

THE SYMBOLIZATION OF SOUNDS IN THAI ONOMATOPOEIC WORDS¹

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Abstract

In addition to the arbitrary invention of words in human language, there are also a number of lexical items in languages generated from the symbolization of particular groups of sounds. The present study investigates the structural and semantic characteristics of “sound-symbolic words” (or onomatopoeic words) in Thai. Data were drawn from formal and informal written documents. The Royal Institute’s and Matichon’s dictionaries were used as representatives of formal documents, while 40 Japanese-to-Thai translated comics were used for the informal documents. Structurally, it was found that most sound-symbolic words are either monomorphemic or reduplicated. In relation to semantics, sound symbolization in the data shows semantic relations to human behaviors, activities, and surroundings.

¹ This article is a part of a research project entitled “Sound-symbolic words in Thai” funded by Thailand Research Fund 2005-2007. I would like to express my deep appreciation to Professor Emeritus Dr. Pranee Kullavanijaya, the mentor for the present project, for her insightful comments and encouragement. Without her help, this article would never have been possible.

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Research background

The symbolization of sounds

Language is a symbolic system that conveys ideas, attitudes, and emotions to other people with patterns of sounds or writing. Normally, the relationship between the meaning and the form of a word is said to be “arbitrary.” This means that there is no reasonable explanation why a word is used to refer to a particular entity. Take the word <cat>³ for example. The letters <c>, <a>, and <t>, or the sounds /kh^{4/5}, /ε/, and /t/ do not show any relationship or do not even give any clue to the referent [CAT]⁶ at all. In other words, the symbolization process of words is said to be “arbitrary.”

However, some words in human language are not arbitrarily symbolized. This group of words is known as “onomatopoeic words.” While other groups of words in language are the products of the symbolization of physical and abstract entities, *onomatopoeia* are the products of the symbolization of actual sounds. Simply speaking, onomatopoeic words imitate sounds using language-specific-based phonetic and phonological systems. Normally, the phonetic characteristics of “onomatopoeia” are similar to the particular sound referent of a particular word. The word <meow>, for example, is used to refer to the sound of a cat or cat’s

³ The symbol <aaa> is used to show the written form of a word.

⁴ Thai phonological system is described in Appendix A.

⁵ The symbol /aaa/ is used to show the phonetic characteristic of a word.

⁶ The symbol [AAA] is used to show the meaning of a word.

[MEOW]. This indicates the direct relationship between a linguistic form (word) and a particular meaning (actual sound). Words with such relationships will be referred to as “sound-symbolic words” in this paper.

Universality of sound-symbolic words

Compared to the arbitrarily invented words in a language, sound-symbolic words are obviously fewer in number. Because of this, most linguists see no need to investigate this group of words in depth. However, considering sound-symbolic words across languages, it has been found that there seems to be some similarities in the use of phonetic representations across languages, as shown in the following examples of the items referring to [CHICKEN’S SOUND].

<i>Language</i>	<i>Orthographic Representation</i>	<i>Phonetic Representation</i>
English	<cocka-doodle-doo>	/k ^h ɔkadu:dəldu:/
Thai	<ก๊าก> <เอกอีเอ็กเอ็ก>	/kúk kúk/ /ʔèk ʔíi ʔêek ʔêek/
Japanese	<kokekokoo>	/kokekoko:/

It can be seen that when referring to a chicken’s sound, many of the world’s languages—such as English, Thai, and Japanese—employ similar phonetic representations—i.e. /k/, open syllables—and similar morphological characteristics—i.e. polysyllabic monomorphemic words and reduplication. Such evidence seems to imply the universality of human “symbolization processes” of sound-symbolic words. In other words, a particular referent is signified by similar linguistic symbols across languages.

It should be noted that the study of sound-symbolic words in languages has been of less interest for most researchers because the proportion of this group of words in languages is extremely small (Hinton et al. 1994). In Thai, although the study of “sound symbolism” has focused its attention mainly to “reduplicatives” (Udomanisuwat 1982, Liamprawat 1983, Suttasorn 1987), the classification and explanation about “onomatopoeic words” have never been explicitly proposed. Therefore, this group of words has attracted little or no attention from Thai researchers, so it is still unknown how sound-symbolic words are formed and what kinds of meaning these words refer to. The present study is a preliminary attempt to indicate areas for the further in-depth studies of sound-symbolic words from the universal and language specific points of view.

