THE STRUCTURE OF MIMETIC VERBS: A PRELIMINARY STUDY*

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1. Introduction

It is well known that very young children acquiring Russian, Turkish, and Japanese, among others, produce innovative mimetic expressions at around 18 months of age. Observe an example of a Russian-acquiring child's production reported by Gargarina (2003).

(1) Mother: Liza, chto brat   delaet?
            Liza, what brother-NOM do-IPFV.3S

          'Lit. What is your brother doing?'

    Liza: <u>Fuu</u> (1;07) [Context: Her brother is blowing the ball.]   (Gargarina 2003)

Liza's utterance given in (1) indicates that a Russian-speaking child produces the mimetic verbal element "Fuu" to describe the action of her brother blowing a ball. It is also well known that English-speaking children produce the innovative mimetic verbs, but actually, they are produced at a later stage of language acquisition.

Wexler (1998), based on findings from the acquisition of Germanic and Romance languages, proposes the hypothesis of Very Early Parameter-Setting (VEPS), which states that basic parameters such as those listed in (2a) through (2d) are already fixed to the target value when syntactically relevant production begins.

(2) Very Early Parameter-Setting (Wexler 1998: 25)
    a. Word order, e.g. VO versus OV (e.g. Swedish versus German)
    b. V to I or not (e.g. French versus English)
    c. V2 or not (e.g. German versus French or English)
    d. Null subject or not (e.g. Italian versus English or French)

Basic parameters are, according to Wexler (1998), set correctly at the earliest observable stage of language acquisition, that is, at least from the time that the child enters the two-word stage, around 18 months of age. As mimetic verbal elements are also often found in the production of very young children acquiring Russian, Turkish and Japanese at around 18 months of age, the parameter determining the rich/poor mimetic verb systems in the target language can also be considered to be part of VEPS.

Whatever parameter it may be termed as, there are languages with rich mimetic verbs (e.g., Japanese, Romanian, Korean, Turkish, Russian, among others) and those with poor mimetic verbs in the world. And the variation should reflect the typological properties and the relative universality of languages in the world. In this paper, we will analyze the structure of mimetic verbs in Japanese, a typical language with rich mimetic verbs, and discuss the learnability issues. We argue that "suru" in mimetic verbs is the phonetic realization of small *v* in both adult and child Japanese, and mimetic verbs, or mimetics+*suru*, reflect the onset of the syntactic category of verbs in child Japanese.

2. Acquisition of Mimetic Verbs in Japanese

Just like Russian-acquiring children, Japanese-acquiring children also produce a lot of mimetics at a very early stage of language acquisition. Instead of the conventional lexical verbs (such as "nageru" (to throw) in (3b)), the mimetic expressions (such as "poi" (mimetics)) are used in a similar context at around 18 months of age.

(3) a.   poi (1;07)
    MIM
    [context: throwing a ball]

    b.   boku booru nagete   kaatyan to (2;01)
        I   ball   throw   mommy with

        'I will throw a ball with/to Mother.'   （Noji 1973-1977）

Murasugi and Fuji (2011), Murasugi and Nakatani (2013), among others, based on the longitudinal study of Yuta and the corpus analysis of Sumihare (Noji, 1973-1977), argue that mimetic verbs come to be used in a specific order, and there are mainly four stages found in the process of the acquisition of mimetic verbs in child Japanese.

(4)   Stage I: the bare Mimetic (=MIM) form
       Stage II: MIM-*ta* (Non-Present form) and MIM-*na* (Sentence Final Particle)
       Stage III: MIM-*tyoodai* (give-me)
       Stage IV: MIM-*suru* (present tensed form), MIM-*tyoo* (propositives),
                   MIM-*tyee* (imperatives)

At stage I, the bare mimetics (e.g., "poi" [context: throwing something away] and "byu byu byu" (meaning 'I want to draw a picture')) frequently appear in the natural context, followed by stage II, where the mimetic word, just like a stem of a verbal element, comes to be associated with *–ta* (past-tense form) or *–na* (sentence-final particle (SFP)) (e.g., "pai-ta" (meaning 'I want mom to remove the dirt') and "pai-na" (meaning 'I want to take off my gown'), respectively).

