

# Of Language and Music: Rhythm in English and Japanese

Megumi Yui

## 1. Introduction: Rhythmic Typologies of Languages

It has been intuitively pointed out that languages are spoken with different types of rhythms. Tajima and Port (2002) indicate that languages have been classified as either “stress-timed” such as English and German, or “syllable-timed” such as French, Italian and Spanish (cf. Jones 1918; Pike 1945; Abercrombie 1967), depending on whether it is interstress intervals or intersyllable intervals that regularly occur in the language (135), though Yavas (1998) and Roach (1982) indicate that the difference between stress-timed rhythm and syllable-timed rhythm is not clear-cut, but rather gradual.

“Stress-timed” languages have a closed syllable structure, that is a consonant-vowel-consonant structure. “Syllable-timed” languages typically have a consonant-vowel syllable structure, called an open syllable structure. Japanese also has an open syllable structure, and Japanese is classified as another distinct rhythmic type that is called “mora-timed” (Sadakata et al. 2004; cf. Port, Dalby, and O’Dell 1987; Ramus, Nespor, and Mehler 1999).

The measure of rhythm called the normalized Pairwise Variability Index (nPVI) is introduced by Grabe and Low (2002) to analyze speech rhythm and show whether the proportion of durations of vocalic and intervocalic intervals is highly contrastive or not. Japanese shows low contrast, which means it sounds flat and monotonic, while English shows high contrast, which characterizes its rhythm as “the quasi-periodic alternation of strong and weak syllables” (Tajima and Port 2002: 136; cf. Liberman and Prince 1977; Selkirk 1984). Lloyd James (1940) impressively calls the former rhythm “machine gun” rhythm<sup>1</sup>, while the latter is dubbed “Morse code” rhythm.

In this study, rhythm in language and music is discussed. Rhythm of Japanese language and music, and rhythm of English language and Western music including jazz are examined and compared. Lastly, implications of the discussion for language teaching are considered.

## 2. Rhythm in Language and Music

It has been suggested that the rhythm of a culture’s native language is reflected in the rhythms and melodies of its music. The idea that a composer’s music reflects prosodic patterns in his or her native language has motivated linguists and musicologists, and studies on comparing musical and spoken rhythm and melody have been conducted (Patel, Iversen, and Rosenberg 2006). Wenk (1987: 969) argues that “both vocal and instrumental music are seen to reflect characteristic features captured in the trailer-timing/leader-timing

distinction<sup>2)</sup> recently proposed to account for rhythmic patterns in these languages.” Patel, Iversen, and Rosenberg (2006: 3034) reveal that music of England and France reflect “patterns of durational contrast between successive vowels in spoken sentences, as well as patterns of pitch interval variability in speech” of British English and French. Sadataka et al. (2003) and Sadataka et al. (2004) demonstrate that there was a significant difference between British English and Japanese music phrases and speeches, which suggests that “there seems to be an influence of the language of the lyrics on their musical rhythms” (2004: 42).

### 3. Rhythm of Conventional Japanese Activity

#### 3.1 “Single meter”

There is a concept in conventional Japanese rhythm that cannot be explained in Western music theory. A rhythm of beating *hyooshi-gi* (rhythm sticks) in *kabuki*, for example, does not constitute meter in the Western way (cf. Ishii 2007: 224). It is a series of pulses, but does not constitute any kind of groups in each bar when someone tries to take the rhythm down in musical notation. In other words, each pulse constitutes “single meter.”

*Shishi-odoshi*, literally ‘scare-deer,’ can be considered as another example of “single meter.” It is a type of water fountain situated in Japanese gardens, and when a bamboo tube is filled with water, it gets heavier and dumps the water. When the tube returns to the original position, it hits a rock at its base and makes a sharp sound. The cycle repeats, and the sound repeats.

#### 3.2 Quadruple meter

One example is a kind of hand clapping with beats called *san-san-nana byooshi* (3-3-7 beat), which is often practiced by cheering parties at baseball games and athletic meets (cf. Ishii 2007).



Figure 1. 3-3-7 beat chart

In spite of its name, it in fact represents quadruple rhythm with a quarter-note rest. Conventionally, Japanese speakers tend not to acknowledge a rest as a part of “rhythm,” but rather call it *ai-no-te* (regulated interjection), which is not counted as “official” rhythm, hence not acknowledgeable.