Objectives of this study

This study aims to investigate the structural and semantic characteristics of sound-symbolic words in selected Thai formal and informal written documents.

Hypothesis

The structural and semantic characteristics of sound-symbolic words in Thai formal and informal printed documents are similar.

Data

Source of data

Data in this study were collected from two Thai monolingual dictionaries—which were used as representatives of formal printed documents—and 40 comic books drawn 10 each from four different titles—which were used as representatives of informal printed documents as follows.

Formal printed documents

Two Thai dictionaries—*The Royal Institute's 1999 Dictionary and Matichon Dictionary of Thai Language*—were used for the collection of sound-symbolic words from formal printed documents. *The Royal Institute's Dictionary* is widely accepted as the standard dictionary of the Thai language, while *Matichon Dictionary of Thai Language* is the most up-to-date dictionary of everyday language use. These two dictionaries were selected to represent formal Thai sound-symbolic words. The selection of sound-symbolic words in formal dictionaries is based on the following working criteria.

- 1) The selected words are classified as adverbs.
- 2) The words are defined as 'sound of...'.
 - 3) Words used in poetry or old words will not be included.

Informal printed documents

Data for informal printed documents were drawn from 40 Japanese-to-Thai translated comic books in four different titles—10 items for each. The four titles are those on four different themes—*The Sushi Boy* (food), *D.D.S. Dan Detective School* (detective), *Rave: The Groove Adventure* (action), and *Kaikan-Phrase* (love stories).

The comic books obviously contain higher numbers of sound-symbolic words than other printed documents. Although the original versions are in Japanese, the Japanese-to-Thai translators normally adopt Japanese to Thai sounds. Japanese-to-Thai translated comic books have become extremely popular in Thai society. Because of this, compared to Thai comic books, Japanese-to-Thai comic books are widely read and might influence the formation and usage of sound-symbolic words in Thai. Therefore, these comic books were selected as representatives of informal printed documents.

Although language in comic books is written, it is conversational and informal. There are no definitions of words given in the documents, but drawn figures help to interpret meanings of the target words. Therefore, the selection criteria of sound-symbolic words in this type of document mainly depended on the researcher's interpretations and the following guiding ideas.

- 1) The selected words are those that represent sounds.
- 2) The same word forms which occur in the same context will be selected only once as in the examples.

<i>Form</i>	<i>Meaning</i>
/màp/	[TO CATCH SOMETHING]
/màp màp/	[TO CATCH SOMETHING]
/màp/	[TO CATCH SOMETHING]

From the above three examples, only two, /màp/ and /màp màp/ were selected.

Analyses

The analyses of sound-symbolic words in this study were divided into two major parts, structural analysis and semantic analysis.

Structural analysis

The forms of sound-symbolic words from both types of documents will be classified according to the following criteria.

- (1) Spelling accuracy according to Thai syllable structures
- (2) Number of syllables
- (3) Word formation
- (4) Substitution of forms for a particular sound meaning

Thereafter, findings from two sources of documents will be compared.

Semantic analysis

In terms of meaning, the semantic domains of sound-symbolic words will be analyzed into five semantic domains:

- (1) [HUMAN]
- (2) [ANIMAL]
- (3) [THING]
- (4) [NATURAL PHENOMENA]
- (5) [CUE]

Results

Structural characteristics of sound-symbolic words in Thai

Spelling accuracy

In relation to “spelling accuracy,” sound-symbolic words which have accurate spelling are words which follow spelling rules in Thai language. It was found that all sound-symbolic words in the formal printed documents (dictionaries) have accurate spelling. On the other hand, informal printed documents (translated comic books) have both correct and incorrect styles of sound-symbolic words as shown in Figure 1.

