Semantic Constraints on the Diachronic Productivity of Japanese Reduplication

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Abstract. The five types of Japanese reduplication – i.e. verb, adjective, noun, adverb and sound-symbolic words – have all gone through the similar diachronic pathway, morphologically, syntactically and semantically, despite their different lexical origins; however, their productivity varies from one type to another. Giving a diachronic frequency survey, this study has reached two conclusions. Subjective meanings implicitly or explicitly symbolized in the reduplicative expressions are highly correlated with the diachronic productivity of Japanese reduplication: only sound-symbolic reduplication shows a steady increase. Lexicalization pattern is also in close relation to the increase of sound-symbolic reduplication. The lack of specific meanings of Japanese verbs typologically enables the emergence of manner expressions through the iconic process of reduplication: the specific manner meanings can be mostly related to sound-symbolic reduplication.

Keywords. Semantic constraints, subjectification, lexicalization pattern

1. Introduction

This study aims to examine the five types of Japanese reduplication – i.e. verb, adjective, noun, adverb and sound-symbolic words – that had undergone various vicissitudes of change since Old Japanese, and to unveil that there is a crucial semantic constraint on the diachronic productivity of Japanese reduplication, despite their similar morphological structures mostly common across time.

Along with the cross-linguistic interest in the linguistic phenomenon of reduplication, Japanese reduplication has also been analyzed mostly in terms of word formation (e.g. Syromiatnikov 1981, Hachiya 1998, Miyaoka 2002, Okamoto 1990; 1994); these studies have given insight into what the word formation of Japanese reduplication is like to be from their respective theoretical points of view. This present study is aimed to take these insights and observations one step further, conducting a frequency-based investigation into the productivity of each type of reduplication across time (e.g. Bybee and Thompson 2000, Bybee and Hopper 2001). Taking a frequency-based approach, I will present the vicissitude of their diachronic productivity for each lexical type. The survey result serves for a deeper understanding of Japanese reduplication.
2. Data and Stages

The data for this study consists of written historical texts extending from Late Old Japanese (late 9-12C) to Modern Japanese (20C); I have paid close attention to the choice of texts that are considered to include colloquial expressions of those times.\(^1\) Table 1 shows the stages of Japanese history, with approximate dates and genres of texts examined at each stage. Note that texts in Early Old Japanese (before late 9C) are not examined, because the majority of texts are not regarded as reflecting colloquial expressions.\(^2\) Table 2 shows the number of reduplicative examples found from these texts and summarized per century. In later sections, these are analyzed morphologically, syntactically and semantically, divided into the following five types: verbs, adjectives, nouns, adverbs and sound-symbolic words. Note that since I treat this survey as a case study, I limit the findings and conclusions discussed in later sections to the data examined.

Table 1: Stages, Dates and Genres of Texts

<table>
<thead>
<tr>
<th>Stages (abbreviations)</th>
<th>Dates</th>
<th>Genres of texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late Old Japanese (Late OJ)</td>
<td>late9-12C</td>
<td>narratives, diaries</td>
</tr>
<tr>
<td>Middle Japanese (MJ)</td>
<td>13-16C</td>
<td>narratives, diaries, essays</td>
</tr>
<tr>
<td>Pre-Modern Japanese (Pre-Mod J)</td>
<td>17-late19C</td>
<td>narratives, novel, puppet play</td>
</tr>
<tr>
<td>Modern Japanese (Mod J)</td>
<td>20C</td>
<td>novel</td>
</tr>
</tbody>
</table>

Table 2: The Number of Reduplicative Examples per Century

<table>
<thead>
<tr>
<th>Century</th>
<th>Number of examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>10C</td>
<td>128</td>
</tr>
<tr>
<td>11C</td>
<td>123</td>
</tr>
<tr>
<td>13C</td>
<td>100</td>
</tr>
<tr>
<td>14C</td>
<td>101</td>
</tr>
<tr>
<td>15/16C</td>
<td>131</td>
</tr>
<tr>
<td>18C</td>
<td>92</td>
</tr>
<tr>
<td>20C</td>
<td>126</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>801</strong></td>
</tr>
</tbody>
</table>

3. Aspects of Japanese reduplication

In this section, I will examine the following three aspects of Japanese reduplication: morphology, syntactic position, and semantic change. As I have already set forth, this

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\(^1\) Narratives: *Taketori* (late 9C), *Ise, Yamato, Heichuu* and *Otikubo* (10C), *Tutumichiunagon* and *Genji vol.1* (11C), *Ookagami* (12C), *Heike vol.1 and 2* (13C), *Otogisausi vol. 2* (15/16C), *Manjiban Isopo* (17C), *Tuyudono, Denbu, Motonomokuami* (17C); Diaries: *Izumisikibu* (11C), *Tofazugatari* (14C); Essay: *Turezureguza* (14C); Puppet Play: *Sayokoromo osidori no turugiha* (18C); Novel: *Gin'ga tetudoo no yoru* (20C).

