

Semblance and Signification

Iconicity in Language and Literature

A multidisciplinary book series which aims to provide evidence for the pervasive presence of iconicity as a cognitive process in all forms of verbal communication. Iconicity, i.e. form miming meaning and/or form miming form, is an inherently interdisciplinary phenomenon, involving linguistic and textual aspects and linking them to visual and acoustic features. The focus of the series is on the discovery of iconicity in all circumstances in which language is created, ranging from language acquisition, the development of Pidgins and Creoles, processes of language change, to translation and the more literary uses of language.

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Volume 10

Semblance and Signification

Edited by Pascal Michelucci, Olga Fischer and Christina Ljungberg

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John Benjamins Publishing Company

Amsterdam / Philadelphia



The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

Library of Congress Cataloging-in-Publication Data

Symposium on Iconicity in Language and Literature (7th : 2009 : Victoria University (Toronto, Canada))

Semblance and signification / edited by Pascal Michelucci, Olga Fischer, Christina Ljungberg.

p. cm. (Iconicity in Language and Literature, ISSN 1873-5037 ; v. 10)

Papers given at the Seventh International Symposium on Iconicity in Language and Literature, hosted by Victoria University in the University of Toronto (Canada) and held on the Victoria College campus, 9-13 June, 2009.

Includes bibliographical references and index.

1. Iconicity (Linguistics)--Congresses. I. Michelucci, Pascal. II. Fischer, Olga. III. Ljungberg, Christina, 1949-

P99.4.L26S96 2011

415--dc23

2011026794

ISBN 978 90 272 4346 1 (Hb ; alk. paper)

ISBN 978 90 272 8482 2 (Eb)

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John Benjamins Publishing Co. · P.O. Box 36224 · 1020 ME Amsterdam · The Netherlands
John Benjamins North America · P.O. Box 27519 · Philadelphia PA 19118-0519 · USA

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Preface and acknowledgements

The essays in this volume form a careful selection of papers, most relevant for this series, given at the Seventh International Symposium on Iconicity in Language and Literature, hosted by Victoria University in the University of Toronto (Canada) and held on the Victoria College campus. It took place 9–13 June, 2009, during which forty papers were presented on a wide range of topics involving the notion of iconicity in linguistics (phonology, morphology, and syntax), literary works, media studies, cinema, music, painting and architecture as well as featuring a workshop on Cognitive Poetics. The participants represented twenty different nations, including Austria, Belgium, Canada, China, France, Germany, Hungary, Ireland, Italy, Japan, Norway, Romania, Saudi Arabia, South Africa, Sweden, Switzerland, Taiwan, The Netherlands, The United Kingdom, and The United States.

The editors of this volume would like to express their gratitude to those who helped make the seventh in this series of symposia, which have been organized every second years for the past fourteen years, such a fruitful and inspiring event. Our special thanks go to Paul W. Gooch, President of Victoria University in the University of Toronto, and David Klausner, Vice-Dean for Interdisciplinary Affairs, University of Toronto, who supported the symposium from its very start and who let us use the dignified Victoria College as our conference venue; Paul Bouissac who was the local coorganizer together with Pascal Michelucci for their indefatigable and inspired organization; Ms Ann Lewis, Executive Secretary, and her team of student volunteers who gave us so much of their time and energy; and Laura Grace Conlon, for her dedication to the attentive review of the manuscript in its early stages. We also would like to thank all those scholars who helped us to referee the papers, thus enabling us to produce a volume that meets the high standards of the scientific community.

We gratefully acknowledge the financial support of Victoria University (for a Social Sciences and Humanities Research Council Institutional Grant (SIG) Award), Victoria College (Principal Office), the Social Sciences and Humanities Research Council of Canada, , the Amsterdam Research Center for Language and Communication (ACLC) of the University of Amsterdam, and the Swiss Academy of Humanities and Social Sciences.

P.M., O.F., and C. L.