The mimetic expressions at stage I appear in the bare form as shown in (5).

(5) a. **poi** (1;01) [context: throwing something] (Noji Corpus)

   b. **toon** (1;03) [context: throwing a seed of plum to the ground]

Interestingly enough, as shown in (6), at stage II, a lot of children mark the mimetic word with a past-tense form *-ta* and/or a sentence-final particle *-na*.

(6) a. **poo syusyupopo** ta (1;08) (Noji Corpus)
   MIM PST

   'The steam locomotive puffs along.'

   b. razio **tintinpuu** ta (1;09)
   radio MIM PST

   'I heard the time whistle in the radio.'

Murasugi and Fuji (2011) and Murasugi and Nakatani (2013), among others, argue that the children at stages I and II are actually in the stage of Root Infinitive Analogues (RIAs), and the child mimetic verbal elements are used not only for the description of the present/past event, but also for the irrealis meaning, which is termed the Modal Reference Effects, a typical semantic property found in the RIAs.

After the stage of RIAs, mimetics come to be associated with *suru* (do) as shown in (7).

(7) a. mata **ton** sita yo (2;00) (Noji Corpus)
   again MIM did SFP

   '(It) hit (the box) again.'

   b. Kei-tyan **anan** sita (2;02)
   -DIM MIM did

   'Ms. Kei cried.'

"Ton" in (7a) and "anan" in (7b) are both mimetics, and they are followed by *suru* (do), thereby creating innovative mimetic verbs.

Murasugi and Hashimoto (2004) argue that the mimetic verbs found at stage IV in language acquisition exemplified in (8) provide direct evidence for the hypothesis of *v*P shell, originally proposed by Larson (1988). Murasugi and Hashimoto (2004) report a longitudinal study of a Japanese-speaking child Akkun, and argue that the child seemed to realize the small *v* as *tiyu* or *suru*, *tita* or *sita*, *tite* or *shite*, meaning *do*, *did*, *doing*. They argue that there is a stage where children realize small *v* with the verb *do*, which is *suru* (*tiyu*), and this is the stage where the *v*-VP frame shows up directly. In (8), "kurukuru (kuyukuyu)" is a mimetic word describing things turning around, and expresses the meaning that the screw turns around.
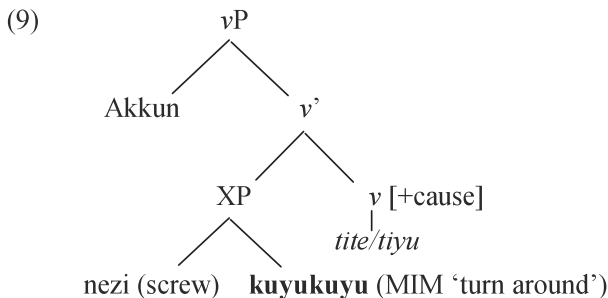
(8)   Stage IV: the analysis of MIM+*suru* (do) in Child Japanese
        Akkun nezi **kuyukuyu   tite**,   konoko syaberu (2;09)
        screw   turn   around(MIM) do   this one talk.NPST

        'When Akkun (/I) winds around the screw, it will talk.'

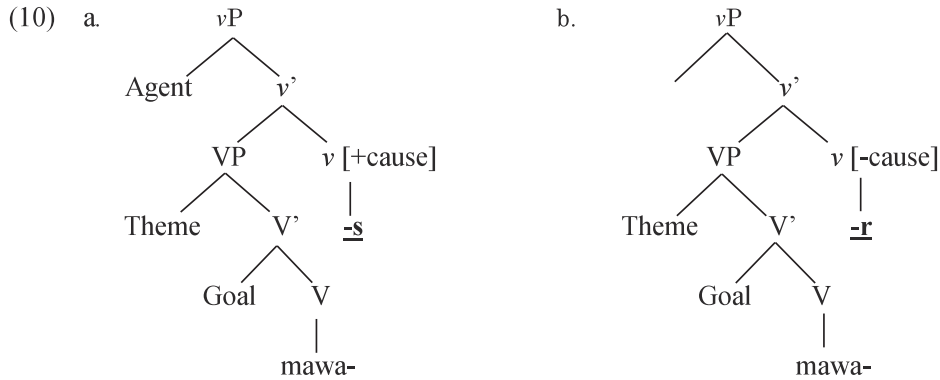   (Murasugi and Hashimoto 2004)