\(^2\) The texts in Early Old Japanese (7-9C) are almost exclusively verse; prose is restricted mostly to *Shokunihongisenmyoo* (c. 679-789); therefore, I will not analyze texts from this stage in this study.
study takes a frequency-based approach to Japanese reduplication; therefore, the following examples are all excerpted from each text unless otherwise specified.

### 3.1. Morphology

The majority of Japanese reduplication exhibits a morphological doubling of a base such as *iro-iro* ‘variously’ (*iro*=‘color’), *miru-miru* ‘in a short period of time’ (*miru*=‘watch’), and *osoru-osoru* ‘carefully’ (*osoru*=‘fear’) (Iwasaki 2002: 79). The observational base forms are equivalent to VCV, CVCV and VCVCV, all of which generally correspond to Shibatani’s (1990: 167) remark that the basic syllable structure of Japanese is CV. In what follows, I will examine the morphological structures of Japanese reduplication of each lexical type.

#### 3.1.1. Verbal reduplication

Formally, the bases of verbal reduplication can be divided into two major types: sentence-final form (=SF) and linking form (=LF), as in (1) and (2) respectively.

1. **Verbal reduplication: Sentence final form (SF)**
   a. *ka(f)esu-ga(f)esu* ‘repeatedly’ (*ka(f)esu* ‘return’=SF)
   b. *yuku-yuku (wa)* ‘in the future’ (*yuku* ‘go’=SF)
   c. *masu-masu* ‘increasingly’ (*masu* ‘increase’=SF)
   d. *kawaru-gawaru* ‘one after another’ (*kawaru* ‘change’=SF)
   e. *miru-miru* ‘in a short period of time’ (*miru* ‘watch’=SF)

2. **Verbal reduplication: Linking form (LF)**
   a. *tiri-diri (ni)* ‘separately’ (*tiri* ‘disperse’=LF)
   b. *kure-kure (to)* ‘in a gloomy mood’ (*kure* ‘get dark’=LF)
   c. *ta(f)e-da(f)e* ‘discontinuously’ (*ta(f)e* ‘extinct’=LF)
   d. *tugi-tugi (ni/to)* ‘one after another’ (*tugi* ‘connect’=LF)
   e. *ari-ari (to)* ‘clearly’ (*ari* ‘exist’=LF)

One of the characteristics of verbal reduplication is the duplication of a verb’s ‘non-past’ form, as in (1) and (2). Such reduced tense-aspect ranges of verbal reduplication may have triggered their adverbial usage. According to my database, the number of SF reduplication is more than twice as large as the number of LF reduplication across time. However, both types of verbal reduplication are not productive in Modern Japanese, as shown in Section 4; therefore, the inflectional difference in the formation of reduplication seems not to be fundamental for their productivity. In fact, some scholars regard linking forms as ‘adverbial forms’ (e.g. Shibatani 1990: 223–224), probably because of their ‘con-verbal’ function. In this study, I will use ‘linking forms’ for these inflectional forms of both verbs and adjectives.

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4 Japanese reduplication also creates adjectival expressions regardless of their original lexical types. However, I will not examine that usage for reasons of space.
morphological structures for other types are quite similar to those for verbal reduplication, as illustrated later in this section.

3.1.2. Adjectival reduplication

In the reduplication of an adjective, the root is duplicated to make the whole expression, which lacks any possibility of tense-aspect like verbal reduplication. Look at the following examples.

(3) Adjectival reduplication
a. koma-goma (to) ‘in detail’ (koma < komayaka ‘being fine’)
b. sira-jira (to) ‘faintly’ (sira < siro-si ‘being white’)
c. uto-uto(-siku/to) ‘distantly’ (uto < uto-si ‘being estranged’)
d. karu-garu(-siku/to) ‘carelessly’ (karu < karu-i ‘being light’)
e. odoro-odororo-siu ‘hyperbolically’ (odor0 < odorosi ‘being hyperbolic’)

While some expressions are accompanied by particles like verbal reduplication as in (3a) and (3b), others are followed by their inflectional ending -siku (linking form) in the reduplicative forms as in (3c) and (3d); this inflectional part often undergoes phonological reduction from -siku to -siu through repeated use, as in (3e). The phonological structures of these base forms are VCV, CVCC and VCVCV all of which are the same as those of verbal reduplication. However, adjectival reduplication has been quite marginal in number in the whole history of Japanese; therefore morphonological structure is not directly related to the productivity of a given reduplication type.