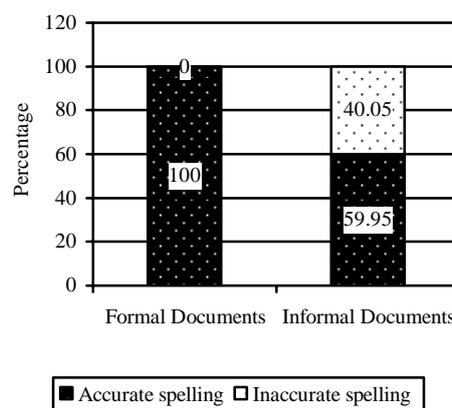


Figure 1: Proportions of spelling accuracy of sound-symbolic words in formal and informal documents

From Figure 1, it can be seen that about three-fifths of sound-symbolic words in the informal printed documents are accurately spelled, and all items in the formal printed documents are spelled correctly. This shows the degree of formality of the two types of documents.

Considered in more detail, Table 1 demonstrates some examples of sound-symbolic words found in the data based on their spelling accuracy.

Source	Example Words	Accuracy
Formal documents		
- The Royal Institute's Dictionary	/kròk krèk/ <กรอกเกรก>, /khwâak/ <ควาก>	√
- Matichon Dictionary of Thai Language	/bhi/ <บรื้อ>, /paaw paaw/ <ปาวๆ>	√
Informal documents		
- The Sushi Boy	-/kik kik/ <กีก กีก>, /khriit/ <ครี๊ด>, /kròt/ <กรอด...!>	√
- D.D.S.	-/suum/ <ซุ่มมม>, /phlóp/ <ผล็อบ>, -/tiŋ/ <ตึง>, /phléŋ phléŋ/ <เพลิงเพลิง>	X √
- Rave	-/khròw fii/ <คร่อ-ฟี>, /wíw/ <วีว>	X
- Kaikan-Phrase	-/suum/ <ซุ่ม>, /fúp/ <ฟุบ>, /hék/ <แฮก>	√
	-/tuum/ <ตุ่ม>, /suum/ <ซุ่มม>	X
	-/chíp/ <ชิ๊ป>, /khlik/ <คลิก>	√
	-/sâa/ <ซ่า>, /faaw/ <ฟ้าว>, /kriit/ <กรี๊ด>, /kriit/ <กรี๊ด-->	X

Table 1: Accuracy in spelling of sound-symbolic words in formal and informal documents

Data in the informal printed documents contain two types of inaccurate spelling. The first type is the misspelling of words using letters in the language as shown in the following examples.

The second type of inaccurate spelling includes that with other non-alphabetic symbols—such as -, !, and ?—for making sound-symbolic words as shown in the examples.

Phonetic	Inaccurate spelling	Accurate spelling	Phonetic	Inaccurate spelling	Accurate spelling
/suum/	<ซุ่มมม>	<ซุ่ม>	/kròt/	<กรอด...!>	<กรอด>
/phlóp/	<ผล็อบ>	<พล็อบ>	/kriit/	<กรี๊ด-->	<กรี๊ด>
/kriit/	<กรี๊ด>	<กรี๊ด>	/?é?/	<เอ๊ะ!?!>	<เอ๊ะ>

Table 2 indicates that the number of syllables of sound-symbolic words in formal printed documents ranges from one to six syllables, while the informal printed documents contain from one to eleven-syllable words. Moreover, it should be noted that most of polysyllabic sound-symbolic words (two to eleven-syllable words) in the informal printed documents derived from monosyllabic words. In other words, polysyllabic sound-symbolic words in translated comic books are mostly reduplicative. This might imply that reduplication plays an important role in the production of sound-symbolic expressions in informal printed documents (see more results in “Word Formation” section.) In addition, it might be possible that there are reduplicative sound-symbolic expressions which contain more than 11 syllables in this type of document.

In addition, Figure 2 demonstrates the proportions of sound-symbolic words in the two types of documents as shown.

Figure 2 shows that the proportions of monosyllabic sound-symbolic words are quite similar in both types of documents. However, the informal printed documents seem to contain more items with different numbers of syllables than the formal printed documents.

