Idiomaticization in Korean ideophones: Morphophonological Fixability, Morphosyntactic Integration, and Semantic Compositionality

JIYEON PARK*
Nagoya University/JSPS Research Fellow

1 Introduction

The Korean language has many ideophones (also known as 'mimetics' or 'expressives') used as idiomatic expressions, such as (1)–(2) (Park 2018, forthcoming).

(1) *ku-nun iki-l   casin-issta-ko   khunsoli-lul*
     he-TOP win-ATT confidence-be-QUOT   big.sound-ACC
     ({ppengppeng/ppangppang/ttangttang/ttengtteng}) chy-ess-ta.
     IDEO   shout-PST-DEC
     'He *talks big*, he is confident that he will win.'<lit. He *shouts loudly*, he is confident that he will win.>

(2) *kunye-nun sengkyek-i   {ttok/ttak/*thok/*thak} pwuleci-n-ta.*
     she-TOP   character-NOM IDEO   break-PRES-DEC
     'She has a character that is *straightforward and firm*.'<lit. Her character is *breaking with ttak sound.*>

In (1), the consonant and vowel of the ideophone are both allowed to alternate, while in (2), only the vowel is allowed to alternate. In addition, (2) is not allowed to change a reduplicated form (**kunye-nun sengkyek-i {ttokttok/ttakttak} pwuleci-n-ta.*). From a syntactic perspective, in (1), even deleting the ideophone does not cause problems in representing the idiomatic meaning. On the other hand, in (2), the existence of an ideophone is essential to express idiomatic meaning (**kunye-nun sengkyek-i {ttok/ttak} pwuleci-n-ta*). As seen above, the idiomatic expressions using ideophones exhibit numerous variations in phonological, morphological, and syntactic aspects. Although some research has investigated idiomatic expressions using ideophones (e.g. Kim 2007, Kim 2010, Kwon 2010, Park 2010), it is still not known how these expressions are distributed, what factors are involved, and how these factors relate to each other.

The aim of this paper is to develop determinants for idiomatic expressions using ideophones in terms of morphophonological fixability, morphosyntactic integration, and semantic compositionality. Based on the above criteria, this paper makes two observations: (i) Idiomatic expressions can be classified into six types, and (ii) There is a significantly converse relationship between their morphosyntactic integration and semantic compositionality.

The organization of this paper is as follows. Section 2 summarizes previous studies on the idiomatic expressions in ideophones and a definition of idioms. Section 3 describes the methodological details. Section 4 reports the results of the statistical analysis and surveys, and Section 5 discusses the relationships among morphophonological, morphosyntactic, and semantic factors. Section 6 concludes the paper.

2   Previous Studies

2.1   Ideophones in idiomatic expressions

Previous studies have examined Korean ideophones in idiomatic expressions with reference to phonological, morphological, and syntactic factors (e.g. Kim 2007, Kim 2010, Kwon 2010, Park 2010). For example, Kim (2007) proposes that ideophones can be categorized into three types in the formation of an idiomatic phrase: (a) obligational (e.g. *ip-ul **ttak** pelli-ta*. 'one's mouth drops in shock or amazement'), (b) optional (e.g. *ip-ul (**ssak**) ssis-ta.* 'feign innocence'), or (c) unnecessary. Park (2010) points out that there are some restrictions in phonological or morphological variants (e.g. *pal-ul {**ttwuk**/***ttwukttwuk**} kkunh-ta*. 'to end relations with (someone); to stop visiting (somewhere)'). However, these previous studies have focused mostly on ideophones functioning as adverbs and have not closely examined verbal or adjectival ideophones. Moreover, the involvement of semantic factors remains under-studied, as do the relationships determined to exist among the factors.