In addition to the major lexical categories such as nouns, verbs and adjectives, Japanese has another relatively minor category related to this study; it is called keiyou-doosi ‘adjectival verb’ in traditional Japanese grammar. Examples from this category describe the state of an entity semantically like adjectives, while they have no inflections morphologically like nouns and require copulas to serve as either a predicate or a noun modifier. Such lexical ambiguity has created at least three names for this category: adjectival verbs, adjectival nominal and nominal adjectives. (I will follow Iwasaki (2002) in this study and use the term nominal adjective for convenience.) However, my database includes no reduplicative examples of nominal adjectives. The reasons for this unproductivity may stem from the following two characteristics of this category. One is that nominal adjectives have derived relatively in later stages in comparison to adjectives (Uehara 1998). Therefore, it seems reasonable that the relative frequency of reduplicative examples of this category is lower than other older lexical categories. The other reason is concerned with the well-known fact that this category is utilized for borrowing foreign adjectives into Japanese words (Shibatani 1990: 217), seemingly after contact with Western languages in the nineteenth century (e.g. Loveday 1996). These historical surveys

5 The older form of karui ‘being light’ is karosi, and the reduplicated form karo-garo-siu carried the same meaning.
6 Of course, there may be certain more complex expressions of adjectival reduplication; however, my database does not include such examples.
may give plausible accounts of the fact that my database has no reduplicative examples of nominal adjectives.

### 3.1.3 Nominal reduplication

In Japanese, nouns are part of non-inflectional categories, while verbs and adjectives are part of inflectional categories; nominal reduplication is used to create the plural form of a noun, as in (4a) and (4b).

![Nominal reduplication](image)

When the non-reduplicated forms *yama* and *ki* are used in discourse, they are ambivalent between the singular and the plural meanings. However, those nouns that indicate entities, when reduplicated, tend to be used as postpositional expressions like *yama-yama ni* 'in mountains' or simply as plural nominal expressions. On the other hand, when locative and temporal nouns are reduplicated, they prefer to be used as adverbial expressions as in (4c) and (4d). In (4c), the locative noun *tokoro* 'place' renders 'here and there' through reduplication, while in (4d), the temporal noun *toki* 'time' renders 'sometimes' through reduplication. The noun *iro* 'color' is also reduplicated to indicate 'variously' as in (4e). The reduplicative expression *yona-yona* in (4f) is slightly different from others. The temporal noun *yo* 'night' is followed by the particle *na* that indicates the repetition or the exaggeration of the head noun i.e. *yona-yona* 'every night.' Although this type of reduplication is infrequent, we can sporadically find similar expressions such as *asana-asana* 'every morning' (*asa* 'morning' + *na*) and *yuuna-yuuna* 'every evening' (*yuu* 'evening' + *na*); the latter two are out-of-date expressions in Mod J.

As explained above, nominal reduplication is different from verbal and adjectival reduplication in terms of inflection. Nevertheless, these look very similar in the eyes of morphonological structure; we can see the base forms of CV, VCV and CVVCV in (4) and VCVCV in *asana-asana* 'every morning.' Then, what about the frequency of nominal reduplication? Although I do not get through the details (see Section 4), nominal reduplication has been relatively productive across time, albeit generally decreasing in number.

### 3.1.4 Adverbial reduplication

Adverbs comprise part of non-inflectional categories, and reduplicated forms intensify the meanings of original non-reduplicated forms. Take a look at examples in (5).
(5) Adverbial reduplication

a. **toku-toku** *(to)* ‘very fast’ *(toku ‘fast’)*
b. **naho-naho** *(ni)* ‘more and more’ *(naho ‘more’)*
c. **yoku-yoku** ‘extremely’ *(yoku ‘sufficiently’)*
d. **ikani-ikani** ‘how on earth’ *(ikani < ika ‘how’ + ni particle)*
e. **siba-siba** ‘very frequently’ *(siba ‘frequently, often’)*
f. **iyo-iyo** ‘moreover, finally’ *(iyo < iya < i- prefix + ya ‘more’)*

As shown in (5a) through (5e), the original adverbial meanings are emphasized in their reduplicative expressions. In (5f), the expression **iyo-iyo** also renders the emphatic meaning ‘moreover’ by way of reduplication. But importantly, the reduplicated form **iyo-iyo** takes on an aspectual meaning ‘finally’. From this perspective, the meaning of **siba-siba** ‘very frequently’ in (5e) could be close to ‘iterative’ (see Section 3.3 for more details). The possible morphonological bases are VCV, CVCV and VCVCV all of which can be found common among the five types of Japanese reduplication. In other words, the morphonological structure shows no fundamental difference between the reduplication types. Likewise, the frequency of adverbial reduplication is to be discussed in Section 4.