Introduction

Pascal Michelucci

Cognitive poetics and cognitive linguistics have observed that linguistic expression makes use, to varying degrees but at times with striking effects, of special and creative applications of otherwise automatic cognitive structures and processes. Their collective approach to the use of aesthetic and expressive dimensions of language is in fact one that is more economical than positing a separate and independent aesthetic cognitive module or capacity such as inspiration or taste, the semiotic basis for which is fuzzy at best. Iconicity, as a semiotically rich field, enjoys pride of place for the developing understanding of the mental basis for such creative uses of languages. Nowhere is the remotivation and overdetermination of natural signs more resourcefully exploited than in literary, and generally artistic, contexts. Structures are put into unforeseen new uses, layered patterns of signification emerge in the dynamic integration of complementary modes, such as in ecphrasis or multimedia performance. Prevalent and extensive types of linguistic signs make use of reduplication, structural resemblances, ordering, mappings, (re)categorization. A cognitively inspired approach to iconicity therefore offers a unique vantage point from which to consider and reframe the notion of literariness and linguistic creativity thanks to a strongly grounded semiotic perspective. Thus the embodied properties of cognition, the semiotic affordances of linguistic and artistic signs, the view in favour of “nature harnessing” proposed by Mark Changizi (this volume), metaphorical and analogical reasoning, among many other concerns, echo through this volume with obvious prominence and recurrence.

The articles assembled in *Semblance and Signification* interrogate the role of iconicity in the formation of concepts and communication, in their encoding and decoding, with attention to its necessary role as well as to new functions in original configurations of iconic and non-iconic signs. Together, the articles explore the relevance and workings of iconicity in a range of languages (English, Italian, Japanese, Chinese, Siwu, and Sign Language), of artistic media (literature, cinema, music, photography, and mixed-media works), and of issues at the juncture between iconicity and other key semiotic issues (motivation and its frontiers, diagrammatic and metaphoric expressions, indexicality, multimodality). They also share a strong concern for the cognitive basis of iconicity and its role in a multimodal perspective. If iconicity has been looked at as a naturally driven relationship between the form of a sign and the mental representation of its referent,

and has remained a key interest for the theory of signs since C.S. Peirce, dedicated investigations into the mental basis for the construction of some categories of signs have been relatively few. It is our hope that this volume contributes to narrowing the gap by drawing forcefully and convincingly from what Bernard Baars has nicknamed the “cognitive revolution” (1986), and by bringing to semiotic inquiry research from cognitive linguistics and cognitive poetics to illuminate iconic questioning. In *Acts of Meaning*, some twenty years ago, Jerome Bruner (1990) advocated for such a semiotic turn to the cognitive turn, to provide a foundation for what he called the “proper study of man”:

There is no question that cognitive science has made a contribution to our understanding of how information is moved about and processed. Nor can there be much doubt on reflection that it has left largely unexplained and even somewhat obscured the very large issues that inspired the cognitive revolution in the first place. So let us return to the question of how to construct a mental science around the concept of meaning and the processes by which meanings are created and negotiated within a community. (1990: 10–11)

The question of cognition has since federated multiple disciplines around a more sophisticated understanding of information-processing activities, from the analysis of sensory and linguistic data, to applied and experimental research into processing, through to the organisation of subjective intellectual, emotional, and aesthetic responses. Similarly, the papers gathered in *Semblance and Signification* draw from a range of disciplines and yield fruitful dialogue from their collaboration. We hope that the reader will find what we intended to offer – a multifaceted and inspiring contribution to a highly dynamic field.

References

- Baars, Bernard. 1986. *The Cognitive Revolution in Psychology*. New York NY: Guilford.
 Bruner, Jerome. 1990. *Acts of Meaning*. Cambridge, MA: Harvard University Press.

PART I

Word forms, word formation, and meaning

Toward a phonosemantic definition of iconic words

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Most studies have tried to define inherently iconic words (mimetics, ideophones) in terms of their formal features but phonosemantic peculiarity, assumed without empirical consideration, is not evidently distinct from regular sound symbolism. Two experiments were conducted to probe the phonosemantic specificity of iconic words. Experiment 1 asked twenty native Japanese speakers to rate 140 novel words, half of which had a shape typical of Japanese iconic words: no systematic difference in consonantal or vocalic symbolism between the two types of stimuli was obtained. Experiment 2 asked twenty native Japanese speakers to judge the consonantal magnitude symbolism of 120 verbs with or without a typical iconic word shape presented in a referentially specific sentence. Verbs sharing a root and a morphophonological shape with an existent iconic word tended to yield sharper magnitude contrasts. Iconic words appear to have marked phonosemantic status, which is grounded on both their formal and referential markedness.

