The Impact of Syllabic Numbers on Chinese Loanwords in Japanese and Korean
日本語と韓国語における音節数の借用漢語への影響

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English Abstract

This paper investigated the top 1000 most commonly used verbs and adjectives with Chinese-origin roots in either Japanese or Korean and demonstrated that there are very few verbs/adjectives with one-character (or monographemic) roots, whereas there are many verbs/adjectives with two-character (or digraphemic) roots (about 90% for each category in both languages). It explained the difference between verbs with mono- and digraphemic Chinese-origin roots by arguing that digraphemic verbal roots are nouns, while monographemic ones are not, based on findings from language contact, particularly borrowing, and Chinese linguistics: i.e., (i) nouns are much more borrowable than verbs, and (ii) monosyllabic verbs in general do not, while disyllabic ones do, have corresponding deverbal nouns in the source-language, Chinese. It further applied a test of separability and confirmed that those digraphemic roots are morphologically free, while the monographemic ones are bound. This conclusion supports the approach in which verbal nouns, most of which are Chinese-origin digraphemic roots, are nouns.

Japanese Abstract

本論文は、中国語からの借用形態素からなる日本語および韓国語の動詞・形容（動）詞のうち、それぞれ最も高頻度の千語を選び、漢語語基の漢字数によりどのような比率の違いがあるかを検証し、2 漢字の語基が 90％前後を占め、1 漢字の語基は非常に少数であることを示した。この違いに関して、本論文は、言語接触の知見から、名詞は最も借用語となりやすく、動詞は借用されにくいこと、また、中国語学の知見から、中国語の 1 音節動詞は、ほとんどが対応する名詞を持たず、2 音節動詞は多数が対応する名詞を持つことを指摘し、2 漢字語基は名詞と見なされて日韓語に借用され、1 漢字は名詞と見なされず、ほとんど借用されなかったと説明する。また、これらの動詞の漢語語基が後続する動詞から分離可能かどうかを調べ、1 字の漢語語基は殆ど拘束形態素と見なされ、2 字の漢語語基は殆ど全て自由形態素であることを示した。この結果は殆どが 2 字漢字からなる「動名詞」を名詞として扱う立場を支持するものである。

1. Introduction

Japanese and Korean have absorbed various aspects of Chinese civilization including its language and writing due to their prolonged contact with China. An extensive amount of Chinese vocabulary has entered these languages, and now words with Chinese-origin (or Sinic) roots constitute about half of their lexicons (Irwin, 2011, p. 17; Lee & Ramsey, 2000, p. 136). This paper focuses on Japanese and Korean verbs that originate in Chinese and elucidates how these Chinese loanwords were borrowed into these languages. Particularly, this paper demonstrates how Chinese monosyllabic and disyllabic verbs differed in the way they were borrowed into the two languages and presents a possible reason for their different morpho-categorial status. Although the focus of this study is on Japanese and Korean verbs with Sinic roots, reference is also made to adjectives (or stative verbs) where necessary.

Japanese (J) and Korean (K) are typologically agglutinating and head-final, whereas Chinese (C) is isolating and head-initial. Probably due to these typological differences, Japanese and Korean use a light verb (Grimshaw & Mester, 1988), *su(ru)* "do" (J) and *ha(ta)* "do" (K),[1] after a Sinic root to host inflectional suffixes: e.g., *yoo-suru* (J) and *yo-hata* (K) "to need", both derived from (<) *yào* "to need" (C), and *kenkyuu-suru* (J) and *yenkwu-hata* (K) "to do research" < *yánjiū* "(to do) reseach" (C). The same light verb *hata* is used for an adjective in Korean: e.g., *kup-hata* "rapid" (K) < *jí* "rapid" (C), and *ywumyeng-hata* "famous" (K) < *yǒumíng* "famous" (C). Japanese, on the other hand, uses a copula after an adjective: e.g., *kyuu da* "rapid-Cop" (J) < *jí* (C), and *yuumei da* "famous-Cop" (J) < *yǒumíing* (C). The examples in (1) and (2) show how these Chinese-origin verbs and adjectives are used in Japanese and Korean. (The Chinese-origin elements relevant to discussion are highlighted in small capitals.)

