Aspects of Japanese Hip-Hop Rhymes: What They Reveal about the Structure of Japanese

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0. Introduction

   This short note attempts to describe the linguistic patterning of hip-hop rhymes in Japanese. There are three major points. First, as the most basic principle, I will point out that Japanese hip-hop rhymes require that there be more than one agreeing moraic element from the end of lines. Second, it will be shown that extrametricality, the notion crucial to the realm of prosodic phonology, is well motivated in the context of hip-hop rhymes as well. Finally, I argue that rhyme computation proceeds in a binary and cyclic fashion.

1. Basic Principles

   This section is allotted to the investigation of the basic principles of Japanese hip-hop rhymes. In a nutshell, rhymes require that at least two moraic elements be identical. A theoretically important point is that the existence of such a principle provides a substantive empirical support to the existence of syllables and moras in Japanese phonology (see Kubozono 1999 for overview).

   First consider the rhyme below, which instantiates the most basic pattern of Japanese hip-hop rhymes:

(1)   Go To Work (KOHEI)
        soshite te ni ireyooze satsut**aba**
        mitero ore no sokojik**ara**

There are two significant points: (i) consonants are ignored and (ii) two vowels are identical in both of the lines. It might be instructive to note in passing that there does not seem to be any upper limit on the number of identical sounds. The song below contains four agreeing syllables (or seven in terms of mora):

(2)   Master Mind (DJ Hasebe, feat. GEEBRA, Mummy-D)
        kyoomo T-shatsu ni shibumeno g**ooru**do chee**N**
        shanpan banban akete s**ooru** toree**N**

The next question is: what is the basic unit? In other words, to the extent that rhymes require at least two identical elements, what constitutes the "element"? Two plausible candidates are syllables and moras. Now consider:

(3)   Yoru Kaze (Ketsumeishi)
        tsukiakari ha oreni myooni yasash**ii**
        sukibakari sa ore wa hutari tanosh**ii**

(4)   Go To Work (KOHEI)
        nagareboshi mitsuke sotto oneg**ai**
        karadani gai no nai ??? chood**ai**

   The rhyme-constituting parts above are monosyllabic but bimoraic ([ai] forms one syllable in Japanese; Kubozono (1999)). Hence the basic unit of rhymes should be identified as "moras." Now, to summarize:

   Minimality: Rhymes should consist of the agreement of at least two moraic elements.

2. Rhyme and Syllable Structure
   In the above section I roughly stated that consonants are "irrelevant." However, it does not seem that consonants are always ignored. The most salient example is certain nasal sounds and a part of geminate sounds, which very often have their correspondence. Consider:

(5)   Go To Work (KOHEI)
        maiban huru huraip**an**
        kyaku ga sara wo kara ni surya mata kaik**an**
        maiku de buchi makeru sekaik**an**
        biito ga tsunagu kyaku to no ittaik**an**

(6)   Itsunarobaa (Kick the Can Crew)
        kokochi yoi kaze ga mekuru p**an**chira ni
        isshunn kuchi hiraki h**an**biraki

(7)   Itsunaroobaa (Kick the Can Crew)
        izure nakunaru **tte**
        waka**tte**
        minna dama**tte**
        wara**tte** (ruze)

But compare this situation with:

(8)   Go To Work (KOHEI)
        soshite te ni ireyooze s**ats**u**ba**t**a**
        tsuranuki toose yu me ga **aru**n**a**r**a**

Consonants are systematically ignored in (8). They either (i) lack a correspondent or (ii) have a completely different sound in its corresponding position. On the other hand, vowels, geminate consonants, and pre-consonantal and word-final nasals must in principle have a correspondent, and the correspondent must have a very similar, if not identical, phonological properties. A generalization that covers these categories is that no vowel follows them. In other words, they are CODAS in syllable i.e., consonants attached to the right of a vowel.

σ   σ   σ   σ   σ

V t   t e   a N b i   pa N
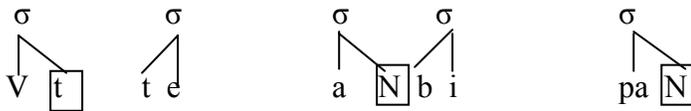
Recall that vowels are major participants in rhyme, and, as we have revealed, so are coda consonants. Since coda consonants are moraic in Japanese , we can elaborate on our Minimality Principle:

> Minimality:
> Rhymes should consist of the agreement of at least two moraic elements. Moraic elements are vowels and coda consonants.