    Children start producing mimetic verbs quite productively at stage IV, and children seem to be using *suru* to describe an activity that causes a certain event or change of state. Thus, *tite/tiyu*, just like adult counterpart, *site/suru*, can assign the agent role, as English *do*. Further, the rest of the utterance seems to describe an event or a change of state. Thus, *tiyu/tita/tite* in child Japanese or *suru* (do) in mimetic verbs seems to correspond exactly to small *v*. Thus, Murasugi and Hashimoto (2004) propose that the structure of (8) is the one shown in (9).

(9)   *v*P
            ╱   ╲
       Akkun   *v*'
                 ╱   ╲
              XP   *v* [+cause]
          ╱   ╲ |
    nezi (screw) **kuyukuyu** (MIM 'turn around')   *tite/tiyu*

                                    (Murasugi and Hashimoto 2004, See also Murasugi 2017.)

In (9), *tite* describes an activity that causes a screw to turn around, and Akkun is the agent. The complement of the small *v* is indicated not as VP but as XP because it lacks a verb. Thus, Murasugi and Hashimoto's (2004) analysis provides direct evidence for the VP shell analysis for agentive verbs. Children, at one point, start using *suru* as a realization of [+cause] small *v* to express agentivity, and they form agentive transitives based on their grammar at that time. According to this analysis, since *kurukuru-suru* is not a conventional lexical verb in Japanese, children have to learn the adult lexicon *mawa-s-u*, or the actual verb form, at a later stage, as given below.

(10) a.

```
                    vP
                   /  \
              Agent    v'
                      /  \
                    VP    v [+cause]
                   /  \       |
              Theme    V'     -s
                      /  \
                  Goal    V
                          |
                       mawa-
```

b.

```
                    vP
                   /  \
                  /    v'
                      /  \
                    VP    v [-cause]
                   /  \       |
              Theme    V'     -r
                      /  \
                  Goal    V
                          |
                       mawa-
```

(See Murasugi and Hashimoto 2004: 8-9.)

In other words, at stage IV, very young children realize the small *v* as *suru* phonetically, instead of –*s* or –*r* in the target adult grammar. (See Murasugi and Hashimoto (2004) for a detailed discussion of the VP shell analysis of Japanese transitive/intransitive alternations.)

3.   The Structure of Mimetic Verbs in Adult Japanese

Given the analysis of Murasugi and Hashimoto (2004) briefly summarized above, it is considered that very young children should know the basic structure of *v*-VP after the stage of RIAs, and the structure would be something like the one given in (9), which is the onset of the *v*-VP structure.

Here, an important learnability question arises. If the syntactic structure of child mimetic verbs can be schematized as in (9), then, when is the structure delearned, and how do children attain the adult grammar? In this section, we argue that the structure of mimetic verbs that Murasugi and Hashimoto (2004) propose does not hold only for child mimetic verbs, but it also holds for the adult mimetic verbs in Japanese. In what follows, we will argue that the structure of mimetic verbs in adult Japanese is also basically schematized as shown in (9).

As is well known, there has been an important debate between Tsujimura (2005) and Kageyama (2007) regarding the syntactic status of mimetic verbs in Japanese. According to Tsujimura (2005:147), "a specific interpretation of a mimetic words' multiple 'meaning' is determined only when the global information throughout the sentence is taken into consideration." In contrast, Kageyama (2007:36) states that "If we succeed (in) grasping the precise meanings of mimetic words themselves, it is entirely feasible to assimilate the semantic of mimetic verbs into standard, compositional semantics without invoking the notion of construction. Mimetic words determine the syntactic constructions they appear in, and not the other around." According to Kageyama (2007), the meaning of mimetic verbs can be divided into seven types, and the meaning of mimetic verbs is fully represented by a mechanism making use of Lexical Conceptual Structure (LCS), and the syntactic and

semantic behavior of mimetic words can be properly assimilated to the standard frameworks of lexical semantics. That is, the adult syntactic realization of their arguments is fully predicted by general principles of linking.