(1) Japanese and Korean Verbs and Adjectives with Monosyllabic Sinic Roots[2]

Lang.	Verb				Adjective			
C	*Zhè*	*YÀO*	*shíjiān.*		*Shuǐliú*	*hěn*	*JÍ.*	
	this	need	time		water-flow	very	rapid	
J	*Kore*	*wa*	*zikan*	*o*	*YOO-suru*	*Suiryuu*	*ga*	*KYUU*	*da.*
	this	Top	time	Acc	need-do	water-flow	Nom	rapid	Cop
K	*I*	*kes-un*	*sikan-ul*		*YO-ha-n-ta.*	*Swulywu-ka*		*KUP-ha-ta.*	
	this	thing-Top	time-Acc		need-do-Prs-Dec	water-flow-Nom		rapid-do-Dec	
E	"This takes time."					"The water flow is rapid."			

(2) Japanese and Korean Verbs and Adjectives with Disyllabic Sinic Roots

Lang.	Verb				Adjective			
C	*Tā*	*YÁNJIŪ*	*yīngwén.*		*Tā*	*hěn*	*YǑUMÍNG.*	
	he	research	English		he	very	famous	
J	*Kare*	*wa*	*eigo*	*o*	*KENKYUU-suru.*	*Kare*	*wa*	*YUUMEI*	*da.*
	he	Top	English	Acc	research-do	he	Top	famous	Cop

K	*Ku-nun*	*yenge-lul*	�YᴇɴᴋᴡU-*ha-n-ta.*	*Ku-nun*	�YᴡUᴍYᴇɴɢ-*ha-ta.*
	he-Top	English-Acc	research-do-Prs-Dec	he-Top	famous-do-Dec
E	"He studies English."			"He is famous."	

Table 1 schematically summarizes the patterns in (1) and (2), where an X corresponds to a Chinese character (hence, X is monosyllabic and XX disyllabic in Chinese). Hereafter, the Sinic element X or XX will be called a Sinic Root and abbreviated as SR. SRs in verbs and adjectives will be referred to as "verbal" SRs and "adjectival" SRs respectively, without committing to their categorial status. Japanese and Korean verbs or adjectives containing a SR, i.e., X(X)-*su(ru)/ha(ta)/da*, will be referred to as SR-verbs or SR-adjectives. The length of SRs will be specified in terms of the number of corresponding Chinese characters, e.g., monographemic, rather than in terms of the number of syllables, e.g., monosyllabic. This is because SRs have undergone phonological change particularly in Japanese, and, thus, some of them have more syllables than their etymons. Some originally monosyllabic SRs, for example, are pronounced in more than one syllable, e.g., two syllables as in *teki-suru* (J) "to match, fit" < *shì* (C) "to fit".

Table 1

Japanese and Korean SR-verbs and SR-adjectives

Language	SR-Verbs		SR-Adjectives	
	Monosyllabic	Disyllabic	Monosyllabic	Disyllabic
J	X-*su(ru)*	XX-*su(ru)*	X *da*	XX *da*
K	X-*ha(ta)*	XX-*ha(ta)*	X-*ha(ta)*	XX-*ha(ta)*

The main purpose of this paper is to argue that the digraphemic verbal SRs are morphologically free and categorially nominal, whereas the monographemic verbal SRs are bound, and suggests a possible reason for this from a point of view of language contact and borrowing. The argument of this paper, focusing on data from language contact, attempts to shed light on the syntactic category of digraphemic verbal SRs, whose syntactic category has been discussed mainly from a syntactic point of view and considered (i) nouns (Sato, 2008; Saito & Hoshi, 2000; Choi, 1988), (ii) verbs (Takahashi, 2000; Ahn, 1991) and (iii) underspecified categories (Manning, 1993; Pak, 2000), among others.