2.2   Definition of idioms

Idioms are grammatical units larger than a word that are idiosyncratic in some respects (Croft & Cruse 2004: 230). An idiom is a phrase whose semantic interpretation cannot be predicted from its syntactic components (Cacciari & Tabossi 1988, d'Arcais 1993, Glucksberg 1993, Nunberg et al. 1994). In other words, idioms are conventionalized (Nunberg et al. 1994: 492). For instance, *to pull someone's leg* means 'to tease'; however, an idiom cannot be interpreted by the composition of its parts. In this paper, this semantic characteristic is called 'semantic compositionality'. Indeed, there are also important properties characterizing idiomatic expressions: fixability (also called frozenness) refers to idioms' restricted morphological and syntactic operations, and figuration refers to idioms that involve metaphoric meanings (Fillmore et al. 1988, Gibbs & Gonzales 1985, Glucksberg 1993, Nunberg et al. 1994). Several studies suggest that there are degrees of idiomaticity (Fillmore et al. 1988, Ishida 2015, Nunberg et al. 1994, Titone & Connine 1999, Wulff 2013). For instance, Wulff (2013: 287) investigated whether English idioms can be classified by degree along two axes: schematization and idiomaticity. Those with a low degree of schematization and idiomaticity are more semantically and syntactically regular (e.g. *write a letter*). On the other hand, those with a high degree of schematization and idiomaticity are more formally frozen and semantically opaque (e.g. *take the plunge*). The current paper, however, explores how the fixability pointed out in previous studies is divided into two factors: the

phonological and the morphological. This is because Korean ideophones can express fine-grained meanings through the systematic alternation of consonants or vowels (e.g. *kkamccak*: *kkemccek*, 'flashing or blinking of small: bigger objects') and morphological operations, such as reduplicated forms (e.g. *ttok*: *ttokttok*, 'momentary: repeated dripping or tapping sound') (Kim 1977, Lee 1992, Sohn 1999).

In view of the above, in this paper three factors are considered to determine idiomaticity: morphophonological, morphosyntactic, and semantic factors. Moreover, this paper assumes that there are degrees of idiomaticity. This paper sets out to investigate the relationships among these three factors. It will also clarify which factor has more influence on semantic compositionality.

3 Method

This study investigated 176 ideophones found in the *Standard Korean Dictionary* (National Institute of Korean Language 2008) categorized as idiomatic phrases. Additionally, variant words, derived from the alternation of consonants or vowels and reduplicative forms, are included from examples in the SJ-RIKS Corpus, newspapers, magazines, and blogs, even though these may not be categorized as idiomatic phrases in the dictionary.

The criteria for the analysis were as follows: (a) An ideophone allows for the alternation of consonants and vowels or morphological derivations, an ideophone cannot allow these variant forms, and the idiom allows only an ideophone. (b) An ideophone functions as an optional adverbial or does not (i.e. an obligational adverbial or a predicate, such as a verbal or adjectival element, combined with suffixes *-hata/-ita* 'do, be' and *-kelita/-tayta* 'keep doing'). These above criteria are summarized in Table 1.

	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
MORPHOPHONOLOGICAL	✓	✗	✓	✗	✓	✗
MORPHOSYNTACTIC	optional adverbial		obligational adverbial		verbal/ adjectival	
Sum	54	6	33	15	42	26

Table 1. The criteria of morphophonological and morphosyntactic factors in idiomatic expressions

Based on the above criteria, the following examples (3) through (8) are presented.

(3) *anay-nun   namphyen-eykey   pakaci-lul*
wife-TOP   husband-DAT   large.vowl-ACC
({pakpak/ppakppak/pekpek/ppekppek})   kulk-ess-ta. (Type 1)
IDEO   scratch-PST-DEC
'The wife *nagged* her husband *terribly*.' <lit. The wife *scratched the large vowel*.>

(4) *ku-nun ha-ten   mal-ul   ({kkwulkkek/??kkwulkhek/*kkolkkak/*kkolkhak})   samkhy-ess-ta.* (Type 2)
he-TOP do-ATT   talk-ACC IDEO
swallow-PST-DEC
'He *bit* his *tongue*.' <lit. He *swallowed* his *talking at a gulp*.>

(5) *ipen   kihoy-ey   nwun {ttak/*thak/kkok/*khok}   kam-ko*
this   chance-at   eye   IDEO   close-CONJ
hayoy yehayng-ul   kassta wa-ss-ta. (Type 3)
abroad.trip-ACC   go and visit-PST-DEC
'[I] *didn't consider other factors and just* have been to travel abroad with this chance.' <lit. [I] have been to travel abroad and *closed my eyes* with this chance.>

(6) *sako   sosik-ey kasum-i   {cheleng/*challang/*chwulleng/*ccelleng/*ccallang/*ccwulleng}   naylyeanc-ass-ta.* (Type 4)
accident news-at   heart-NOM   IDEO
sink-PST-DEC
'[I] was *greatly surprised* at the news of the accident.' <lit. [My] *heart sank* at the news of the accident.>