Kageyama's (2007) argument that mimetic verbs behave just like the conventional lexical verbs is supported by his observation of the accentual patterns. The capital letter indicates high pitch. The verb and the adverb make a natural class, and they are pronounced as **GAragara**, while adjectives and nouns create another natural class, and they are pronounced as *gaRAGARA*.

(11) a.   verbal: Nodo-ga **GAragara** <u>suru</u>. 'My throat feels irritated.'
     b.   adverbial: Iwa-ga **GAragara**-<u>to</u> kuzureta. 'Large boulders came.'
     c.   adjectival: Eigakan-wa **gaRAGARA**-<u>da</u>. 'The theater is almost empty.'
     d.   nominal: Akatyan-ni **gaRAGARA**-<u>o</u> ageta. 'I gave the baby a rattle.'

Akita and Tsujimura (2016:134) also note that mimetic words can exercise different syntactic functions when put in phrases, ranging over nouns, adjectives, adverbs, and verbs, as exemplified by *hirahira* (representing a 'fluttering' or 'flapping state'). Observe (12).

(12) a.   **Hirahira-**<u>ga</u>   kininaru (noun)
         MIM   -NOM be.concious

         'He is conscious about the flapping object.'

     b.   **Hirahira-**<u>no/na</u>   sukaato (adjective)
         MIM   **-**GEN/Copula skirt

         'fluttering (flare) skirt'

     c.   Sakura-no   hanabira-ga   **hirahira** <u>to</u>   tiru (adverb)
         cherry **-**GEN petal   -NOM MIM   Quot fall

         'Cherry petals fall in a fluttering manner.'

     d.   Hata-ga   **hirahira-**<u>suru</u> (verb)
         flag –NOM MIM   -do

         'A flag flutters.'

The previous studies introduced above clearly indicate that there are not only mimetic verbs in Japanese, but there are mimetic nouns, mimetic adjectives, and mimetic adverbs in the language, and such rich productivity of the mimetic expressions features the grammar of Japanese.

Now, let us go back to the original question. What does the structure of mimetic verbs look like? Kageyama (2005) argues that there are in fact three types of *suru* in Japanese: main

verb, light verb and *suru* in mimetic verbs. The main verb *suru* has LCS content (e.g., *sentaku-suru* (do laundry)), while the light verb's LCS is null (e.g., *kokyuu-suru* (breathe)). The mimetic verb is a composite predicate, and seven LCS templates are associated with the verb -*suru*. The LCS template is conflated with one of the LCS contents of mimetic bases to derive the meaning of the mimetic verb.

Suppose that mimetic words provide the core meaning of overall syntactic elements and play an important role in the syntactic constructions. Then, the stem of mimetic verbs, which is the head of mimetic phrase in Kageyama's (2007) analysis, should also be part of such nominal, adverbial, and adjectival elements given in (12), and those mimetic words should provide the core meaning of the overall syntactic elements as well. Furthermore, we would expect that the meanings of mimetic words are linked with the arguments that the verb takes. In fact, Yoshinaga (2016), for instance, argues that *iraira suru* (irritated) is an instance of unergative verbs, while *zukizuki suru* (throbbing) is an instance of unaccusative verbs.

Note here, however, that it is not always the case that the mimetic words and the arguments that the mimetic verb takes constitute a one-to-one correspondence. Murasugi (2017) points out that there are mimetic verbs whose meaning can be three-way ambiguous, i.e., a mimetic word can form either transitive, unaccusative, or unergative verbs.