The organization of this paper is as follows. The first subsection of the following section investigates the proportions of SRs of different graphemic lengths. A possible cause for the difference between mono- and digraphemic SRs will be discussed in subsection 2.2. Subsection 2.3 demonstrates the difference in morphological boundness of the monographemic and other SRs. Section 3 presents a conclusion.

2. Data and Discussions

The word lists of large Japanese and Korean corpora were used to obtain samples of commonly

used SR-verbs/adjectives. The methods and results of this inquiry are shown in subsection 2.1. The resulting counts of SR-verbs/adjectives of three different graphemic lengths (mono-, di-, and trigraphemic) are examined to discuss their syntactic categories from a point of view of borrowing in subsection 2.2. Finally, the results of a test applied to see if SRs are separable from their dummy verbs are discussed in subsection 2.3.

2.1 Methods and Results

1000 most frequently used SR-verbs and SR-adjectives were collected from the word lists of Japanese and Korean large corpora respectively. The Word List of "the Balanced Corpus of Contemporary Written Japanese" (Version 1.0)[3] was used to select 1000 most frequently used SR-verbs and adjectives in Japanese. This word list was compiled and made available for free download by the National Language for Japanese and Linguistics (NINJAL) in 2011 (Yamazaki, 2013). The Balanced Corpus of Contemporary Written Japanese[4] is a large-scale corpus of 104.3 million Japanese words randomly sampled from diverse genres of written texts and made available by NINJAL. The information about *rank* (ranks in terms of frequency), *pos* (semantic/ syntactic categories) and *wType* (etymology) given in the word list was used to select a sample. The sample consists of 1000 most frequent SR-verbs/adjectives made up of (i) *suru*-suffixable nouns of Chinese origin (for digraphemic SR-verbs), (ii) words of mixed origin, i.e. *konsyugo* (for monographemic SR-verbs), and (iii) three different types of descriptive words (*keizyoosi*) of Chinese origin (for SR-adjectives).[5]

Sangwi Pinto "hata" Tongsa Moklok (the List of High-Frequency *hata* Verbs) was used to select 1000 most frequently used SR-verbs/adjectives in Korean (Han, 2001). This lists the *hata* verbs (of both verb and adjective types) that occurred in the Yonsei Corpora (or *Yonsei Malmwunchi*) with frequencies of more than six times (Han, 2001, p. 130). The Yonsei Corpora in total contain 88.79 million *ecel* (shortest expressions surrounded by spaces in Korean orthography, usually made up of one content word followed by one or more suffixes), which have been collected from Korean written texts covering a wide range of genres by Yonsei University since 1980.[6] The information about the frequencies and syntactic categories (i.e., verb or adjective) given in the word list was used to select 1000 most frequent SR-verbs/adjectives.[7] As this list contains *hata* verbs/adjectives of different etymological origins, only those that are etymologically Sinic were chosen.

Table 2 summarizes the results of selection from these Japanese and Korean word lists. As shown in Table 2, the digraphemic SR-verbs comprise a majority, 80.0% (J) and 61.1% (K), of each sample of 1000 words. The proportions of the SRs of different graphemic lengths for each category are shown in Table 3. The proportion of digraphemic SRs for each category constitutes about 90%.

Table 2

The frequencies of different graphemic lengths in a sample of 1000 SR-verbs/adjectives in J/K

	SR-verbs (J)	SR-adjectives (J)	SR-verbs (K)	SR-adjectives (K)
Monographemic	25	6	53	31
Digraphemic	800	166	611	295
Trigraphemic	0	3	1	9
totals	825	175	665	335

Table 3

The proportions of different graphemic lengths for each categorial type (SR-verbs/adjectives)

	SR-verbs (J)	SR-adjectives (J)	SR-verbs (K)	SR-adjectives (K)
Monographemic	3.0	3.4	8.0	9.3
Digraphemic	97.0	94.9	91.9	88.1
Trigraphemic	0.0	1.7	0.1	2.7
totals	100 %	100 %	100 %	100 %

2.2 The Syntactic Category of SRs

This subsection compares the above percentages to the corresponding percentages of verbs and adjectives of different syllable lengths in Modern Mandarin and presents a possible cause for their difference.