(7) *ku-nun calang-ha-ko   siph-ese   ip-i*
he-TOP   boast-do-CONG   want-because mouth-NOM
{kancilkancil/kuncilkuncil}-hay-ss-ta. (Type 5)
IDEO-do-PST-DEC
'He is *full of news* because he wants to boast.' <lit. His *mouth itches* because he wants to boast.>

(8) *ku-nun   salam-tul-uy pinan-eyto nwunssep   hana*
he-TOP   people-PL-ACC criticism-to eyelash   one
kkattak-ha-ci anh-ass-ta. (Type 6)

IDEO-do-NEG-PST-DEC
'He *did not even bat an eyelash* although people criticized him.' <lit.
He *did not even bat an eyelash*, although people criticized him.>

Next, to investigate the relationship between semantic compositionality, morphophonological fixability, and morphosyntactic integration, a transparency judgment task was conducted with reference to the research of Nippold and Rudzinski (1993). Forty native speakers of Korean were asked about fifty-four idiomatic expressions. The participants were asked to judge how closely they thought the literal and idiomatic meanings were related using a five-point scale (1 = not related; 5 = closely related). The participants were aged between their twenties and fifties and consisted of ten speakers in each age group. The task was based on the *Korean Standard Dictionary*, which comprises eighteen sentences, each with optional adverbial, obligational adverbial, and predicate. Of the 54 tasks, 31 were allowed the morphophonological operation and 23 were not allowed it. In the task, the literal, idiomatic meaning and an example sentence were provided for the participants as follows.

kkwak* *cap-ko iss-ta.
Literal meaning: grabbing the objects *so hard*.
Idiomatic meaning: hold all the cards.
Example: *A hoysa-nun   ceykwaepkyey-lul   **kkwak** cap-ko   iss-ta*.
         A company-TOP bakery.industry-ACC   IDEO   grasp-CONJ be-DEC
         'Company *A holds all the cards* in the bakery industry.'

4   Results

It was found that the important factor that affected the judgment of a semantic compositionality was morphosyntactic integration rather than morphophonological fixability. A significant inverse relationship was found between morphosyntactic integration and semantic compositionality: when an ideophone was used as an obligational element (Types 3 through 6) rather than an optional element (Types 1 and 2), the participants judged that there was less relationship between the literal and idiomatic meanings.

To examine which factor influences semantic compositionality more, a GLMM (Bolker et al. 2009) was used. The objective effect was semantic compositionality, and the explanatory effects were morphophonological fixability and morphosyntactic integration. The participants were random effects. Computations were performed using the lme4 package (1.1-18-1) and

MuMIn 1.42.1 package (Barton 2018) for R 3.5.1 (R Core Team 2018). A summary of the analysis is given in Table 2.

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	0.271213	0.009281	29.224	< 2e-16 ***
Morphophonological	0.006191	0.003672	1.686	0.0919
Morphosyntactic	0.020625	0.003732	5.526	28e-08 ***

Signif. codes: 0 '***' 0.0001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 2. The model with the lowest AIC value among selected models

In the judgment values of compositionality, the average value of the fifty-four idioms was 3.63. Table 3 (below) shows the five phrases with the highest average values and the lowest average values.

	Idiom	Value	Type
1	*hohup-i ({**chakchak/chekchek**}) mac-ta.* 'be on the same wavelength' <lit. breath fits *well*>	4.30	1
2	*kokay-lul ({**calleycalley/celleycelley**}) huntul-ta.* 'shake one's head' <lit. shake one's head left and right *repeatedly*>	4.25	1
3	*ip-ul ({**kkwuk/kkwak**}) tamwul-ta.* 'hush up' <lit. shut one's mouth *firmly*>	4.25	1
4	*(**cilcil**) kkullyetani-ta.* 'to do as someone wishes' <lit. being dragged by someone *continually*>	4.23	2
5	*cwumeni-lul {(**thalthal/thokthok**)} thel-li-ta.* 'empty one's purse to the last penny' <lit. empty one's pockets *completely*>	4.18	1
50	*engtengi-ka **kuncilkuncil**-ha-ta.* 'itching for something' <lit. *itch* one's butt>	3.13	6
51	*kho-ka **wuttwuk**-hata.* 'give oneself an air of consequence' <lit. someone's nose is *tall*>	2.98	6
52	*kho-ka **napcak**-hay-ci-ta.* 'be shamed by someone, lose one's nerve' <lit. one's nose is *flattened*>	2.95	6
53	*(**ttak**) capattey-ta.* 'pretend ignorance stoutly' <lit. unstick *strongly and in a moment*>	2.90	2
54	*{**kkamppak/kkemppek**} cwukta.* 'go with a flash' <lit. *one's consciousness being dim* and dying>	2.83	3