(13) a.   Tama-o   **gorogoro**   <u>suru</u>
          ball-ACC   roll (MIM)   do.NPST

          '(I) roll the ball.'   → transitive

     b.   Onaka-ga   **gorogoro**   <u>suru</u>
          stomach-NOM growl (MIM)   do.NPST

          'My stomach is growling.'   → unaccusative

     c.   Inu-ga   **gorogoro**   <u>suru</u>
          dog-NOM roll over (MIM) do.NPST

          'The dog is rolling over.' → unergative   (Murasugi 2017)

The descriptive finding suggests that the meaning of the mimetic word "gorogoro", which is three-way ambiguous, cannot be considered to be the sole factor to determine the arguments that the verb might take. Rather, as shown in (14), mimetic words can be derivationally selected by other elements which determine the overall syntactic status of the category containing the mimetics.

(14) Mimetics: a derivationally selected stem
     a.   **kirakira** *tyan* (Mimetics + diminutive) (nominal)   'Ms. Kirakira'
          MIM   DIM
     b.   **tyara-** *i* (Mimetics + *i*) (adjectival)   'flashy'

c. **hirahira-***na* (Mimetics + *na*) =(12b) (adjectival)
d. **hirahira-***to* (Mimetics + *to*) =(12c) (adverbial)
e. **hirahira** *suru* (Mimetics + *suru*)=(12d) (mimetic verb)

If a diminutive element -*tyan* follows the mimetic word *kirakira*, it forms a nominal element as in (14a). If -(*k*)*i* or -*na* follows a mimetic word, an adjective is derived as in (14b) and (14c). If -*to* (or -*ni*) follows a mimetic form, an adverb is derived as in (14d), and if -*suru* follows a mimetic word, it makes a mimetic verb as shown in (14e).

Note here the mimetic word in a mimetic verb cannot be a full NP, just like the stem of adjectives exemplified in (14c) and (14d) cannot be, and hence, it cannot be the complement of the verb *suru*. As shown in (15), a mimetic word "mogumogu" in a mimetic verb *mogumogu suru* cannot be Case-marked. That is, *mogumogu-o suru*, is out, if the mimetic verb is meant to be "to bite".

(15)   yoku **mogumogu**(*-o)   suru
       well   MIM-   (-ACC) do

    '*Lit*. Do a lot of biting' ('to bite a lot', typically found in motherese.)

The only possible interpretation of *mogumogu-o suru* is that "(someone) plays a game of mogumogu" where "mogumogu" refers to a specific game, for example. The accusative Case normally cannot be assigned to the mimetic word "mogumogu". This would provide a piece of evidence for the claim that the mimetic word cannot be a complement of the verb, nor a full NP. In fact, this point crucially distinguishes the mimetic verbs from such verbs containing a borrowing word as *jyampu(-o) suru* (to jump) and a light verb such as *kokyu(-o) suru* (to breathe), where the accusative Case marker is optional.
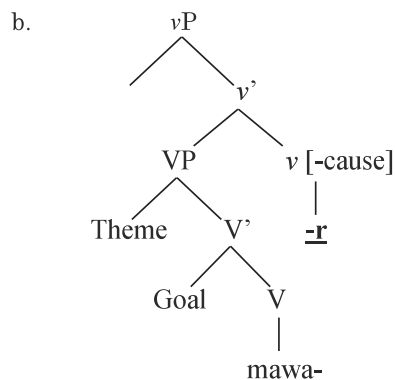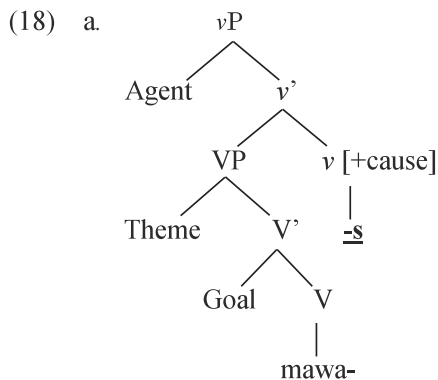
The discussion so far naturally leads us to conjecture that both insights, i.e., Tsujimura's insight that mimetic words may have multiple meanings, and Kageyama's insight that there are three types of *suru* in Japanese and the meaning of mimetic verbs is represented by a mechanism making use of LCS, are both basically correct. However, unlike their proposals, our analysis indicates that the mimetic word is not the complement of verb *suru*, and the meaning of a mimetic word is not the sole factor that determines the syntactic construction it appears in. The notion of construction is not necessarily either, and the interpretation of multiple meaning of a mimetic word is not determined when the global information throughout the sentence is taken into consideration. Rather, mimetic words can be derivationally selected by a syntactic head, which determines the overall syntactic status of the category containing the mimetic word.