The above proportions of monographemic SR-verbs/adjectives to digraphemic ones do not match with the ratios of monosyllabic verbs to disyllabic ones in Modern Mandarin. Duanmu (2000) based on the data provided by the Chinese government in 1959, states that the monosyllabic words constitute 16% of 1,690 nouns, 41% of 925 verbs, and 31% of 451 adjectives in the sample of 3,624 commonly used Chinese words (p. 166).

The proportions of monographemic SR-verbs/adjectives in Japanese and Korean in Table 3 are disproportionately small compared to the percentages of monosyllabic verbs and adjectives in Modern Mandarin. The proportion of monosyllabic words for each category given by Duanmu (2000) must have been greater in older varieties of Chinese, from which SRs were borrowed, as there were a greater proportion of monosyllabic words in older Chinese (Norman, 1988, p. 84). A question that arises here is why there are so few monographemic SR-verbs and adjectives compared to a large number of digraphemic ones that have been borrowed into Japanese and Korean.

A possible cause of these disproportionately small percentages of monographemic SR-verbs can be found by referring to findings from studies of loanwords. Haugen (1950, p. 224) states that "Nouns are most easily borrowed …". The proportions of loan nouns in the three immigrant languages in the U.S. (two varieties of American Norwegian and one variety of American Swedish) that Haugen (1950, p. 224) gave were 71.4 - 75.5%, whereas those of loan verbs ranged from 18.4% to 23.2%. Moravcsik (1978, p. 111) echoed Haugen's (1950) generalization, by stating

that nouns are more likely to be borrowed than any other categories, whereas verbs cannot be borrowed as verbs, but their phonetic forms can be borrowed as nouns to be used as complements of "indigenous" verbs. More recently, Haspelmath and Tadmor (2009) did a typological database study (Loanword Typology project) on 41 languages; they found that on average 31.2 % of nouns and 14.0% of verbs were loanwords and concluded that "[t]his is a very significant disparity that cannot be due to chance" (Tadmor, 2009, p. 61).

The digraphemic verbal SRs, i.e., Verbal Nouns (Martin, 1975), in both Japanese and Korean, in light of the above tendency of borrowability, are likely to be nouns (used as complements of native dummy verbs), and monographemic ones are unlikely to be nouns. The difference in borrowablity between monographemic and digraphemic verbal SRs can be postulated to stem from a different syntactic behavior between mono- and disyllabic verbs in Chinese. That is, in Chinese there are very few monosyllabic verbs that have corresponding deverbal nouns, whereas there are a large amount of disyllabic verbs that do so. Duanmu (2000, pp. 154-157) cites Li (1990) and Liu (1992), who argued that monosyllabic verbs, as opposed to disyllabic ones, cannot be nominalized. Fu (1994) states that "[t]he class of verbal nouns contains only disyllabic words" (p. 52) except for two exceptions (p. 54). Duanmu (2000) argued that there are some monosyllabic verbs, e.g. *sǐ* "to die, death", and presented phonological reason for the paucity of nominalizable monosyllabic verbs in Chinese. The difference between mono- and disyllabic Chinese verbs in having deverbal nouns is likely to be a cause for their categorial difference in Japanese and Korean: i.e., digraphemic verbal SRs are nouns, while monographemic ones are not.

In contrast, it is not clear what linguistic differences made disyllabic adjectives more noun-like than monosyllabic ones in Chinese and facilitated the borrowing of the former, and it is beyond the scope of this paper. Digraphemic adjectival SRs in Japanese and Korean, however, are noun-like, or behave more like nouns than other bona fide adjectives (including Korean monographemic SR-adjectives),[8] although many of them cannot fully function as nouns, such as occurring as subject or object. Di- and trigraphemic adjectival SRs in Japanese and Korean, for example, can co-occur with the particle *to* (J) or *-(u)lo* (K), meaning "as", just like other bona fide nouns, to be predicated of an accusatively marked NP, as shown in (3). The digraphemic adjectival SRs *cengtang* "appropriate" (K) in (3a) and *seitoo* "appropriate" (J) in (3d) can appear before the particle *-(u)lo* (K) or *to* (J), just like the bona fide nouns *khochi* "coach" (K) in (3c) and *kooti* "coach" (J) in (3e), whereas the monographemic adjectival SR *hem* (from *hem-hata* "rough") in (3b) cannot.