## 4. Conventional Rhythm of Japanese Language

### 4.1 Rhythm of *Haiku*

It has been said that the traditional verse-like texts such as *haiku* actually do not consist of 17 moras as it is usually considered. A *haiku* verse form is thought to be employing an odd number of moras in each line (5-7-5), but in reality, it has eight “eighth notes” (quavers), or eight abstract mora-sized units in each bar, as it does not count a musical rest at the end of each line (Tajima and Port 2002: 136; cf. Bekku 1977; Ishii 2007). Let’s look at (1) and (2):

- (1) Natsu-kusa-ya Tsuwamono-domo-ga Yume-no-ato (Matsuo, Basho)  
 summer grass EP soldiers PL SUBJ dream POS remains  
 ‘The summer grasses—remains of the soldiers’ dreams / what’s left after the soldiers  
 are gone like a dream’

The rhythm chart of (1) would look as below<sup>3)</sup>:



Figure 2. *haiku* “Natsu-kusa-ya” chart

- (2) Samidare-o Atsume-te Haya-shi Mogami-gawa (Matsuo, Basho)  
 rain in May<sup>4)</sup> OBJ gather rapid Mogami river  
 ‘Gathering the summer rains, rapidly flows Mogami river.’

The rhythm chart of (2) is shown below:



Figure 3. *haiku* “Samidare-o” chart

In these *haiku* charts, the slur symbols (  $\smile$  ), which indicate the ghost notes (notes with an “X” for a note head) to be played smoothly and without separation, are set to display how native Japanese speakers tend to parse phrases into bimoraic feet, or units of two moras in length (Tajima and Port 2002) and articulate the verse as such.

In *haiku* (1), its second verse demonstrates one phrase which has a noun in the plural form and a topic marker, but the second verse of *haiku* (2) has two phrases, namely “atsume-te” and “haya-shi.” Bimoraic feet are grouped this way so the first mora of the

second phrase “haya-shi,” starts the third foot, which makes the meaning of the verse clearer. For the same reason, some other *haikus* are read differently:

- (3) Nano-hana-ya Tsuki-wa Higashi-ni Hi-wa Nishi-ni (Yosa, Buson)  
 canola flower EP moon TOP east LOC sun TOP west LOC  
 ‘The fields of canola—moonrise in the east, sunset in the west.’

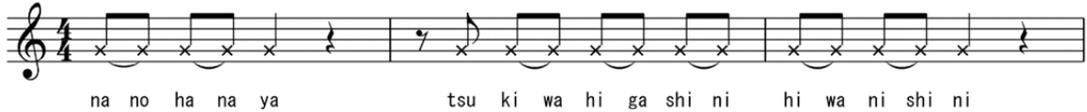


Figure 3. *haiku* “Nanohana-ya” chart

This one might seem to deviate from the bimoraic feet rule, but it does follow the rule as well. The second verse has seven moras, and when it has two phrases, it would be divided into either 3-4 mora grouping, or 4-3 mora grouping. In this case, the second verse is divided into a three mora part (“tsuki-wa”) and a four mora part (“higashi-ni”). It would be easier to understand when the first mora of the second phrase (the four mora part), “higashi-ni,” starts the third foot. The first phrase is always easy to understand, so a rest comes before the first mora.

#### 4.2 Strong Preference to Bimoraic Feet

Yoshida and Takeda (2012: 117) point out that a foot in Japanese consists of two moras, and indicate a word shown below as an example:

- (4) aisu-kuriimu  
 ‘ice cream’

Semantically, it is separated into *aisu* ‘ice’ and *kuriimu* ‘cream,’ but when it is pronounced, it would be parsed as below:

- (5) ai-suku-rii-mu

which is separated into four feet, each of which consists of two moras, except for the last foot though it has virtually the same length in timing.

This phenomenon explains abbreviated words in Japanese. When abbreviated words are made, Japanese speakers would make them with two feet, which consist of four moras<sup>5)</sup> such as:

(6) sotsugyoo-rombun → sotsu-ron  
 ‘graduation thesis’

(7) Kimura Takuya → Kimu-taku  
 ‘family name given name’ (personal name: Takuya Kimura)

Even a proper noun such as a personal name can be parsed and abbreviated as shown in (7)<sup>6</sup>.