### 3.1.5 Sound-symbolic reduplication

As pointed out in many proceeding works, reduplication is a very common word-formation for sound-symbolic, onomatopoeic or ideophonic words. In this study, I chose ‘sound-symbolic words’ following Iwasaki (2002) as a matter of convenience. The sound-symbolic words (SSW, hereafter) can be subcategorized into three types: 1) **phonomimes**: both onomatopoeic and sound mimicking words of human, animal or living things; 2) **phenomimes**: manner depicting words such as look, shape, weight, etc.; 3) **psychomimes**: psychological-state depicting words such as internal feelings, conditions, sensations, etc. (Shibatani 1990: 153-157). According to these definitions, the numbers of SSW in each subcategory are approximately counted as follows: phonomimes 60-70%, phenomimes 25-35% and psychomimes 2-3% in Japanese (Shibasaki 2003). This description sounds reasonable, because the source sounds of phonomimes are physically perceptible, while those of psychomimes are not perceptible either visually or acoustically; phenomimes are situated in-between, because some lack in visual stimuli and some are soundless. Consider the examples in (6).

It is immediately obvious that the base forms of phenomimes and psychomimes cannot specify their etymological meanings more often than not. On the other hand, the majority of Japanese SSW have various expressions with consonantal changes or

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7 Kitahara et al. (2006: 943) include another possible morphological structure of **siba**. The base **siba** may possibly be divided into **si** and **ba**: the former is the root of the verb **siku** or **sikiru** ‘happen again and again’; the latter is the noun **ha** that indicates ‘edge.’

8 Other well-known terms are as follows: *Ecoism* (by Otto Jespersen); *Phonaesthetic* (by John Firth). Of course, these terms are slightly different in usage.
vowel ablauts in order to depict the situation as closely as possible. For example, the light boiling sound of *poko-poko* becomes the heavy boiling sound with the change of the initial consonant from voiceless [p] to voiced [b]: *boko-boko*. See Hamano (1998) and Iwasaki (2002: 46-50) for further details.

\[(6)\] Sound-symbolic reduplication

A. **Phonomimes**  
a. *wan-wan* ‘the barking sound of dogs’  
b. *buu-buu* ‘oink, oink’  
c. *poko-poko* ‘a light boiling sound of water’

B. **Phenomimes**  
a. *mera-mera(to)* ‘(burn) briskly or lively’  
   *(mera ‘?’)*  
b. *niya-niya (to)* ‘(smile) ironically’  
   *(niya ‘?’)*  
c. *sawa-sawa (to)* ‘breezily’  
   *(sawa < sawa ‘buzz’ + -ku a verbal particle)*

C. **Psychomimes**  
a. *ira-ira (to)* ‘nervously’  
   *(ira ‘?’)*  
b. *sowa-sowa (to)* ‘uneasily’  
   *(sowa ‘?’)*  
c. *moya-moya (to)* ‘in the state of being confused’  
   *(moya < moya ‘haze’?)*

Morphonologically, SSW are built on CVC, CVV, CVCV or VCV according to the examples in (6). Iwasaki (2002: 47) regards the basic morphonological structure of SSW as either CV or CVCV, while stating possibility, for example, that another identical vowel sometimes follows CV to produce a long vowel form CVV. Even in such cases, we cannot find any fundamental difference in morphonological structure from other types of reduplication. Therefore, it can be concluded that contrary to their different lexical origins, the five types of Japanese reduplication have some morphonological structures in common, albeit accompanied by some possible minor structures.

### 3.2 Syntactic position

As illustrated in the previous section, the similar morphonological structure is used for each type of Japanese reduplication despite their different lexical origins; there is no fundamental difference in the morphological template. Then, how about the syntactic position of Japanese reduplication in discourse?

Japanese is considered as an ideal SOV (Subject-Object-Verb) language: the language maintains dependent-head order consistently in regard to all types of constituents (Shibatani 1990: 257). One might encounter flexible constituent orders in colloquial speech; however, such ‘scrambled’ orders can be characterized as responsive to certain discourse factors (e.g. Ono 2006). From this perspective, let us
consider the following examples of each lexical origin. Expressions in focus are boldfaced and/or underlined.

(7) VV-type (*Taketori*, Late 9/10C: 32)
yogoto wo fanati-te tati-wi *naku-naku* yobafi-tamafu
prayers ACC say-and stand-sit cry-cry call-HON
'(An officer) gave his prayers, standing and sitting, (and then he) cried out (to God for help).'</[(lit.) 'he called for God with crying]

(8) AA-type (*Otogi*, 15-16C: 173)
fumi *koma-goma*-to mi-tamafi-kere-ba
letter close-close-PT see-HON-PST-when
'(the officer) looked closely at the letter, and then...'

(9) NN-type (*Turezure*, 14C: 100)
*arisu*ku fedatari-te *afi*-taru *fito* no waga-kata-ni
long.time separated-and see-PST person NOM self-place-LOC
ari-turu-koto *kazu-kazu*-ni nokori-naku kataru
COP-PST-COMP number-number-PT exception-without narrate
koso afinakere
PT disappointing
'It is disappointing that the person who has been separated for a long time narrates all the things one after another that happened to him.'

(10) Adv-type (*Heike* 2, 13C: 171)
Heike no yo fa *iyo-iyo* sakan-nari
Heike GEN world TOP more-more thrive-PRES
'The world of the Heikes thrives more than ever.'