(3) *to/ulo* constructions

    a. *Ku   senswu-nun   kulen   phulleyi-lul   *CENGTANG*-ulo   kancwu-ha-n-ta*.
       that   player-Top   such   play-Acc   appropriate-as   see-do-Prs-Dec
       "That player sees such a play as appropriate." (K digraphemic adjectival SR)

    b. **Ku   senswu-nun   kulen   phulleyi-lul   *HEM*-ulo   kancwu-ha-n-ta.*
       that   player-Top   such   play-Acc   rough-as   see-do-Prs-Dec

"That player sees such a play as rough." (K monographemic adjectival SR)

c. *Ku   senswu-nun   kulen   salam-ul   khochi-lo   kancwu-ha-n-ta.*

   that   player-Top   such   person-Acc   coach-as   see-do-Prs-Dec

   "That player sees such a person as a coach." (K noun)

d. *Sono   sensyu   wa   sonna   puree   o   SEITOO   to   minas-u.*

   that   player   Top   such   play   Acc appropriate   as   see-Prs

   "That player sees such a play as appropriate." (J digraphemic adjectival SR)

e. *Sono   sensyu   wa   sonna   hito   o   kooti   to   minas-u.*

   that   player   Top   such   person   Acc coach   as   see-Prs

   "That player sees such a person as a coach." (J noun)

Some Korean dictionaries treat di- and trigraphemic adverbial SRs categorially as noun as well as adjective. *Metoro Hanil Sacen* (Metro Korean-Japanese Dictionary) in Sharp Electronic Dictionary PW-K500, for example, categorizes 250 (85.3%) of 293 digprahemic adjectival SRs[9] and all of the nine trigraphemic adjectival SRs as nouns as well as adjectives. Only six (19.4%) of the 31 monographemic adjectival SRs have homophonous nouns in the same dictionary. Japanese adjectival SRs are classified as nouns rather than adjectives by some researchers (Martin, 1975).

In this subsection, the proportions of monographemic verbal SRs were shown to be disproportionally smaller than that of monosyllabic verbs in Modern Mandarin. I argued here that a contrast between few monographemic verbal SRs and many digraphemic SRs comes from their categorial difference. That is, digraphemic SRs were borrowed as nouns, whereas monographemic SRs were mostly not. I assume the latter to be categorially indeterminate excluding a few exceptions.

2.3 The Boundness of SRs

In this subsection, the separability of SRs is examined to see if they are morphologically bound. It will first show how their boundness is treated in dictionaries and the literature, which is followed by the results of a test applied to the samples obtained for this study.

All Japanese and Korean monographemic SR-verbs/adjectives, excluding Japanese SR-adjectives, are listed in dictionaries as verbs or adjectives in the form X-*suru* or X-*hata* as in Table 1. These monographemic SRs are treated as bound morphemes, unless there happen to be semantically related homophonous nouns, e.g. *ai-suru* "to love" and *ai* "love" (J). Some of Japanese monographemic SR-verbs have undergone phonological change that their light verb appears in the form *zuru*, *zu*, or *su* rather than *suru* in Modern Japanese. These Japanese monographemic SR-verbs are usually treated as "lexicalized" (e.g., Poser, 1992, p. 114). This contrasts sharply with the way digraphemic SRs are treated in dictionaries. Most digraphemic SRs (excluding Japanese adjectival SRs) are listed as nouns and annotated as suffixable to the light verb *suru/hata* in both Japanese and Korean dictionaries.