## 5. Rhythm of Japanese Music

### 5.1 Japanese Traditional Music

Traditional Japanese music, such as *naga-uta*, *dodoitsu* and *shigin* do not have a regular rhythm in a way that the Western music does. It is oftentimes not easy to tell their rhythm as it is not rare that one note gets extended “unexpectedly” from a viewpoint of the Western music.

Chanting Buddhist sutra is also an example of Japanese rhythm (cf. Ishii 2007). The sutra itself may not be Japanese but monks have fixed a perfect rhythm for them to chant. The chanting is accompanied by a rhythmic drumming with a *mokugyo*, a wooden percussive instrument. It at first sounds like quadruple meter, but one may find the meter abruptly end without fulfilling all four beats, or the sound extended outside of the meter. It does not constitute any kind of meters, and it can be considered as another example of “single meter” after all.

### 5.2 Quadruple Meter

Japanese folk songs such as “Tokyo Ondo” (1933, words by Saijo, Yaso<sup>7</sup>), music by Nakayama, Shimpei) for bon-dance are played in quadruple meter.



Figure 4. “Tokyo Ondo” chart

The accent mark (>) shows the timing when beats are placed, and the songs all have strong first and third beats. It oftentimes agrees with the timing when people clap hands and some of them might also want to rub their hands (*momi-te*) right after the handclaps.

Figure 5 shows the chart of “Edo-no Komori-uta,” (songwriters unknown) which is a traditional lullaby, and a person who takes care of a baby would sing the song quietly, shush-patting the baby in the timing of the beats.



Figure 5. “Edo-no Komori-uta” chart

Other examples include *enka*, one of the popular Japanese music genres, and one can find videos in the Internet in which the audience clap their hands at the first and the third beats along with the performed song.

## 6. The Rhythm of English

As is discussed earlier, English is a “stress-timed” language. Pike (1947: 250, 251) gives the following definition of “stress-timed” rhythm as well as that of “syllable-timed” rhythm:

- (8) a. Stress-timed rhythm: cadences characterized by a tendency to the recurrence of stress at more or less uniform time intervals without regard to the number of syllables between stresses.
- b. Syllable-timed rhythm: cadences characterized by the tendency for syllables to recur at more or less even time intervals without regard to the number of sounds in the syllables or the number of stresses in the utterances.

In order to illustrate this rhythm, Pike (1947: 13) uses the sentences in (9):

- (9) a. The téacher cáme.
- b. The téacher is the one who cáme.

The stresses are on the first syllable “teach” in the word “teacher” and “ca,” the first part of the entire word (=syllable) “came.” It appears that (9b) takes longer to read aloud than (9a), but the intervals between the two stresses are actually phonologically equal in length of time (cf. Abercrombie 1964). To illustrate the phenomenon, the strength and the length of the syllables are shown in (10) and (11) (cf. Maruyama 2011: 36):

- (10) a. The teach-er came.
  - 。 ○ 。 ○
  - b. The teach-er is the one who came.
  - 。 ○ 。 。 。 。 。 ○
- (Note: 。 indicates weak syllables and ○ strong syllables.)



As (11) shows, the inter-stress interval is approximately the same, and there is a tendency to constantly keep the interval equal, though it is unlikely that perfect isochrony of stresses is empirically supported in naturalistic speaking styles (Tajima and Port 2002; cf. Lehiste 1977; Dauer 1983; Couper-Kuhlen 1993). The category ‘foot’ in modern linguistic descriptions, defined by Abercrombie (1964: 217), refers to a unit that “starts with a stress and contains everything that follows that stress up to, but not including, the next stress.” This means that the first foot of the (10b), which includes “teacher is the one who,” is spoken faster than the first foot of (10a). In a syllable-timed language, on the other hand, “the time intervals between one syllable and the next tend to be equal” (Visch 1999: 223), and that can be said to Japanese as well.

### 7. The Rhythm of Western Music

In the theory of classical music, in any time signature, the first beat is supposed to be very strong and heavy, hence it’s called “downbeat.” In quadruple meter, it is said that beats 1 and 3 are the strong ones. Beats 2 and 4 are the weaker ones and called “upbeat.”

Morimoto (2011: 25-26) argues, though, that the waveforms of the sound of violin performances of Johann Sebastian Bach’s Partita for Solo Violin No. 3 in E Major, BWV 1006 by Jascha Heifetz and Hilary Hahn both show that the second beat is stronger. Although he admits that this is far from enough to argue that classical music also has “upbeat” rhythm, he suggests this is one fact that supports his hypothesis.