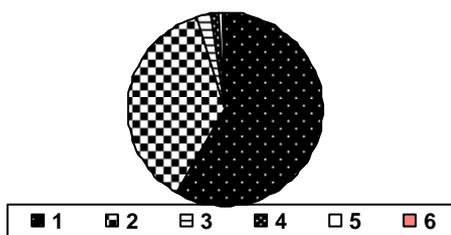
Word formation

It is suggested that there are two types of words tied to the process of producing sound-symbolic words.

Monomorphemic words

The first type of word is called “Monomorphemic words.” By “monomorphemic,” it means that regardless of number of syllables, the particular sound-symbolic words have only one meaning and all units or syllables which are combined into one word cannot be separated. Examples of monomorphemic sound-symbolic words are:

Formal Documents



Informal Documents

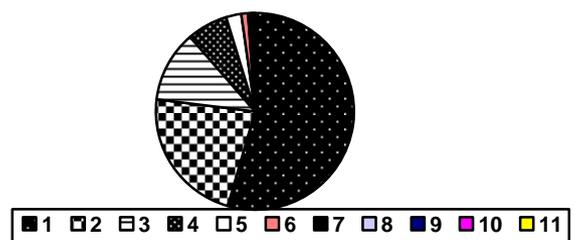


Figure 2: Proportions of sound-symbolic words with different numbers of syllables (1-11) found in formal and informal documents

Formal documents: /fúp/ <ฟูป>, /thâŋ bɔŋ/ <เทิงบอง>

Informal documents: /phlóʔ/ <โพล๊ะ>, /khrɔ̀k fii/ <คร้อก--ฟี่-->

It should be noted that most monomorphemic sound-symbolic words in the informal printed documents are monosyllabic, while they range from one to six syllables in the formal printed documents.

Patterns of reduplication

Reduplication found in the present study may be classified into two types: complete reduplication and partial reduplication.

Complete reduplication

“Complete reduplication” refers to more than one phonetically the same monomorphemic words which are combined together into one word. In other words, it is formed by the unlimited repetition of “Monomorphemic Words.” Examples of complete reduplicative sound-symbolic words are:

Formal documents: /phaaŋ phaaŋ/ <ฝาาง>, /kùk kùk kàk kàk/ <กุก กัก>

Informal documents: /khriin khriin/ <ครึ้นน ครึ้นน>, /phim pham phim pham/ <พืมพ่า พืมพ่า>

Complete reduplication is found to be an important process in making polysyllabic words in informal printed documents. Complete-reduplicated sound-symbolic words found in the comic books range from two to eleven syllables.

Partial reduplication

“Partial reduplication” is the process of carrying over some sound/s or character/s of the first syllable into other syllables. It might repeat only the initial consonant/s (onset), the vowel (nucleus), or the all except the initial consonant/s (rhyme), etc. Such reduplication can also be seen as the assimilation of some sounds into the following syllable/s. Examples of partial reduplicative are found only in the formal printed documents (dictionaries).

Formal documents: /krik kraaw/ <กริกกราว>, /tɔ̃m tɛ̃m/ <ต้อมแต้ม>, /ta lúm tùm méŋ/ <ตะลุ่มตุ้มเม้ง>

Informal documents: /phim pham/ <พืมพ่า>

Partial reduplication is more often used in formal printed documents and in informal printed documents.

Partial-reduplicated sound-symbolic words in the formal and informal printed documents range from one to six syllables, and from one to two syllables, respectively.

For the distribution of these two types of word forms in the data, it was found that reduplicatives are slightly more frequent in

informal printed documents than in formal printed documents as shown in Figure 3.

From Figure 3, it can be seen that the formal printed documents employ reduplication as the word formation process for 38.4% of the data, while the informal printed documents contain 45.5% of reduplicated words. As mentioned in the earlier section about the number of syllables of words, polysyllabic words in the informal printed documents are mostly reduplicative. The proportions of word formation in this section also conform to the previous findings.

words can be classified into the following five domains.

[HUMAN]

Sound-symbolic words in the [HUMAN] domain include words which refer to sounds occurring purely due to human body's actions, such as crying, laughing, punching, running, snoring, vomiting, etc., as shown in the following examples.