Ahn (1991) classified sentences with SR-*hata*, or Korean Light Verb Constructions, into

three types by separating SRs from a light verb by a delimiter and an accusative marker: a delimiter can separate digraphemic verbal and adjectival SRs but not monographemic ones, and an accusative marker can separate digraphemic verbal SRs, but not other SRs. In the following, we will only look at the separation of SRs by a delimiter, which distinguishes digraphemic SRs from monographemic ones.

The examples in (4) exemplify the results of a test of separation by a delimiter. The Korean digraphemic verbal SR *kongpwu* "study" and the adjectival SR *phikon* "tired" in (4a,b) can be separated from the light verb *hata* by the contrastive delimiter *(n)un* "at least", whereas the monographemic verbal SR *ceng* "decide" in (4c) cannot.

(4) Separation by a delimiter
    a. *Yenghi-ka   yenge-lul   KONGPWU-nun   yelsimhi   ha-yess-ta*.
       Yenghi-Nom   English-Acc   study-Con   hard   do-Pst-Dec
       "Yenghi (at least) studied English hard." (Ahn's (1991, p. 30) (36a))
    b. *Yenghi-ka   ecay   PHIKON-un   ha-yess-ta*.
       Yehnghi-Nom   yesterday   tired-Con   do-Pst-Dec
       "Yenghi (at least) was tired yesterday." (Ahn's (1991, p. 31) (39a))
    c. **Yenghi-ka   nayil   cip-ey   ka-kilo   CENG-un   (pelsse)   ha-yess-ta*.
       Yenghi-Nom   tomorrow   home-to   go-to   decide-Con   already   do-Pst-Dec
       "Yehnghi has (already) (at least) decided to go home." (Ahn's (1991, p. 42) (40))

Applying a test of separation by the focus particle *wa* (J)/delimiter *n(un)* (K) to our samples gives us the results in Table 4, where the frequencies and percentages of separable SRs are shown in the *separable SRs* rows. Excluding the Japanese SR-adjectives, digraphemic SRs are separable almost 100% of the time, and monographemic SRs are mostly unseparable.

Table 4
Separability by the focus particle *wa* (J) or the delimiter *(n)un* (K)

	SR-verbs (J)	SR-adjectives (J)	SR-verbs (K)	SR-adjectives (K)
Monographemic	25	6	53	31
separable SRs	0 (0%)	0 (0%)	4 ~ 12 (7.5 ~ 22.6%)	0 ~ 1 (0 ~ 3.2%)
Digraphemic	800	166	611	295
separable SRs	800 (100%)	0 (0%)	608 (99.5%)	293 (99.3%)
Trigraphemic	0	3	1	9
separable SRs	0	0 (0%)	1 (100%)	9 (100%)
totals	825	175	665	335

No Japanese SR-adjectives can be separated from the copula regardless the boundness of SRs because the Japanese copula itself is morphologically bound. Even bona fide morphologically free

nouns cannot be separated from the following copula.

For the separability of Korean SRs, I consulted two native speakers of Korean. They responded mostly in similar ways, but there was a slight difference in the number of separable monographic SRs. There were four separable Korean monographemic verbal SRs according to one informant, and there were twelve such SRs according to another; and there were no separable monographemic adjectival SRs according one, and there was one such SR according to another. These variations are shown by the figures on both sides of a tilde in Table 4.

Almost all (100 - 99.3%) digraphemic (and trigraphemic) verbal/adjectival SRs can be separated from a light verb by a delimiter or focus particle (excluding Japanese adjectival SRs). The three Korean exceptional verbal SRs are *pwulkwu-hata, maklon-hata*, and *ywulay-hata*. *Pwulkwu-hata* is always used in an adverbial form, e.g., *pwulkwu-hako*, and means "despite …". *Maklon-hata* also appears in an adverbial form, e.g., *maklon-hako*, and means "regardless of …". *Ywulay-hata* "to originate (in …)" can appear in various forms. The inability of these three verbal digraphemic SRs to be separated by the delimiter *(n)un*, whose function is to contrast the element to which it has attached with something else in discourse, I believe, comes from the semantic or pragmatic difficulty to have such a contrast. The two unseparable adjectival digraphemic SRs in Korean, *pwulkwa-hata* "no more than …" and *mwuswu-hata* "innumerable", are also conceivably subject to similar semantic or pragmatic constraints. In contrast, all monographemic Japanese SR-verbs and most (77.4 - 96.8%) monographemic Korean SR-verbal/adjectival SRs cannot be separated from a light verb. In Korean there were none or one SR that cannot be separated in the case of monographemic SR-adjectives, and there were four to twelve out of the 53 monographemic SRs that can be separated by a delimiter.