### 8. The Rhythm of Western Music and English

In songs with lyrics in English, there are many songs that start with a pickup (also known as an anacrusis). The songs, or sentences in English often start with function words like prepositions, pronouns, and articles, and the writers tend to use downbeat (the first beat in a bar) for content words such as nouns, verbs, and adjectives (Maruyama 2011: 44). The chart of “Oh, My Darling, Clementine,” an American traditional folk song, whose words and music both written by Percy Montrose in circa 1883 would look as below:



Figure 6. “Oh, My Darling, Clementine” chart

In the beginning of the song, the part “in the” is in the pickup, and a full bar starts with



The song “Tennessee Waltz” (1948, words by Redd Stewart, music by Pee Wee King) in Figure 9, starts with a series of function words “I was,” which is also in the pickup bar:



Figure 9. “Tennessee Waltz” chart

“Tennessee Waltz” is a waltz in triple meter, which includes a strong first beat and weak second and third beats. Since the first beat is the only strong beat in triple meter, there is a strong motivation to accommodate the content word (“dancing”) to the first beat.

Sentences often begin with articles, and there are many songs that start with articles, as shown in Figure 10. The song is “Stella by Starlight” (music by Victor Young in 1944, words by Ned Washington in 1946):



Figure 10. “Stella by Starlight” chart

Especially in jazz, musicians tend to accentuate upbeats, which is called “syncopation” (cf. The Thelonious Monk Institute of Jazz, 2000). On top of the basic tendency in Western music, to highlight the second and fourth beats, accenting upbeats by syncopation emphasizes the notes that they play on the upbeats. It is also in accordance with the way with which English speaking people find comfortable.



Figure 11. “Stella by Starlight” syncopation chart

“Swing” is another notion of musical rhythm that is inherent in the language of English. “Swing” means that “while keeping the beat steady, rather than each note being

held for the exact same length of time, the notes falling on the downbeats are held twice as long as those falling on the upbeats, making a long-short, long-short, long-short, long-short pattern and giving the music a kind of lilt” (The Thelonious Monk Institute of Jazz, 2000). This would solve a question why there is no “single meter” in Western music, as in their music (and the language), there are always contrastive patterns of “long-short,” or in other words, “strong-weak” patterns.

On the other hand, Ishii (2007) points out that Japanese speakers tend to grasp rhythm of their language in chunks. To put it another way, Japanese speakers grasp four moras in one stomp, feeling no contrastive patterns of beats. It would look like a chart as shown in Figure 12.

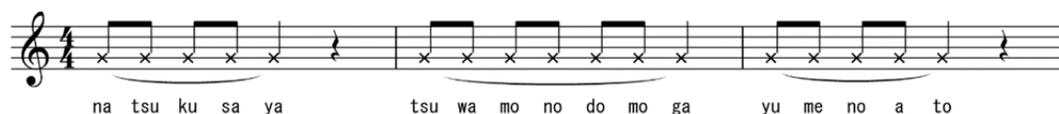


Figure 12. “Natsu-kusa-ya” *haiku* “stomping” chart

## 9. Implications for Teaching Rhythm of English

Nishihara and Leis (2014) argue that the rhythmic difference between the two languages impacts intelligibility of English speech. It is examined that English spoken in mora-timed (syllable-timed) rhythm was highly unintelligible compared to English spoken in stress-timed rhythm.

Fischler (2009: 44-45) illustrates the importance of proper placement of stress through a sentence with three different kinds of errors. The sentence she used was shown below:

(13) There’s a possibility that it’s going to storm today.

First, the sentence was read with a segmental error, such as frontal lisp of sibilants, as “*Thereth a pothibility that ith going to thorm today.*” For the second time, it was read without stress or changes in intonation, which sounded monotonous and robotic. Finally, the sentence was read with improper placement of stress as “There’s a possibiLITY that it’s goING TO storm TOday.”

Her students ranked the last example as least intelligible and the first example as most intelligible, which suggests that rhythm matters to intelligible speech.

Using music might help students learn English rhythm, and Fischler (2009) suggests that using rap music is effective. Not any kind of music is effective, though, and one should choose the right music carefully.