(11) Sound-symbolic type (*Gin'ga*, 20C: 77)
susuki ga *zawa-zawa* nat-te
Japanese.pampas.grass NOM wavering.sound whisper-and
'Pampas-grasses whispered high, and then...'

It is obvious that the reduplicative expressions show a marked preference for the position immediately before the main verbs. Example (9) is seemingly exceptional, because the expression *kazu-kazu-ni* 'one after another' appears not immediately before the main verb *kataru* 'narrate' but before another adverbial phrase *nokorinaku* 'entirely'; however, when more than one adverbial phrase occur in one clause, the order of such phrases seems to be flexible. In (9), the author thus juxtaposed these adverbial phrases simply in this alignment. The point of relevance here is that any adverbial phrase has a strong tendency to appear right in front of main verbs.

Table 3 summarizes the syntactic positions of reduplicative examples in each clause accompanied by frequency. Since each historical division showed almost the same rate, I took the average of each historical stage for convenience.
Table 3: The Syntactic Positions of Reduplicative Examples in Japanese

<table>
<thead>
<tr>
<th></th>
<th>clause-initial</th>
<th>IO/DO</th>
<th>V</th>
<th>V____(clause-final)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VV-type</td>
<td>1.8%</td>
<td>23.2%</td>
<td>74.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>AA-type</td>
<td>0.0%</td>
<td>22.2%</td>
<td>77.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>NN-type</td>
<td>6.7%</td>
<td>19.0%</td>
<td>73.0%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Adv-type</td>
<td>14.8%</td>
<td>24.1%</td>
<td>61.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>SS-type</td>
<td>5.9%</td>
<td>13.7%</td>
<td>80.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Average</td>
<td>5.8%</td>
<td>20.5%</td>
<td>73.4%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

It is quite clear that reduplicative expressions show a skewed distributional pattern: they appear predominantly before the main verb. In (di-)transitive clauses, reduplicative expressions sometimes appear before either direct or indirect objects; however, even in such cases, they are most likely to appear before the main verb.

Considering that reduplicative expressions tend to become semantically adverbia once they are reduplicated, this preferred syntactic position looks reasonable. Givón (1984: 77-82) states that adverbs are typically a mixed and unrestricted lexical category in comparison to nouns, verbs and adjectives; their syntactic position varies according to their semantic type. For example, manner adverbs (e.g. fast, eloquently) appear commonly closest to the verb, while sentential adverbs (e.g. temporal or locative adverbs) display a more distributional freedom. It is true that from a semantic point of view, the majority of Japanese reduplicative expressions have come to take on the property of manner adverbs; their distributional patterns mostly fixed just in front of the main verb reflect this semantic change. (See the next section for this point.)

In this section, I have scrutinized the syntactic position of Japanese reduplicative expressions and found that they appear predominantly before the main verb regardless of their lexical origins. Therefore, we have found no crucial differences between respective reduplicative types again.

### 3.3 Semantic change

Reduplication is a formal operation that typically yields various aspectual meanings such as continuative, distributive, frequentative, habitual, imperative, iterative, progressive, etc. (Moravcsik 1978, Bybee et al. 1994: 166-174). As illustrated in the previous section, Japanese reduplicative expressions serve as manner adverbs and modify main verbs immediately in front of them in discourse irrespective of their original lexical types.

The five types of Japanese reduplication have no differences in this respect. However, some of those render either aspectual meanings or (imperfective) future when reduplicated. In what follows, I will show several examples that exhibit aspectual meanings.

In (12), the adverb *iya* 'more' is duplicated to render the inceptive meaning with the past tense verb, while in (13), the noun *tokoro* 'place' is duplicated to render the distributive meaning. In (14), the expression *yukuyuku* yields a kind of imperfective future 'in the future' through the reduplication of the original lexical verb *yuku* 'go'.
While some reduplicative examples are at the advanced stage to render certain aspectual meanings as in these examples, not all of them have grammaticalized enough to indicate aspectual meanings. Furthermore, it is possible to see a more gradual pathway of semantic change in some cases, and my database provides good examples for it. According to Kitahara et al. (2006), for example, *iyo-iyo* 'more and more' (c. 905-914) expanded its semantic range into 'surely' (early seventeenth century) and subsequently into 'be about to' (c. 1887-1889); *naho-naho* 'still, yet' (a. 970-999) changed into 'at any cost' (late tenth century). Taking these examples into account, subjective meanings are all ultimately grounded in speakers or writers (Traugott and Dasher 2002: 42 and elsewhere), i.e. subjectification whereby meanings are recruited to encode and regulate the speaker’s attitudes and beliefs towards the immediate situation (see Section 5.2).

Let us consider another case in the following examples of *kafesu* ‘return’ whilst not necessarily in close association with subjectification.