The results written above generally agree with Ahn's (1991) classification, although there are some exceptions. Note that the morphological boundness as shown in Table 4 does not reflex the boundness of original Chinese verbs or adjectives. All the Chinese verbs and adjectives whose frequencies Duanmu (2000) used to calculate their percentages are morphologically free. Moreover, in Old Chinese, in which classical (and later) Chinese literature was written, most monosyllabic words were free (Norman, 1988). The boundness of monographemic SRs in Japanese and Korean does not originate in their etymons. Or, put differently, it was not the boundness of monosyllabic etymons that impeded them from being borrowed into Japanese and Korean.

It has been shown above that monographic SRs are mostly morphologically bound, whereas di- and trigraphemic SRs are free almost all the time in Japanese and Korean, excluding the Japanese adjectival SRs. Being bound, those monographemic SRs, unless there were corresponding morphologically free nouns, have been fossilized within a word and, thus, remains categorial indeterminate in Japanese and Korean.

3. Conclusion

This paper investigated the proportions of Japanese and Korean SRs of different graphemic lengths, and has shown that there are not many monographemic SRs compared to di- or

trigraphemic ones. The focus of this paper is on digraphemic verbal SRs, which were by far the more numerous than other types, 80% or 61.1%, and it has argued that a cause for such disparity comes from the fact that those digraphemic verbal SRs could be treated as nouns as most disyllabic verbs nominalize in Chinese. The support for this comes from the finding from loanwords that nouns are the most borrowable category. It also examined if there is a difference in morphological boundess between monographemic SRs and other SRs. It was found that monographemic SRs are mostly bound, whereas di- and trigraphemic ones, excluding the Japanese adjectival SRs, are almost always free. The boundness of monographemic SRs was considered to have resulted in their categorially indeterminate property. Digraphemic verbal SRs, in contrast, could be borrowed as nouns, and as such they could be treated as morphologically free. This paper could not fully explain the difference between mono- and digraphemic adjectival SRs, which needs to be fully investigated in the future.

Notes:

1 The stem of the light verbs is *su* and *ha* respectively; *-ru* (nonpast tense) and *-ta* (declarative marker) are inflectional suffixes. *Suru* (J) and its variants co-occurring with monographemic Sinic roots are also referred to as light verbs for ease of reference.

2 Acc: accusative case; Con: contrastive; Cop: copula; Dec: declarative; Nom: nominative case; Prs: present; Pst: past; Top: topic marker. The examples here and elsewhere except for those in (4) were created by the author and later confirmed with native speakers.

3 Accessible at http://www.ninjal.ac.jp/corpus_center/bccwj/freq-list.html

4 Accessible at http://www.ninjal.ac.jp/corpus_center/bccwj/

5 Four words of mixed origin, one descriptive word (*keizyoosi*), and one *suru*-suffixable noun were discarded because they did not co-occur with a copula or light verb.

6 Yonsei Institute of Language and Information Studies, *malmwungchi* (August 5, 2015). Retrieved from http://ilis.yonsei.ac.kr/subbbs/sub.php?grid=g7&top_id=g7_b2&skin=basic1&id=1

7 Some misclassifications were corrected.

8 In fact Japanese monographemic adjectival SRs are similarly noun-like. As there were only six of them in the sample of 1000, I treat them as exceptional and do not include them in discussion.

9 As two digraphemic adjectival SRs are missing from the dictionary, they do not add up to 295, the total number of Korean digraphemic adjectival SRs in Table 2.

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