Nakata (2002) insists that bossa nova, a genre of Brazilian music, helps grasp the English rhythm. However, Maruyama (2011: 142-146) argues that in the song of “Garota de Ipanema” (The Girl from Ipanema, 1963, music by Antônio Carlos Jobim and Portuguese

lyrics by Vinicius de Moraes in 1962; English lyrics were written in 1963 by Norman Gimbel), there are fewer syllables in the English lyrics of the same song than in the Brazilian Portuguese version. The charts (146) show that the original Brazilian Portuguese version is constituted with many sixteenth notes, while the English version employs more eighth notes. As a result, the English version sounds very much different with a series of prolonged notes.

Bossa nova is originally sung in Brazilian Portuguese, and the rhythm of bossa nova is distinct from that of English. It is possible to read/chant/sing in English along with bossa nova rhythm, but it is doubtful to use bossa nova to learn English rhythm, as the rhythm of the music does not necessarily fit the rhythm of English perfectly well.

Rhythm of language and music is correlated. Being aware of the correlation between the rhythm of Japanese language and music, the correlation between the rhythm of English language and Western music, and the difference between the rhythm of English and Japanese languages would lead to a better understanding in appreciating the music and learning the languages.

### **Abbreviations**

DET: determiner

EP: exclamatory particle

GEN: genitive marker

LOC: locative marker

N: noun

OBJ: object marker

PL: plural

POS: possessive marker

PREP: preposition

SUBJ: subject marker

TOP: topic marker

### **Notes**

1) Technically, Lloyd James claimed that syllable-timed languages, such as Spanish, have a rhythm similar to that of a “machine gun.”

2) Wenk and Wioland (1982), in order to account for rhythmic patterns in English and French, propose a distinction between ‘leader-timing’ and ‘trailer-timing,’ the former having units commencing with an accent, the latter having an accent at the end of the unit.

- 3) Ishii (2007: 35) parses the last verse of this haiku as “yume-no-ato” instead of “yume-noa-to” as I parsed in the Figure 2. Though his version is parsed semantically correctly, that is not what I hear.
- 4) Japanese people back then used luni-solar calendar, hence May in the verse would refer to June approximately.
- 5) I personally have an anecdote that shows how English speakers and Japanese speakers coin a new abbreviated word. There was a local convenience store whose name was “Village Pantry,” in front of a dormitory of a graduate school in the US. The new residents soon learned its name and eventually started to call it in their own ways. Though they didn’t get together to decide what to call it, American and English-speaking students started to call the store “VP,” while Japanese started to call it “bire-pan.”
- 6) I argued elsewhere (Yui 2000, Yui 2008, Yui 2009, Yui 2010) that a personal name can be construed as a compound noun and this seems another proof that supports the theory (cf. Moon 2016), but I will not discuss it further in this paper.
- 7) Saijo, Yaso wrote the lyrics, and his copyright is still valid. A part of the lyrics is used as citation here, though it is documented in Roman alphabet. JASRAC assured that it is legal to use lyrics as citation (September, 2017).

## References

- Abercrombie, David. 1964. “Syllable quantity and enclitics in English.” In Abercrombie, David, D. B. Fry, P. A. D. MacCarthy, N. C. Scott, and J. L. M. Trim (Eds.), *In Honour of Daniel Jones*, 216-222, London: Longman.
- Abercrombie, David, D. B. Fry, P. A. D. MacCarthy, N. C. Scott, and J. L. M. Trim (Eds.) 1964. *In Honour of Daniel Jones*. London: Longman.
- Abercrombie, David. 1967. *Elements of General Phonetics*. Chicago, IL: Aldine Publishing Company.
- Bekku, Sadanori. 1977. *Nihongo-no rizumu: Yonbyooshi-bunkaron* (The Rhythm of Japanese: On quadruple meter culture). Tokyo: Chikuma Shoboo.
- Couper-Kuhlen, Elizabeth. 1993. *English Speech Rhythm: Form and Function in Everyday Verbal Interaction*. Amsterdam/Philadelphia: John Benjamins Publishing.
- Dauer, R.M. 1983. “Stress-timing and syllable-timing reanalyzed.” *Journal of Phonetics*, 11, 51-62.
- Fischler, Janelle. 2009. “The rap on stress: Teaching stress patterns to English language learners through rap music.” *MinneWITESOL Journal*, Vol. 26, 39-61.