(15) *Man’yō* vol. 4 (8C: 777): Lexical verb usage
kedasi kado yori *kafesi-te-mu* kamo
probably gate from return-PERF-maybe PT
‘(lit.)Probably (you) would (make me) return from the gate.’

(16) *Taketori* (Late 9/10C: 53): Adverbial usage
*kafesu-ga(f)esu* foinaku koso obofe-fabere
extremely unwilling PT think-HON
‘(I) think (of it) very unwilling.’

(17) *Ise* (10C: 204): Adverbial/aspectual usage
miko Uta wo *kafesu-gafesu* zuji-tamafu-te
prince song ACC repeatedly sing-HON-and
‘The Prince sings the song iteratively.’
In the eighth century, the verb *kafesu* 'return' is used as an original lexical verb to indicate 'return' as in (15). In the late ninth century, the verb began to be used as a reduplicative expression *kafesu*-gafesu through intervocalic voicing; at this stage, the expression *kafesu*-gafesu functions as a degree adverb meaning 'very, extremely' as in (16). In the tenth century, it has almost been aspectual 'iteratively' as in (17). However, *kafesu* 'return' still retains the usage of its original lexical verb even in the twenty-first century. Grammaticalization is often accompanied by layering (Hopper 1991), and this verb gives evidence for the case.

Japanese reduplication becomes adverbial when reduplicated and certain semantic type has further expanded its adverbial meaning into aspectual. Yet all the reduplicative expressions in my database can be categorized the same in the sense that they have all adverbial functions in their reduplicative forms.

4. Semantic constraints on the productivity of Japanese reduplication

We have investigated the three aspects of Japanese reduplication so far and found that the historical process of Japanese reduplication has undergone the similar pathway morphologically, syntactically and semantically. Therefore, it is not logically wide of the mark to think that Japanese reduplication has developed all in the same way throughout history. However, in spite of these qualitative resemblances, the diachronic vicissitude of Japanese reduplication varies from one lexical category to another. Look at Table 4. Note that each percentage indicates the proportional frequency in a given century; the numbers in parentheses mean tokens of each reduplicative type per century.

<table>
<thead>
<tr>
<th></th>
<th>VV-type</th>
<th>AA-type</th>
<th>NN-type</th>
<th>Adv-type</th>
<th>SS-type</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>10C</td>
<td>23.4%</td>
<td>7.0%</td>
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At every synchronic stage, we can attest the five types of reduplication. In this sense, each lexical type has certain productivity all through the history, and in fact, various frequently-used reduplicative expressions have survived the history of Japanese even from Old Japanese times such as *kafesu-gafesu*. However, taking a closer look at Table 4, the diachronic productivity varies from one type to another; Chart 1 summarizes the vicissitude of Japanese reduplication based on the proportional frequencies in Table 4.

Let us epitomize the historical transition of Japanese reduplication. Verbal reduplication was relatively productive from OJ through MJ, but peaked out around late MJ, decreasing to the present; this observation is congruent with Iwasaki’s (2002: 79) remarks on verbal reduplication (also see Shibasaki 2005). Since only verbs of semantically weak contents tend to be reduplicated, such expressions cannot intensify their original meanings enough to serve as manner adverbs even through reduplication. This observation seems to be plausible, viewed from the perspective of ‘lexicalization pattern’ in Talmy (2000: 27, 49). In Tamly’s framework, Japanese is regarded as a language that verbs express motion along with paths, while English is regarded as a language that verbs express motion in various manners. This cross-linguistic observation helps us understand that Japanese verbs, even if reduplicated, rarely if ever create specific meanings of manner. The diachronic fading of verbal reduplication may also be correlated with the dramatic increment of sound-symbolic reduplication.

Chart 1: The Vicissitude of Japanese Reduplication

Adjectival reduplication has been very infrequent across time. Some researchers argue that adjectives comprise part of the universal grammatical categories like nouns and verbs (Croft 2003). However, from the perspective of reduplication, adjectives have not been productive at any synchronic stage. Nominal reduplication has fluctuated over time but generally more frequent than other types, partly because
Japanese can make a plural form through reduplication and partly because nominal reduplication tends to serve as either temporal or locative adverbs in a wider range of usage. Adverbial reduplication had been stably productive until around late MJ; however, it has been decreasing ever since the time. The reason why adverbial reduplication has decreased is not quite clear, but it seems that nominal reduplication could have enlarged its semantic scope over adverbial reduplication. For example, when a noun *dan* 'step' is reduplicated, the expression *dan-dan* indicates 'step by step'; when a noun *ten* 'point' is reduplicated, the expression *ten-ten* (to) indicates 'here and there.' Considering the overall high productivity of nominal reduplication, this functional extension is feasible.

Sound-symbolic reduplication has continuously developed despite its very low frequency in OJ through MJ. Cross-linguistically, sound-symbolic words indicate certain expressive or subjective meanings inherent to each language, which may probably be related to the increment in the number of Japanese sound-symbolic reduplication across time. I will make an in-depth analysis of this point in the next section.