Table 3. The distribution of idiomatic phrases in the value of semantic compositionality

5   Discussion

An ideophone is an obligational element of idioms that are strongly morphosyntactically tied to other constituents and expresses conventional meanings, which means that an ideophone loses its depictive meanings. On the other hand, an ideophones used as an optional adverb is considered to have been inserted into an existing idiom due to a collocation relationship with a host verb. In such cases, an ideophone does not change the idiomatic meanings of the existing phrase, just adds the degree of an event (e.g. *yephkwuli-lul ({kkwuk/khwuk}) ccilu-ta*. 'To send a secret signal by nudging someone in the ribs with one's elbow or finger' <lit. nudge someone in the ribs *so hard/hard*>). In other words, these types are considered to be in the preliminary stage, i.e. not completely fixed as idioms. From this perspective, it is natural that ideophones used as an obligational element of idioms (Types 3 through 6) are judged to be less related with literal meanings than the others (Types 1 and 2).

On the other hand, there was no significant evidence that morphophonological fixability influences semantic compositionality. This result may be explained by the elaborative phonological system of Korean ideophones. Korean ideophones have a two-vowel system, 'bright/dark,' and three-consonant system, 'plain/aspirate/tense,' and the sound symbolism is reflected by a systematic alternation between certain vowels or consonants (Kim 1977, Martin 1962, Sohn 1999). For example, (9) is allowed the alternation of vowels in the bright one.

(9)   *Yenghuy-nun   {ttok/ttak/*ttwuk/*ttek}   pwuleci-n-ta.* (Type 3)
      PSN-TOP   IDEO   break-PRES-DEC
      'Yenghuy's *words and behaviors are firm and decisive*.'
      <lit. Yenghuy *breaks with ttok/ttak sound*>

In (9), by alternating the bright vowel [o] with [a], the latter, which uses the open vowel, expresses the emphatic meaning that someone is firm and decisive. However, it is not enough to change the conventional meanings represented by idioms. There are, however, some restrictions on the alternation of vowels/consonants. For instance, in (9), alternating the bright vowel [o] or [a] with the dark vowel [u] or [ə] is not allowed. It seems that the bright vowel expresses more "clarity" than the dark vowel (Lim 2013). In other words, the alternation of consonants or vowels is only allowed within a limited range that does not change the original meanings of idioms.

6   Conclusion

In this paper, an approach was designed to identify determinants for idiomatic expressions in terms of morphophonological fixability, morphosyntactic integration, and semantic compositionality. The results show thatidiomatic expressions using the ideophone can be classified into six types based on morphophonological and morphosyntactic factors, and there is an inverse relationship between morphosyntactic integration and semantic compositionality. This result is largely in accordance with previous observations that morphology, syntactic frozenness, and semantic transparency are not independent: 'Opaque idioms tend to be more frozen' (d'Arcais 1993: 80-81; see also Ishida 2015). However, in the current paper, there was no evidence that morphophonological fixability has an influence on semantic compositionality. In prosaic idioms, however, it is assumed that morphophonological fixability will be more effective for semantic compositionality than the expressions using ideophones. Further investigations including prosaic idioms could shed more light on the determinants for idiomatic expressions.

Notwithstanding the limited data, this work has contributed to enhancing our understanding of the system integration of ideophones (Dingemanse 2017). Akita (2017) suggests that there is a correlational relationship between lexical integration and morphosyntactic integration: The more morphosyntactic integration there is, the greater the tendency to be integrated into the lexical system and vice versa. The current observation of an inverse relationship between morphosyntactic integration and semantic compositionality strengthens the earlier hypothesis.

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Corpus

SJ-RIKS Corpus (Research Institute of Korean Studies, Korea University) (http://riksdb.korea.ac.kr/sjriks/sjriks.jsp) 27 March 2019.