- Grabe, Esther and Ee Ling Low. 2002. "Duration variability in speech and the rhythm class hypothesis." In Gussenhoven, Carlos and Natasha Warner (Eds), *Laboratory Phonology 7: Phonology and Phonetics*, 515-546, Berlin: Mouton de Gruyter.
- Ishii, Hiroshi. 2007. *Seiyoo-ongaku-kara Mita Nippon* (Japan Seen from Western Music). Tokyo: PHP Institute.
- Jones, Daniel. 1918. *An Outline of English Phonetics*. Cambridge: W. Heffner.
- Lehiste, Ilse. 1977. "Isochrony Reconsidered." *Journal of Phonetics*, 5(3), 253-263.
- Liberman, Mark and Alan Prince. 1977. "On Stress and Linguistic Rhythm." *Linguistic Inquiry*, Vol. 8, No. 2, 249-336.
- Lloyd James, Arthur. 1940. *Speech Signals in Telephony*. London: Sir I. Pitman and Sons.
- Maruyama, Shigeo. 2011. *Ahurikan-amerikan-ongaku-no Gengo-dooka-genshoo* (The Phenomenon of Assimilation of African American Music into Language.) PhD dissertation, Nihon University.
- Moon, Changyun. 2016. "Tanshuku-go-no keisei-hoohoo-ni kansatsu-sareru sedai-sa-ni-tsuite" (On generation difference observed in a way of making abbreviated words). *Paper presented at 152<sup>nd</sup> conference at the Linguistics Society of Japan* (Keio University).
- Morimoto, Yukimasa. 2011. *Seiyoo Ongaku-ron* (Essay on Western Music). Tokyo: Koobunsha.
- Nakata, Kenzo. 2002. *Eigo-no Atama-ni Kawaru Hon* (Book to Change Your Brain into English). Tokyo: Chukyo Shuppan.
- Nishihara, Tetsuo, Adrian Leis. 2014. "Rhythm in English: Implications for Teaching." *Tohoku Eigo Kyooiku Gakkai Kiyoo*, 34, 65-76.
- Ohgushi, Kengo. 2010. "Gengo-no rizumu-to ongaku-no rizumu" (Rhythm in speech and rhythm in music). *Nihon Onkyoo Gakkai-shi* (Journal of Acoustical Society of Japan), 66 (4), 155-156.
- Patel, Aniruddh D., John R. Iversen, and Jason C. Rosenberg. 2006. "Comparing the rhythm and melody of speech and music: The case of British English and French." *The Journal of Acoustical Society of America*, 119(5 Pt 1): 3034-47.
- Pike, Kenneth L. 1945. *The Intonation of American English*. Ann Arbor, MI: University of Michigan Press.
- Pike, Kenneth. 1947. *Phonemics: A Technique for Reducing Languages to Writing*. Ann Arbor, MI: University of Michigan.
- Port, Robert F., Jonathan Dalby, and Michael O'Dell. 1987. "Evidence for foot structure in Japanese." *Journal of the Acoustical Society of America*, 81(5), 1574-1585.
- Ramus, Franck, Marina Nespoulet, and Jacques Mehler. 1999. "Correlates of linguistic rhythm in the speech signal." *Cognition*, 72(3), 265-292.
- Roach, P. 1982. "On the Distinction between 'Stress-Timed' and 'Syllable-Timed' Languages." In David Crystal (Ed.) *Linguistic Controversies*, 73-79. London: Arnold.
- Sadakata, M., Peter Desain, Henkjan Honing, Aniruddh D. Patel, and John R. Iversen. 2003. "An analysis of rhythm in Japanese and English popular music." *Proceedings of the Annual meeting of the Japanese Society for Music Perception and Cognition*, 49-52,

Tokyo.