Put them all together, the three aspects of Japanese reduplication – i.e. morphological structure, syntactic position and semantic change – make no fundamental differences regardless of their lexical origins. Then, what is the possible factor that triggers the historical transition as in Chart 1? I propose that the vicissitude of Japanese reduplicative expressions is closely related to their semantic origins and subjectivity. In the next section, I will probe deeper into this point.

5. Discussion

In the previous section, I have summarized the diachronic productivity of Japanese reduplication and suggested that certain language-specific or subjective meanings may be correlated closely with the growing number of sound-symbolic reduplication. In this section, I will give possible two accounts of this phenomenon from the perspective of lexicalization pattern and subjectification.

5.1 Lexicalization through category shift and language contact

As I have already explained above, nominal reduplication has retained its high productivity by expanding the semantic scope over adverbial reduplication, as shown in the process from *dan* 'step' to *dan-dan* 'step by step.' Interestingly, sound-symbolic reduplication appears to have expanded the range of the category by accumulating expressions from other lexical categories through reduplication. Let us consider two examples: *doki-doki* and *moku-moku*. The expression *doki-doki* stands for 'the sound/state of heartbeats', which may possibly have derived from its corresponding noun *dooki* (or *douki*) 'palpitation, pulsation.' The other example of *moku-moku* means 'silently', and this expression can still be written 黙黙 in Chinese character. While the original lexical usage of 黙 could have been verbal and/or adjectival, the reduplicated form can be categorized as an example of sound-symbolic expression.
Furthermore, my Korean consultant (p.c. with Joseph Park 2001) told me that Korean has the equivalent expression *muk-muk* ‘silently’ and that some skilled Hanja (i.e. Chinese character) readers may still be able to write it 黙黙. The original base form Chinese 黙 默 ‘being silent’ was borrowed into Japanese with a different pronunciation *moku* and into Korean with another different pronunciation *muk*, respectively. The emergence of SSW through language contact can be found in other languages likewise. For example, the Punjabi SSWs of trembling or shivering *thar* or *tharaaŋna* are considered to have come from Arabic, as also seen in Persian (cf. Bhatia 1993; p.c. Jees Tauber 2001). I will not develop this analysis any further because it is beyond this study.9

Sound symbolism has long attracted the attention of anthropologists and linguists at least throughout the last century. Roughly speaking, the main approaches to sound symbolism are divided into the following two types.10 As an example of extreme ‘negativists,’ Newmeyer (1992: 758) argues that “the number of pictorial, imitative, or onomatopoetic words in any language is vanishingly small.” From a synchronic point of view, Newmeyer’s observation could be true because there were very few examples of sound-symbolic reduplication in OJ through MJ according to my database. However, from a diachronic point of view, the steady increase of sound-symbolic reduplication cannot be explained in Newmeyer’s theoretical framework, because certain subjective meanings have derived even through the reduplication process of nouns as in the above. With respect to the development of subjective meanings, I claim that positivists approaches can be more plausible. As an example of ‘positivists,’ Swadesh (1972: 162) states that SSWs “make language express many and very important things that are not necessarily implicit in the words themselves.” Remember the semantic change of *dooki* (or *douki*) ‘palpitation, pulsation’ to *doki-doki* ‘the sound/state of heartbeats’ via reduplication. Probably, either native speakers of Japanese or quick-witted language learners can easily understand the metonymic extension from a noun ‘palpitation’ to its corresponding sound-symbolic meaning ‘the sound/state of heartbeats.’ However, what on earth enables us to predict this semantic change before this happens? Subjective meanings can emerge even from what given words do not explicitly denote, as Swadesh clearly states. Therefore, we cannot avoid any possibility that Japanese sound-symbolic expressions have derived more or less from other lexical categories through reduplication or from other languages through language contact even though their etymological origins cannot be attested.

5.2 Verbal semantics and subjectification

The other possible account of the increase of SSW is related to lexicalization pattern (Talmy 2000). In comparison to English, Japanese verbs tend to have general meaning...
nings. Let us look at the following examples. The examples of (19) are excerpted from Shibatani (1990: 155).

(18) English | Japanese  
--- | ---  
*walk* | *aruku* ‘walk’  
*limp* | *ashi o kabatte aruku*  
*ramble* | *bara-bara aruku*  
*stride* | *oomatade aruku*

(19) English | Japanese  
--- | ---  
*cry* | *waa-waa naku* ‘cry’  
*weep* | *meso-meso naku*  
*sob* | *kusun-kusun naku*  
*blubber* | *Oi-oi naku*  
*whimper* | *siku-siku naku*  
*howl* | *wan-wan naku*  
*pule* | *hii-hii naku*  
*mew* | *een-een naku*

In (18), the Japanese verb *aruku* may be equivalent to the English verb *walk*. However, the verb *aruku* covers other types of walking that are expressed by different English verbs, with each SSW to compensate for the lack of specific manner meanings. In (19) likewise, the Japanese verb *naku* is a general term for crying, and other types of crying in Japanese are expressed with certain sound-symbolic and synaesthetic effects of SSW, while English has different verbs for each specific meaning. According to Talmy (2000), English is a ‘satellite-framed language’ that combines ‘manner’ with the verb, while Japanese is a ‘verb-framed language’ that combines ‘path’ with the verb. Therefore, this typological difference might have correlated to some extent with the diachronic increment in the number of SSW in Japanese.