Given the argument so far, then, we have to say that mimetic verbs cannot be essentially different from conventional lexical verbs. In fact, just like that the meaning of mimetic verbs can be ambiguous (cf. (13)), such conventional verbs as *tojiru* (to shut) and *warau* (to laugh), for example, can be ambiguous, and can also be either a transitive verb or an intransitive verb.

(16) a. doa-o   toziru
    door-ACC shut

    '(someone) shuts the door.'

   b. doa-ga   toziru
    door-NOM shut

    'the door shuts.'

(17) a. sore-o   warau
    that-ACC laugh-at

    '(someone) laughs at that.'

   b. oni-ga   warau
    demon-NOM laugh

    'the demon laughs.'

   c. hiza-ga   warau
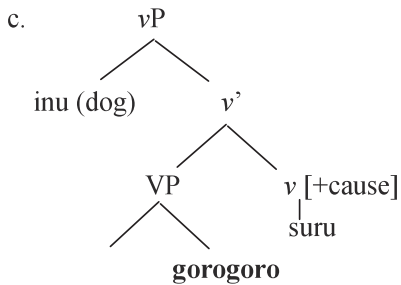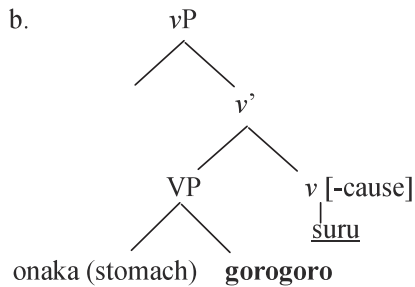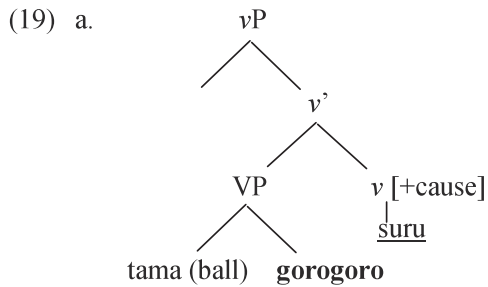   knee-NOM laugh

    'the knees shake.'

The stem of *tojiru* and that of *warau* given in (16) and (17), respectively, is the large V in the *v*-VP framework. The stem constitutes the core meaning of the verbs, and the combination of the stem and the small *v* (which is phonetically realized null) determines the syntactic construction it appears in.

Here, let us recall the syntactic structure of transitive and intransitive verbs in Japanese schematized in (10), repeated in (18). This is the structure that Murasugi and Hashimoto (2004) proposed for the transitive/intransitive alternations in Japanese-type verbs under the VP-shell hypothesis.

(18) a.
```
           vP
          /  \
      Agent   v'
             /  \
           VP    v [+cause]
          /  \    |
     Theme   V'   -s
            /  \
         Goal   V
                |
              mawa-
```

b.
```
           vP
          /  \
         /    v'
             /  \
           VP    v [-cause]
          /  \    |
     Theme   V'   -r
            /  \
         Goal   V
                |
              mawa-
```

If we assume the VP-shell structure for Japanese conventional lexical verbs with Murasugi and Hashimoto's (2004) line of argument, then the structure of mimetic verbs would also consist of a mimetic word (or the stem) and the small *v* (which is phonetically realized as *suru*). The core meaning of the mimetic verbs would be determined by the mimetic word, and the mimetic word and the small *v* would determine the syntactic constructions that the mimetic word appears in.

Thus, the structure of adult mimetic verbs and the conventional lexical verb are captured in a parallel way. Murasugi (2017) suggests that the adult mimetic verbs which can be either transitive, unaccusative, or unergative shown in (13a), (13b), and (13c) have such structures as those schematized in (19a), (19b) and (19c), respectively.