1. Introduction

This paper aims at experimentally clarifying the (phono)semantic definition of sound-symbolic, iconic words in Japanese by focusing on both their form and meaning. Like Basque, Cantonese, Korean, Zulu, etc., Japanese has a rich lexicon of inherently iconic words called ‘mimetics’, which basically correspond to ‘ideophones’ in African

* An earlier version of this paper was presented under the title of “The lexical basis of sound symbolism of ‘sound-symbolic words’ in Japanese” at the ILL 7 Symposium. My sincere gratitude goes to Olga Fischer and William Herlofsky, who offered detailed comments, which led this paper to some fundamental improvement and development. I also thank Mark Dingemanse, Hideki Kishimoto, Yo Matsumoto, and Lawrence Schourup for their constructive advice and suggestions. Remaining inadequacies are, of course, my own. This study is partly supported by Grant-in-Aid for JSPS Fellows to the author entitled “A crosslinguistic and developmental study of the syntax and semantics of sound-symbolic words: On the roles of lexical iconicity” (21-2238). Some statistical details of the present study can be found in Akita (2009: Chapter 4).

linguistics and ‘expressives’ in South(east) Asian linguistics.¹ As illustrated in (1) and (2), Japanese iconic words can depict not only auditory but also non-auditory experiences, such as visual, textural, and emotional ones.

- (1) Auditory (i.e. onomatopoeic):²
- a. Neko-ga **nya^anyaa** nai-te i-ta. (animate)
cat-NOM IW cry-CONJ be-PST
‘A cat was crying *meow-meow*.’
 - b. Huurin-ga **riiN^**-to nat-ta. (inanimate)
wind.bell-NOM IW-QUOT sound-PST
‘A wind-bell sounded *ring*.’
- (2) Non-auditory:
- a. Hosi-ga **ki^rakira** kagayai-te i-ru. (visual)
star-NOM IW shine-CONJ be-NPST
‘A star is shining *in a twinkling manner*.’
 - b. Ame-ga yan-de **hoQ**-to si-ta. (emotional)
rain-NOM stop-CONJ iw-QUOT do-PST
‘[I] got *relieved* that it stopped raining.’

The definition of iconic words has been one of the hardest problems in the study of this word class in both Japanese (Hamano 1998: 6–7; Tamori and Schourup 1999) and other languages (Fortune 1962; P. Newman 1968, 2001; Johnson 1976; Fordyce 1983; Childs 1994; Bartens 2000; Bodomo 2006; Dingemanse, 2011). It is largely agreed upon that iconic words are basically morphophonologically marked and noncanonical (Samarin

1. The term ‘sound symbolism’ refers to a phenomenon in which the form and meaning of a word have a (partial) iconic, motivated relationship. Sound symbolism in a broad sense can be found at both morphophonological (e.g. reduplication, syllable structure, prosody) and segmental levels (e.g. vowel height, labiality, voicing of obstruents). Generally speaking, the former instantiates diagrammatical iconicity, whereas the latter instantiates imagic iconicity in Peirce’s (1932) terminology (cf. Haiman 1980:515). In the psychological tradition, the imagic (or phonosemantic) type of sound symbolism, which is also an instance of phonetic/phonological iconicity, is often called “phonetic symbolism” (Sapir 1929). Words with clear sound symbolism are generally called ‘sound-symbolic words’ or ‘iconic words’. They illustrate lexical iconicity.

2. Abbreviations and symbols used in this paper are as follows:

C = consonant; CONJ = conjunctive; IW = iconic word; N = moraic nasal (only for iconic and novel words); NOM = nominative; PST = past; Q = first half of a geminate cluster (realized as an unpronounced obstruent, as in *hoQ-to* /hotto/ in (2b)); QUOT = quotative; TOP = topic; V = vowel; VV = long vowel; ^ = pitch fall (only for iconic and novel words); - (hyphen) = reduplicant boundary (only in templatic representations of words).

1971; Hinton et al. 1994: 9; Klamer 2002), as represented by their general preference for reduplicative forms (e.g. (1a), (2a)). However, there has been no successful attempt to define iconic words from a semantic or phonosemantic point of view.