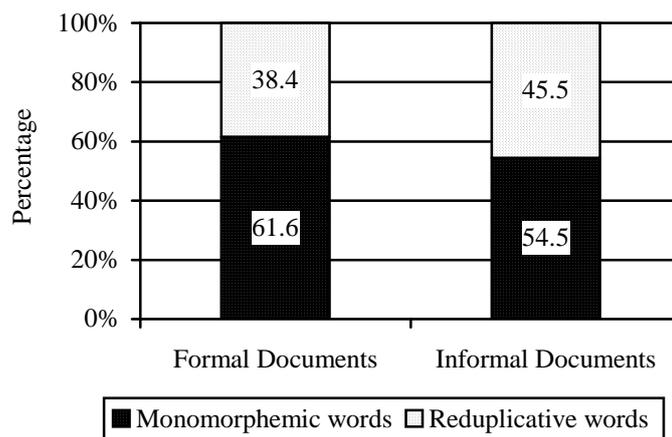


Figure 3: Proportions of monomorphemic and reduplicative sound-symbolic words in formal and informal documents

Semantic characteristics of sound-symbolic words in Thai

What kinds of sounds are usually symbolized? The meaning of sound-symbolic words in Thai data is basically related to human beings and their surroundings. Sound referents of the

Sound-symbolic words	Meaning
/súut/	[DRINKING WATER]
/krùap/	[CHEWING]
/khìk khìk/	[LAUGHING]
/khròok/	[SNORING]
/hát chêj/	[SNEEZING]
/rûak/	[VOMITING]

[ANIMAL]

The [ANIMAL] domain includes words referring to sounds made by animals and their actions such as flying, barking, crying, etc., as shown in the following examples.

<i>Sound-symbolic words</i>	<i>Meaning</i>
/pr̥ɛpr̥ɛn/	[ELEPHANT TRUMPETING]
/h̥iŋ h̥iŋ/	[BEE FLYING]
/h̥oŋ/	[DOG BARKING]

[THING]

Sound-symbolic words in the [THING] domain include words which refer to sounds of objects that might occur from the actions of human beings, such as taking photos, fighting with swords, shutting doors, etc., or occur without the actions of humans, such as the sound of boiling rice, alarm clock ringing, glass breaking, etc. Examples of words in this domain are shown below.

<i>Sound-symbolic words</i>	<i>Meaning</i>
/ch̥éʔ/	[SNAPPING PHOTO]
/paŋ/	[DOOR SHUTTING]
/briin/	[CAR MOTOR RUNNING]
/ph̥léŋ/	[GLASS BREAKING]

[NATURAL PHENOMENA]

As the name refers, the [NATURAL PHENOMENA] domain includes words

depicting sounds occurring in nature such as rain, thunder, wind blowing, earthquake, etc.

<i>Sound-symbolic words</i>	<i>Meaning</i>
/khriin/	[THUNDER]
/p̥ri̥aŋ/	[LIGHTNING]
/s̥aa/	[SOUND OF OCEAN WAVES]
/s̥aa/	[RAINING]
/f̥aa/	[WIND BLOWING]

[CUE]

Sound-symbolic words in the [CUE] domain are found only in the informal printed documents. A comic book is a kind of drama production that uses pictures and orthographies as its media. According to this, it is still necessary to retain some characteristics of drama, especially music or melodies to show the moods of characters and scenes. From the author's interpretation of the pictorial contexts of the comic books, some words are used to refer to a new melody or sound which shows a specific cue in each scene. This group of sounds indicates the appearance of new characters in the particular scenes, cues for internal monologue of the particular characters, cues indicating some emotional states—such as surprise and fear—of particular characters. The following are examples of sound-symbolic words in the [CUE] domain.

<i>Sound-symbolic words</i>	<i>Meaning</i>
/k̥ik/	[PENSIVE]
/t̥ik/	[FEAR]

<i>Sound-symbolic words</i>	<i>Meaning</i>	formal and informal printed documents are in [HUMAN] and [THING] domains. This implies that sounds related to human beings and their behaviors—including their actions upon other actual objects—are mainly recognized and symbolized. The [CUE] domain is another significant domain found in informal printed documents.
/pín/	[A NEW CHARACTER APPEARS]	
/phàan/	[A NEW CHARACTER APPEARS]	

The distribution of sound-symbolic words in these five semantic domains is seen in Figure 4.

