/sunaQku/ + /baR/	NONF(μ)	FAITHIO(A)	NONF(π)	ALIGNCA	ALIGNR
☞ a. sunakku)-(baa)			*		*
b. sunakku)-(baa)		*!			**
c. sunakku)-(baa)	*!	*	*	*	

- (15) Long C2: *kami* + *hikouki* → *kami-hikouki* 'paper plane'

/kami/ + /hikoRki/	NONF(μ)	FAITHIO(A)	NONF(π)	ALIGNCA	ALIGNR
a. kami)-(hi)(kou)(ki)		*!			***
☞ b. kami)-(hi)(kou)(ki)				*	**
c. kami)-(hi)(kou)(ki)		*!			****
d. kami)-(hi)(kou)(ki)	*!	*	*	*	

3. Conclusion

The contributions this book makes are summarized as follows. First, this book recognizes and gives credence to the achievements of *kokugogaku*. Labrune claims that Tokyo Japanese is a mora-counting mora language, which is in accordance with the traditional analysis in *kokugogaku*. As Labrune mentions in Chapter 1, *kokugogaku* "seems to be largely ignored outside Japan in spite of its excellence and remarkable achievements" (p. 1), mainly because studies in *kokugogaku* are written in Japanese. This book carefully introduces *kokugogaku* school of thought to linguists outside Japan.

Second, this book throws doubt on the universality of the syllable in human languages. In the approach Labrune develops in this book, the syllable plays no relevant role. The claim that the syllable plays no relevant

role in Tokyo Japanese contradicts the claim that the syllable is not an optional unit, which is widely accepted in mainstream phonology. Labrune's approach leads to a reexamination of the assumed universality of the syllable.

This book, as well as the other books in the series, provides rich data to explain phonological phenomena described. The arguments in the book are easy to follow and non-linguists as well as linguists with no specialized knowledge of the Japanese language can have access to up-to-date information in the field of Japanese phonology. In sum, this is a must-read for all interested in the field of Japanese phonology.

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