Often cited, Doke's general definition of an iconic word covers its semantic aspect: "[a] vivid representation of an idea in sound", where an idea is about "manner, colour, sound, smell, action, state or intensity" (1935: 118). Doke's mention of 'vividness' may be compatible with the fairly distinct phonosemantic status given to iconic words by their native users (Tamori and Schourup 1999: 8). Nevertheless, this kind of impressionistic characterization is many removes from being empirical. The present paper approaches this problem from a pair of experiments with Japanese speakers, pointing out that referential specificity, in addition to peculiar morphophonology, is a general requirement for the special depictive function of iconic words.

The organization of this paper is as follows. Section 2 will provide a brief survey of previous arguments about the phonosemantics of Japanese words, setting up the research question to be examined. Section 3 will introduce the previously identified formal condition of Japanese iconic words, which is formulated in terms of schematic morphophonological templates. Section 4 will report the first experiment, which used novel words whose referents were not fully specified, and show that the formal condition alone cannot define iconic words. Section 5 will report the second experiment, whose stimuli were referentially fully specified by concrete contexts. The results will lead us to conclude that iconic words do have special sound-symbolic semantics and that it is crucially based on their referential specificity as well as their morphophonological markedness.

2. Japanese phonosemantics

As extensively described by Hamano (1998), Japanese iconic words show more or less systematic phonosemantic correspondences with respect to their componential consonants and vowels. Since Sapir's (1929) *mal* vs. *mil* experiment, it has been reported for many languages that the vowel /a/ tends to be associated with large referents, and the vowel /i/ with small referents (see also S. Newman 1933; Brown 1958; Ultan 1978). The most widely accepted account of the prevalence of vocalic magnitude symbolism seems to be an articulatory one, which focuses on the iconic relationship between the size of oral cavity in the articulation of these vowels and that of referents. However, acoustic or sensory-motor explanations have also been proposed (see Ohala 1994; Oda 2000; Masuda 2005). Moreover, some studies point out the tendency that /a/ is linked with dark, soft, and dull referents, whereas /i/ is linked with bright, hard, and sharp ones (Bentley and Varon 1933; Koriati and Levy 1977, among others).

This widespread vocalic symbolism seems to be basically shared by Japanese iconic words. For example, *pakuQ*[^] depicts a wide-open aperture like a mouth, whereas

pikuQ[^] represents a small twitch of a body part. However, as suggested by the fact that these two words do not form a semantic minimal pair, (Modern) Japanese only has implicit vocalic symbolism (see Fordyce 1983; Childs 1994; and Dingemanse, 2011 for languages with explicit vocalic symbolism). Minimal semantic distinctions are instead mainly made by the voicedness of initial consonants (*C*₁) (see Hamano 1998: 131–132; Haryu and Zhao 2007; Akita, to appear). Overall, iconic words with a voiced *C*₁ depict large, strong, dark, and/or unpleasant referents, and those with a voiceless *C*₁ small, weak, bright, and/or pleasant referents. For instance, *za*[^]*razara* and *sa*[^]*rasara* are minimally different from each other with respect to *C*₁ voicedness. The former refers to a rough, coarse surface (e.g. of sandpaper), whereas the latter refers to a dry and smooth surface (e.g. of sand).

The table below (Table 1) summarizes the general contrastive sound symbolism of consonants and vowels of Japanese iconic words, which will serve as a reference for the experimental observations in the present study. No description is available for the hardness symbolism of *C*₁. Note that consonantal, but not vocalic, symbolism is said to be subject to positional effects: namely, sound-symbolic values are different between *C*₁ and *C*₂ (Hamano 1998).

Table 1. Sound symbolism of Japanese iconic words

	<i>C</i> ₁		<i>V</i>			
	Voiced		Voiceless	/a/		/i/
Magnitude	large	>	small	large	>	small
Brightness	dark	<	bright	dark	<	bright
Hardness	—		—	soft	<	hard

What is especially worth paying attention to in the discussion of Japanese phono-semantics is the idea that sound symbolism exists explicitly or implicitly in the regular (‘non-iconic’) vocabulary as well. First, Hamano (1998: 190) does not fail to note that there are a few nouns with a voiced *C*₁ that were deliberately made from their voiceless counterparts with the aim of sound-symbolically expressing the unpleasantness of their referents. Below follow some examples:

- (3)

gara ‘chicken bones for stock’ (inedible part of chicken)
dama ‘lumps in cream sauce’
dori ‘inedible internal organs of chicken’
zama ‘sloppy appearance’

<
<
<
<

kara ‘husk, shell’
tama ‘ball’
tori ‘chicken, bird’
sama ‘appearance’
- (adapted from Hamano 1998: 190)

Going one step further, some researchers suggest the ubiquity of covert sound symbolism in the language. Makino and Tsutsui (1986: 55–56) and Makino (2007),

who take an extreme standpoint, point out the existence of a phonosemantic motivation in several pairs of function words. According to them, there is some stylistic difference between each pair in near synonymy in (4). The words in the left column (i.e. those with an alveolar nasal C_1) have formal or polite tones (“more personal, subjective and speaker-oriented” tones in Makino and Tsutsui’s terminology), whereas the words in the right column (i.e. those with a velar plosive C_1) have informal tones.

(4)	<i>-no</i>	vs.	<i>-ka</i>	(question marker)
	<i>-no</i>	vs.	<i>-koto</i>	(nominalizer)
	<i>-node</i>	vs.	<i>-kara</i>	‘because’
	<i>-noni</i>	vs.	<i>-ke(re)do/-ga</i>	‘although’

(adapted from Makino and Tsutsui 1986: 55–56)

Furthermore, Makino and Tsutsui posit some phonosemantic correspondences in adjectives. For instance, they remark that adjective roots ending in /si/ are associated with “human emotive psychological states” (e.g. *kanasi-* ‘sad’, *sabisi-* ‘lonely’, *uresi-* ‘happy’) (1986: 56). Likewise, the Japanese size adjectives *ooki-* ‘large’ and *tiisa-* ‘small’ are often regarded as instances of vocalic magnitude symbolism in the regular lexicon. Similar to these observations are the positive results of some earlier crosslinguistic phonosemantic investigations of actual lexical items, such as diminutives (Ulan 1978) and deictic/distal words (Tanz 1971; Woodworth 1991; Traunmüller 1996). Thus, it is suggested that words tend to be invented to sound-symbolically fit their referential meanings. In other words, sound symbolism is not a phenomenon unique to a particular word class (i.e. iconic words).

This conclusion, however, can be a challenge to the above-mentioned assumption that iconic words are phonosemantically definable. In order to solve this paradox, we have to show that the sound symbolism of iconic words is clearer or more consistent than that of regular words. I will therefore explicate two conditions that qualify iconic words as phonosemantically special. The next section will summarize the morphophonological properties of iconic words, which constitute the first condition. A pair of experiments in Sections 4 and 5 will reveal the marked referentiality of iconic words as the second condition.

3. Morphophonological condition of iconic words

As discussed in Akita (2008; 2009: Chapter 4), Japanese iconic words have characteristic morphophonological properties, which seem to make a primary delimitation of the category. Specifically, almost all iconic words satisfy one of fifteen morphophonological templates, which are schematically represented with actual examples in (5). (For the sake of simplicity, the subscription for bimoraic roots of iconic words will be omitted in the rest of this paper.)

(5) Morphophonological templates for Japanese iconic words:³

a. Monomoraic (CV) root-based:

CVQ(^) (e.g. *niQ*^ 'grinning', *soQ* 'gentle')CV(^)N(^) (e.g. *do*^N 'bang', *tyoN*^ 'flipping')CViQ^ (e.g. *guiQ*^ 'jerking', *poiQ*^ 'tossing')CV(^)V(^) (e.g. *bu*^u 'oink', *pii*^ 'beep')CV^V-CVV (e.g. *bu*^u*buu* 'complaining', *za*^*azaa* 'raining hard')CVV-CVV (e.g. *gyuugyuu* 'jam-packed', *noonoo* 'carefree')CV^N-CVN (e.g. *ku*^N*NkuN* 'sniff-sniff', *pyo*^N*NpyoN* 'hopping')CVN-CVN (e.g. *paNpaN* 'fully inflated', *ruNruN* 'cheerful')CV^i-CVi (e.g. *su*^*isui* 'swimming/flying lightly', *tyo*^*ityoi* 'frequent')b. Bimoraic (C₁V₁C₂V₂) root-based:C₁V₁^C₂V₂-C₁V₁C₂V₂ (e.g. *me*^*ramera* 'blazing up', *ni*^*yaniya* 'smirking')C₁V₁C₂V₂-C₁V₁C₂V₂ (e.g. *berobero* 'dead drunk', *pasapasa* 'dried out')C₁V₁C₂V₂Q^ (e.g. *kuruQ*^ 'turning', *zokuQ*^ 'thrilled')C₁V₁C₂V₂(^)N(^) (e.g. *bata*^N 'slam', *koroN*^ 'rolling')C₁V₁C₂V₂^ri (e.g. *hyoro*^ri 'lanky', *pota*^ri 'dripping')C₁V₁CC₂V₂^ri (e.g. *doQki*^ri 'startled', *huNwa*^ri 'fluffy')