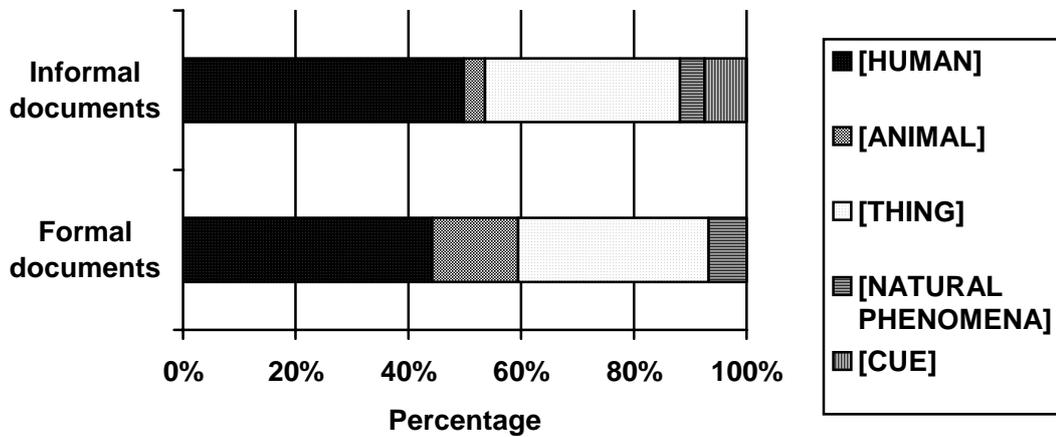


Figure 4: Proportions of sound-symbolic words in five semantic domains

From Figure 4, it was found that the proportions of sound-symbolic words in the five semantic domains range from the highest to the lowest as follows:

Formal printed documents:
[HUMAN] > [THING] > [ANIMAL] > [NATURAL PHENOMENA]

Informal printed documents:
[HUMAN] > [THING] > [CUE] > [NATURAL PHENOMENA] > [ANIMAL]

It can be seen that more than eighty percent of sound-symbolic words in both

Conclusion and discussion

Structural and semantic characteristics of sound-symbolic words from Thai formal and informal printed documents were investigated. In relation to their structures, it was found that 1) sound-symbolic words in formal printed documents contain higher frequencies of spelling accuracy than in informal printed documents. 2) “Reduplication”—either complete or partial reduplication—is the significant word formation strategy used for the production of sound-symbolic words in Thai.

In relation to their semantics, it was found that actual sounds which have been selected and symbolized as sound-symbolic words are often those which relate to actions and internal states of humans and animals, surrounding things, and natural phenomena. In addition, another significant semantic domain found only in the informal printed documents is [CUE]. The [CUE] domain refers to the use of sound-symbolic words to indicate the appearance of new characters, and the internal states of the characters—such as surprise, thought, etc. The use of sound-symbolic words in the [CUE] domain is claimed to derive from the dramatic characteristics of comic books.

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Appendix A

Thai Phonological System

1. Segmentals

1.1 Consonants

Place of articulation		Labial	Alveolar	Palatal	Velar	Glottal
Manner of articulation						
Stop	vl. unasp.	p	t	c	k	ʔ
	vl. asp.	ph	th	ch	kh	
	vd.	b	d			
Non-stop	Nasal	m	n		ŋ	
	Fricative	f	s			h
	Trill		r			
	Lateral		l			
	Approximant	w		j		
Consonant Clusters		pr, pl, phr, phl	tr, thr		kw, kr, kl, khw, khr, khl	

1.2 Vowels

Monophthongs	Tongue Advancement	Front	Central	Back
	Tongue Height			
	High	i, ii	ɨ, ɨɨ	u, uu
	Mid	e, ee	ə, əə	o, oo
	Low	ɛ, ɛɛ	a, aa	ɔ, ɔɔ
Diphthongs		ia	ia	ua

2. Suprasegmentals

Tones

Tone characteristics	Symbols
Mid level	33
Low falling	21, 0̂
High falling	42, 0̂
High rising	45, 0̂
Low rising	24, 0̂