(19) a.

```
              vP
             /  \
                 v'
                /  \
             VP      v [+cause]
            /  \         |
   tama (ball) gorogoro  suru
```

b.

```
              vP
             /  \
                 v'
                /  \
             VP      v [-cause]
            /  \         |
onaka (stomach) gorogoro suru
```

c.

```
              vP
             /  \
      inu (dog)  v'
                /  \
             VP      v [+cause]
            /  \         |
        gorogoro        suru
```
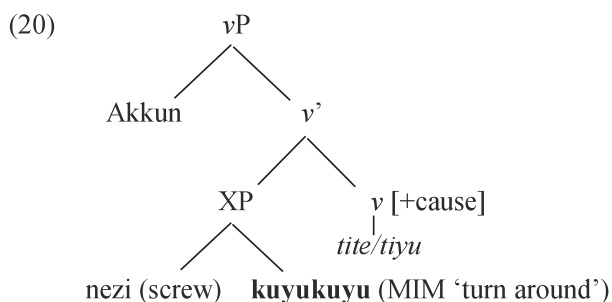
(Murasugi 2017)

The structure of adult mimetic verbs is, then, essentially identical with that of adult transitive/intransitive verbs, and there is no discrepancy found between them. The only

difference resides in the fact that the former has mimetic word as the stem of the mimetic verb, while the latter has large V as the stem of the conventional verb. *Suru* (do) in mimetic verbs is the phonetic realization of small *v*, and can be three-way ambiguous depending on the features associated with the small *v*, i.e., [+cause] or [-cause], and the subjects, internal or external.

Kageyama's insight that the mimetic words play important role in determining the possible argument structure of the mimetic verbs that the mimetic words appear in, should be maintained, because not all the mimetic verbs are three-way ambiguous. For instance, *kirakira-suru* (be shiny), can be unaccusative and/or unergative, but never can be transitive. However, our analysis is different from Kageyama's analysis with respect to the syntactic structure of mimetic verbs. The core meaning of the mimetic verbs would be determined by the mimetic word (just like V in *v*-VP framework), and the mimetic word and the small *v*, not the mimetic word itself, would determine the syntactic constructions that the mimetic word appears in.

If so, then an interesting implication for the learnability of mimetic verbs is obtained. That is, the structure of adult mimetic verbs is essentially identical to the structure of child mimetic verbs given in (9), repeated below in (20), although the child mimetic word does not get a specific syntactic category yet at this stage.

(20)

```
            vP
           /  \
       Akkun   v'
              /  \
            XP    v [+cause]
           /  \     |
      nezi    kuyukuyu   tite/tiyu
     (screw) (MIM 'turn around')
```

Thus, child mimetic verbs, adult mimetic verbs, and adult conventional lexical verbs, share the basic syntactic structure, and no learnability issue arises here. Very young children, after the RIA stage, naturally construct a *v*-VP structure, which is basically identical to the structure of adult mimetic verbs and that of conventional lexical verbs. Our analysis, then, would suggest that the argument structure and the syntactic categories are bootstrapped by mimetics in child language, and more generally, child grammar and adult grammar are continuous, thereby supporting the strong continuity hypothesis of language acquisition.

6. Conclusion

Studies on the acquisition of mimetics have almost exclusively focused on their marked aspects, including iconicity and characteristic morphophonology. Among the important findings is the facilitatory role of the sound symbolism (i.e., marked semiotics) of mimetics in

the acquisition of verb semantics (e.g., Imai and Kita 2014, among others).

In this paper, based on the analysis of RIAs (Murasugi and Fuji 2011, Murasugi and Nakatani 2013, among others) and the analysis of mimetics (Murasugi 2016, 2017), we presented evidence that *suru* in mimetic verbs is the realization of small *v* in both adult and child language, and argued for the hypothesis that there is no discrepancy between mimetic verbs and conventional lexical verbs, as far as syntax and semantics are concerned, and no learnability issue arises in the process of the acquisition of mimetic verbs.

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