Akita reports that 23.12% (382) and 76.33% (1,261) of the 1,652 entries (supplemented) in Kakehi et al.'s (1996) dictionary of iconic words fit or are related to one of these mono- and bimoraic root-based templates, respectively. For example, *niQ*^, *me*^*ramera*, and *huNwa*^ri satisfy CVQ^, CV^CV-CVCV, and CVCCV^ri, respectively. Only nine (conventional) iconic words (.54%), such as *kokekoQko*^o 'cock-a-doodle-doo', are judged as not related to any productive template. Moreover, it is argued that these templates are shared by a limited number of 'semi-iconic' words (e.g. *siwasiwa* 'wrinkled' (< *siwa* 'wrinkle'), *siNmi*^ri 'pensive' (< *sim*- 'soak')), which derive from regular verbs, nouns, or adjectives.

Importantly, the same study also reveals the psychological reality of the great coverage of the templates. It is reported that native Japanese speakers' ratings of 'mimeticity' (i.e. the degree to which a word is iconic) of existent and novel words were crucially dependent on their satisfaction of the templates. Therefore, although the morphophonological condition is neither necessary nor sufficient in a strict sense, it plays an unarguably significant part in the definition of iconic words in the

3. Initial consonants are absent in some iconic words (e.g. *o*^*NoN* 'weeping', *i*^*raira* 'irritated'). Based on the fact that Japanese iconic words as such are categorially unspecified – realized as (part of) an adverb, verb, adjective, or noun root – their approximate meanings are given in a participial (or onomatopoeic bare) form.

Japanese lexicon (or it is a strong ‘prototype condition’). Nevertheless, it will turn out below that this condition alone cannot totally define the word class.

4. Experiment 1: The morphophonological condition as a non-sufficient condition

In this section, I will show the limits of the morphophonological condition by contrasting the basic sound-symbolic values of consonants and vowels of novel words satisfying and not satisfying the templates in (5) (see Akita (to appear) for a preliminary investigation). If the morphophonological condition is not the only condition for Japanese iconic words, its mere satisfaction should not directly yield special phonosemantics in question.

4.1 Method and prediction

Twelve novel bimoraic roots, which exist in neither the iconic nor the regular lexicon of Japanese, were put in five existent morphophonological templates from (5b) (‘A templates’) and five novel templates (‘B templates’), which have no derivational relation to those in (5b). The CVCVQ[^] template was not included because its geminate part /Q/ is difficult to perceive without a subsequent consonant (see note 2). The novel roots were created based on two factors: the voicedness of C₁ (voiced: /g/, /z/, /b/ vs. voiceless: /k/, /s/, /p/) and the quality of V₁ (/a/ vs. /i/).⁴ The second mora was fixed to /nu/. Table 2 lists all stimuli used.

Table 2. Stimulus words for Experiment 1

A. Existent templates for iconic words				
CVCVN [^]	CVCV-CVCV	CV [^] CV-CVCV	CVCV [^] ri	CVCCV [^] ri
C ₁ = voiced				
ganuN [^]	ganuganu	ga [^] nuganu	ganu [^] ri	gaNnu [^] ri
ginuN [^]	ginuginu	gi [^] nuginu	ginu [^] ri	giNnu [^] ri
zanuN [^]	zanuzanu	za [^] nuzanu	zanu [^] ri	zaNnu [^] ri
zinuN [^]	zinuzinu	zi [^] nuzinu	zinu [^] ri	ziNnu [^] ri
banuN [^]	banubanu	ba [^] nubanu	banu [^] ri	baNnu [^] ri
binuN [^]	binubinu	bi [^] nubinu	binu [^] ri	biNnu [^] ri

(Continued)

4. In Japanese phonology, /a/ and /i/ stand in contrast with respect to height (/a/ = low vs. /i/ = high) and backness (/a/ = back vs. /i/ = front).