3. Extrametricality

The primary purpose of this section is to show that extrametricality is observed in hip-hop rhymes, while considering its characteristics (see Hayes 1982 and subsequent works). In natural languages word-final elements sometimes exhibit a special behavior. For instance, in Cairene Arabic CVCC and CVVC are allowed only word-finally (McCarthy 1979), and in Latin stress never falls on the final syllable (Mester 1994). To account for such cases, it has been proposed that certain peripheral elements are "extrametrical," that they are invisible ("extra"-) to metrical operations (such as syllabification or stress assignment). Now consider,

(9)   One (Rip Slyme)
        Ittsuno doori no aarii mooni<n>
        yume kara samereba uso no yooni

(10)   Itsubarobaa (Kick the Can Crew)
        hadani karamu nurui kaze
        toroketeru karada wo hurui tate<ru>

The final moraic elements behave as though they were not there i.e., they are invisible to rhyme. We can therefore say that word-final moraic materials above are extrametrical. Extrametricality helps to explain the fact that a long vowel can (and in fact often does) rhyme with its short counterpart:

(11)   Itsunarobaa (Kick the Can Crew)
        nani ka ga hajimari s**o<o>**
        so kimari m**o**
        nani mo nai shizen no shigus**a**
        ga toori sugi kisetsu no firut**a<a>**

To mention the characteristics of extrametricality, extrametrical material must be at the periphery of the form i.e., we do not find an instance of the rhyme type schematically represented as below:

```
CV <CV> CV
     CV  CV
```

Second, one extrametrical element (one syllable or one mora) is allowed per one rhyme (only one exception is found in *Marche* by Kick the Can Crew; due to space limitations it is omitted).

4. Cyclicity and Binarity
   To conclude this short note, I discuss how hip-hop rhymes should be computed. The hypothesis advanced in this section is that rhymes are always computed in one-to-one fashion (BINARITY) in a successive way (CYCLICITY). Consider the schematic models below:

```
Cyclic Rhyme                          Non-Cyclic Rhyme
CVCVCV ─┐                             CVCVCV        ◄─┐
        │ Cycle 1                                     │
CVCVCV ◄┤                             CVCVCV        ◄─┤
        │ Cycle 2                                     │
CVCVCV ◄┘                             CVCVCV        ◄─┘
```

I argue for the model represented in the left picture. Now consider:

(12)   Mastermind (DJ HASEBE feat. ZEEBRA and Mummy-D)
        hampa nai masutaa maindo
        boodarain
        topparai
        sekaijyuu ooganaizu
        ima massai chuu
        soo tookanai

Compare the cyclic and non-cyclic modeling of the above rhyme:

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Non Cyclic                          Cyclic
hampa nai masutaa mai<ndo>          hampa nai masutaa main<do> ──────┐
boodarai<n>                         boodarain              ◄─┐       │
topparai                            boodarai<n>            ──┘       │
  sekaijyuu ooganai<zu>             topparai            ◄─┐          │
ima massai <chuu>                   topparai            ──┘          │
soo tookanai                        sekaijyuu ooganai<zu> ◄──────────┘
                                    sekaijyuu ooganaizu   ─────────┐
                                    ima massai chu<u>      ◄─┐      │
                                    ima massai<chuu>       ──┘      │
                                    soo tookanai           ◄───────┘
```
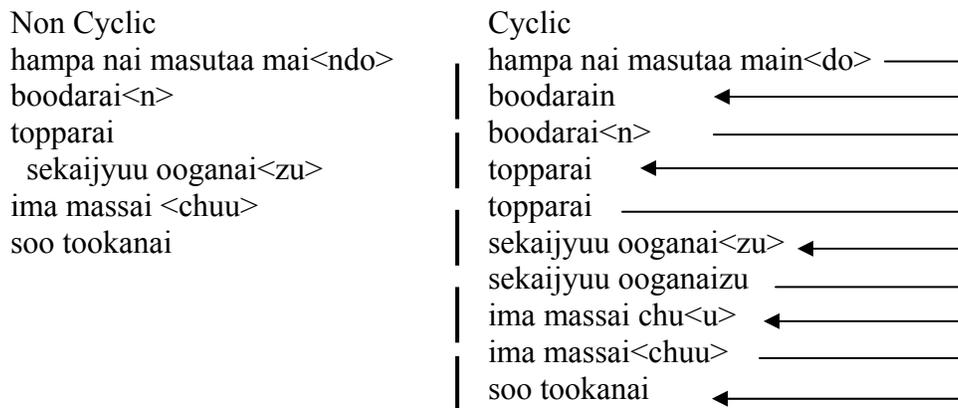
There are two reasons that the cyclic account better accounts for the rhyme above: (i) it precludes a large extrametrical element in the first line, and (ii) the non-cyclic approach

fails to explain why adjacent lines contain identical set of strings (i.e., [n] is the first and second line; [u] in fourth and fifth line). Moreover, consider:

(13)   Mastermind (DJ. HASEBE feat. ZEEBRA and Mummy-D)
        saa ajimi shina
        wayoo secchu saikookyuu no dinaa
        koonarya mina
          k**u**ttekina
          ikurademo aruze kono b**u**ff**e** ni wa
          orera no ude ajiwaina

In the non-cyclic account, we must admit non-internal extrametricality for [u] and [e] in the fourth and fifth lines. This is, however, nothing more than an ad hoc stipulation, and, more importantly, fails to capture the fact that the two lines contain two identical vowels (that rhyme).

5. Concluding Remarks
    This paper discussed the basic principles of hip-hop rhymes: bimoraic requirement, extrametricality, binarity and cyclicity. This however is only a preliminary study, and it is hoped that further investigations will be done.

Reference
Hayes, Bruce (1982) Extrametricality and English Stress. *Linguistic Inquiry* 13, 227-250.
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