- Sadataka, Makiko, Peter Desian, Henkjan Honing, Aniruddh D. Patel, John R. Iversen. 2004. "A cross-cultural study of the rhythm in English and Japanese popular music." *Proceedings of the International Symposium on Musical Acoustics (ISMA 2004)*, 41-44.
- Selkirk, Elizabeth. 1984. *Phonology and Syntax: The Relation between Sound and Structure*. Cambridge, MA: The MIT Press.
- Tajima, Keiichi and Robert F. Port. 2002. "Speech rhythm in English and Japanese." *Indiana University Linguistics Club Working Papers Vol. 2, No.2, Speech Prosody and Timing: Dynamic Aspects of Speech*, 135-149.
- The Thelonious Monk Institute of Jazz. 2000. "Musical Elements." (Grade 8-2.) *In Jazz in America*. <http://www.jazzinamerica.org/LessonPlan/8/2/199>;  
<http://www.jazzinamerica.org/LessonPlan/8/2/202> (accessed on September 18<sup>th</sup>, 2017).
- Visch, Ellis. 1999. "The rhythmic of compounds and phrases." In Harry van der Hulst (Ed.), *Word Prosodic Systems in the Languages of Europe*, 161-232. Berlin and New York: Mouton de Gruyter.
- Washizu, Natsue. 1992. *Warabe-uta-to Naasarii-raitu: Nihongo-to Eigo-no Hikaku-gengo-rizumu-koo* (Japanese children's songs and nursery rhymes: Contrastive analysis between Japanese and English rhythm). Tokyo: Banseisha.
- Wenk, Brian J. 1987. "Just in time: on speech rhythms in music." *Linguistics*, 25 (5), 969-981.
- Wenk, Brian and François Wioland. 1982. "Is French really syllable-timed?" *Journal of Phonetics*, 10, 193-216.
- Yavas, Mehmet. 1998. *Phonology Development and Disorders*. San Diego: Singular Publishing Group.
- Yoshida, Tomoyoshi and Shoichi Takeda. 2012. "Ongaku-rizumu-to onsei-rizumu-no kyootsuu-sei-ni-tsuite-no kiso-kentoo" (Consideration of the relation between musical rhythm and verbal rhythm). *Nagoya Bunri Daigaku Kiyoo*, 12, 113-119.
- Yui, Megumi. 2000. "Sekai-no haaku-to gengo: Eigo-to nihon-go-no hukugoo-meishi-ni-miru meiji-ni-kansuru koosatsu (Construal of one's world and their language: On nominal terms in compounds in English and Japanese). *Surugadai Daigaku Ronsoo* (Surugadai Daigaku Studies), 21, 85-96.
- Yui, Megumi. 2008. "Nihon-go-ni-okeru jimmei-no taishoo-shi oyobi hukugoo-meishi-toshite-no kinoo: Aidentiti-to-no kankei-sei" (The functions of personal names in Japanese as address terms and compounds: The relations with identity). In *Shakai-gengo-kagaku-kai dai 21-kai taikai happyoo rombun-shuu* (Proceedings of 21<sup>st</sup> conference of the Japan Association of Sociolinguistic Sciences), 272-275.
- Yui, Megumi. 2009. "Nihongo-ni-okseru jimmei-to aidentiti-tono kankei-sei: Intaanetto-ni-okeru shitsumon-shi-choosa-no kekka-kara (The relations between personal names and their identity in Japanese: From the results of questionnaire survey on the Internet). In *Shakai-gengo-kagaku-kai dai 23-kai taikai happyoo rombun-shuu* (Proceedings of the 23<sup>rd</sup> Conference of The Japanese Association of

Sociolinguistic Sciences), 270-273.

Yui, Megumi. 2010. "Name and identity in Japanese: From questionnaire data." In *Proceedings of the 6th Biennial International Gender and Language Association Conference IGALA 6*, 430-443.

### **Music and Songs Cited**

Bach, Johann Sebastian. Partita for Solo Violin No. 3 in E Major, BWV 1006.

"As Time Goes By." 1931. Words and music by Herman Hupfeld.

"Edo-no Komori-uta." Songwriters unknown.

"Garota de Ipanema" (The Girl from Ipanema). 1963, music by Antônio Carlos Jobim and Portuguese lyrics by Vinicius de Moraes in 1962. English lyrics by Norman Gimbel in 1963.

"Oh, My Darling, Clementine." circa 1883. Words and music by Percy Monterose.

"Stella by Starlight." Music by Victor Young in 1944, words by Ned Washington in 1946.

"Tennessee Waltz." 1948. Words by Redd Stewart, music by Pee Wee King.

"Tokyo Ondo." 1933. Words by Saijo, Yaso, music by Nakayama, Shimpei.

"Yuki-yama Sanka." 1927. Words by Nishibori, Eizaburoo, Kyoto Daigaku Gakushi Sangaku-kai (Academic Alpine Club of Kyoto), music by Percy Monterose.