Table 2. Stimulus words for Experiment 1 (Continued)

A. Existent templates for iconic words				
CVCVN^	CVCV-CVCV	CV^CV-CVCV	CVCV^ri	CVCCV^ri
C1 = voiceless				
kanuN^	kanukanu	ka^nukanu	kanu^ri	kaNnu^ri
kinuN^	kinukinu	ki^nukinu	kinu^ri	kiNnu^ri
sanuN^	sanusanu	sa^nusanu	sanu^ri	saNnu^ri
sinuN^	sinusinu	si^nusinu	sinu^ri	siNnu^ri
panuN^	panupanu	pa^nupanu	panu^ri	paNnu^ri
pinuN^	pinupinu	pi^nupinu	pinu^ri	piNnu^ri
B. Novel templates				
C ₁ V ₁ V ₁ C ₂ V ₂ V ₂	C ₁ V ₁ ^V ₁ C ₂ V ₂	C ₁ V ₁ ^V ₁ C ₂ V ₂ N	C ₁ V ₁ C ₂ V ₂ ^NC ₁ V ₁	C ₁ V ₁ ^C ₂ V ₂ C ₂ V ₂
C ₁ = voiced				
gaanuu	ga^anu	ga^anuN	ganu^Nga	ga^nunu
giinuu	gi^inu	gi^inuN	ginu^Ngi	gi^nunu
zaanuu	za^anu	za^anuN	zanu^Nza	za^nunu
ziinuu	zi^inu	zi^inuN	zinu^Nzi	zi^nunu
baanuu	ba^anu	ba^anuN	banu^Nba	ba^nunu
biinuu	bi^inu	bi^inuN	binu^Nbi	bi^nunu
C ₁ = voiceless				
kaanuu	ka^anu	ka^anuN	kanu^Nka	ka^nunu
kiinuu	ki^inu	ki^inuN	kinu^Nki	ki^nunu
saanuu	sa^anu	sa^anuN	sanu^Nsa	sa^nunu
siinuu	si^inu	si^inuN	sinu^Nsi	si^nunu
paanuu	pa^anu	pa^anuN	panu^Npa	pa^nunu
piinuu	pi^inu	pi^inuN	pinu^Npi	pi^nunu

For the confirmation of the importance of the morphophonological condition introduced in Section 3, twenty native speakers of Japanese were asked to judge the mimeticity of all the stimuli on a seven-point scale from 0 ‘not mimetic at all’ to 6 ‘very mimetic’. As a result, the words with an A template (e.g. *ganuN^*) were judged as more mimetic than those with a B template (e.g. *gaanuu*) (*M*’s = .61 and .35, respectively, recalculated to range from 0 to 1). The striking effect of the template condition received statistical support (*F* (1, 2396) = 741.87, *p* < .001, η^2 = .24).⁵

In the main experiment, native speakers of Japanese were asked to evaluate the randomly presented novel words recorded in a female voice in terms of the three

5. An eta square score, which ranges from 0 to 1, is an index of the effect size of a factor.

best-explored semantic dimensions: namely, magnitude (11 females, 9 males; M age = 28.45), brightness (11 females, 6 males; M age = 28.59), and hardness (9 females, 11 males; M age = 28.15).⁶ The referent objects or actions (e.g. manner of walking) of the words were freely imagined. The evaluation scales ranged from 1 ‘very small/dark/soft’ to 7 ‘very large/bright/hard’. All three sub-experiments were preceded by a training phase with ten novel words.

Our prediction was consistent across the three semantic dimensions. If the morphophonological condition alone cannot define iconic words, the A words (e.g. *ganuN*[^]) and the B words (e.g. *gaanuu*), which only differ in their morphophonology, should make no notable phonosemantic difference.

4.2 Results and discussion

The prediction was borne out. In all three sub-experiments, it was not true that the A words yielded greater sound-symbolic contrasts than the B words.