In English, some verbs have already included those morphophonemes that are considered to indicate sound-symbolic effects, as illustrated in (20) and (21). The definitions of the following verbs are all by *Oxford Advanced Learner’s Dictionary* (1996); some etymological origins are added from Terasawa (1997).

(20) gru-< IE sound-symbolic word (Terasawa 1997)  
*grudge*: to do or give something very unwillingly.  
*grumble*: to complain or protest in a bad-tempered way, usually not loudly.  
*grunt*: to make a similar sound expressing pain, annoyance, disapproval or lack of interest, or when making a physical effort.

(21) fl-< sound-symbolic effects on words (Terasawa 1997)  
*flap*: to move, swing, wave, etc. up and down or from side to side, usually making a gentle noise (< ME *flappe(n)*).  
*flash*: to give or produce a brief bright light (< ME *flashe*)  
*flatter*: to make somebody look particularly attractive or seem more attractive than they really are (< ME *flatere(n)*).
It is obvious that both *gru-* and *fl-* symbolize unwillingness, gentleness, softness, etc. Of course, the sound-symbolic morphophonemes or sequences of sounds that are etymologically attested in such as *gru-* and *fl-* may not be the only source from which SSWs were derived. However, considering Talmay's (2000) lexicalization patterns, these typological differences turn out to be feasible, as shown in (18) and (19).

In this section, I have discussed two characteristics of Japanese reduplication. One is the category expansion of SSW by accumulating expressions from other lexical categories via reduplication or from other languages through language contact. The semantics of Japanese verbs is related to this point. Many Japanese verbs are semantically light; therefore, to compensate for the lack of semantic specificity, a number of sound-symbolic expressions may have developed over time. Importantly, the similar diachronic pathway can be witnessed in Mandarin Chinese and Korean. Since the historical semantic-pragmatic process whereby meanings have been grounded in the speaker’s subjective belief towards what is uttered, seen or heard, i.e. subjectification, has received considerable attention in recent years (Traugott 1989, Stein and Wright 1995, inter alia), the development of subjective meanings in the process of reduplication proves to be worth further investigation. The other characteristic of Japanese reduplication related to the productivity is a type of lexicalization pattern. Referring to Talmay’s typology, I have demonstrated the semantics of English and Japanese verbs and suggested that the lack of specific manner meanings of Japanese verbs have triggered the rise of sound-symbolic expressions through reduplication.

6. Conclusion

Reduplication, as in many other languages, symbolizes the repetition of sounds, the degree of manners, or psychological conditions; reduplication is often considered to be iconic in one way or another. In Japanese, the five types of reduplication have gone through the similar pathway, morphologically, syntactically and semantically, despite their different lexical origins. However, their productivity varies from one type to another. Giving a diachronic and frequency survey, I have reached two conclusions. Subjective meanings implicitly or explicitly symbolized in the reduplicative expressions are highly correlated with the diachronic productivity of Japanese reduplication: only sound-symbolic reduplication shows a steady increase. Lexicalization pattern is also in close relation to the increase of sound-symbolic reduplication. The lack of specific manner meanings of Japanese verbs typologically enables the emergence of manner expressions through the iconic process of reduplication: the specific manner meanings can be mostly related to sound-symbolic reduplication. As I have already stated, this survey result cannot go beyond the realm of case study. Nevertheless, I will claim that this frequency-based analysis, diachronically or cross-linguistically, can give a fresh insight into reduplication studies.

7. Acknowledgements

Especial thanks go to Bernhard Hurch, Veronika Mattes and Ursula Stangel for their kind invitation to publish my study in this intriguing special volume. I am also grate-
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8. References


9. Texts


10. Abbreviations

ACC=accusative; COMP=complementizer; COP=copula; GEN=genitive; HON=honourific; LOC=locative; NOM=nominative; NOML=nominalizer; PERF=perfective; POL=polite; PST=past tense; PT=particle; TOP=topic; VV=verbal reduplication; AA=adjectival reduplication; NN=nominal reduplication; ADV=adverbial reduplication; SS=sound-symbolic reduplication; SSW=sound-symbolic words; OJ=Old Japanese; MJ=Middle Japanese; Pre-Mod J=Pre-Modern Japanese; Mod J=Modern Japanese.