First of all, the present experiment replicated and supplemented the phonosemantic correspondences introduced in Table 1. For all three dimensions, the voicedness of C_1 (e.g. *ganuN*[^] vs. *kanuN*[^]) yielded greater sound-symbolic contrasts than the quality of V_1 (e.g. *ganuN*[^] vs. *ginuN*[^]). This result is consistent with the aforementioned fact that voicedness is the main feature in Japanese sound symbolism.

Concretely, as shown in Table 3, association with size was evident in both consonants (voiced > voiceless; $F(1, 299) = 288.11, p < .001, \eta^2 = .17$) and vowels ($/a/ > /i/$; $F(1, 299) = 97.22, p < .001, \eta^2 = .03$). In the rest of this paper, results for each stimulus group will be presented in recalculated mean scores (between -1 and 1).

Table 3. The results of Experiment 1 (magnitude)

C_1	V_1	Template	
		Existent (A)	Novel (B)
Voiced	/a/	.19	.23
	/i/	.003	.05
Voiceless	/a/	-.24	-.15
	/i/	-.38	-.30

6. The sound pressure level of all stimuli with $/i/$ at V_1 , which were expected to be rated as smaller, was raised by 6 dB. If words with $V_1 /a/$ are judged as larger even under this condition – as the case will turn out in Section 4.2 – it can be confirmed that magnitude ratings were conducted based on sound symbolism rather than the volume of the recording (Haryu and Zhao 2007).

Table 4 summarizes the results for brightness judgments. While voicedness again yielded striking rating contrasts (voiced < voiceless) ($F(1, 254) = 354.06, p < .001, \eta^2 = .15$), the vocalic feature only yielded moderate contrasts ($/a/ < /i/$) ($F(1, 254) = 5.95, p < .05, \eta^2 = .002$).

Table 4. The results of Experiment 1 (brightness)

C ₁	V ₁	Template	
		Existent (A)	Novel (B)
Voiced	/a/	-.26	-.25
	/i/	-.25	-.16
Voiceless	/a/	.14	.07
	/i/	.11	.15

Table 5 shows the mean hardness scores obtained. Voiced consonants (e.g. *ganuN*[^]) were associated with harder objects than voiceless ones (e.g. *kanuN*[^]) ($F(1, 299) = 134.02, p < .001, \eta^2 = .09$). Meanwhile, vowel quality did not present such a sound-symbolic contrast ($F(1, 299) = .00, p = 1.00, \eta^2 = .00$). These results not only make up for the blanks in Table 1, but also suggest the weakness of vocalic symbolism in this semantic dimension.⁷

Table 5. The results of Experiment 1 (hardness)

C1	V1	Template	
		Existent (A)	Novel (B)
Voiced	/a/	.19	.21
	/i/	.19	.22
Voiceless	/a/	-.10	-.07
	/i/	-.13	-.05

7. The results here also suggest an interesting challenge concerning the relationships among sound-symbolic dimensions. According to Table 1, in magnitude symbolism and brightness symbolism, a voiced C₁ behaves in parallel with /a/, and a voiceless C₁ behaves in parallel with /i/. On the other hand, in hardness symbolism, one has to give up the parallels in order to retain both Table 1 (i.e. /a/ < /i/) and the present result for C₁ symbolism (i.e. voiced > voiceless). This likely cross-dimensional mismatch suggests the need for investigation into the synesthetic difference between consonantal and vocalic symbolism.

Next, more importantly, the existent vs. novel distinction in morphophonology (e.g. *ganuN*[^] vs. *gaanuu*) did make a difference in magnitude ratings ($F(1, 299) = 10.61, p < .01, \eta^2 = .005$) and hardness ratings ($F(1, 299) = 8.21, p < .01, \eta^2 = .002$), but did not in brightness ratings ($F(1, 254) = .60, p = .44, \eta^2 = .0003$). However, these results do not directly support the idea that the morphophonological condition alone can be enough to guarantee privileged phonosemantics. Specifically, as can be seen in Tables 3 and 5, the rating differences between A and B were common to all A – B pairs (i.e. all rows of the tables): the B templates shifted in the positive direction not only the largeness/hardness ratings but also the smallness/softness ratings. This means that the novel templates (e.g. $C_1V_1V_1C_2V_2V_2$) themselves evoked larger and harder images than the existent templates of iconic words (e.g. CVCVN[^]). In statistical terms, this fact can be stated as the absence of between-factor interactions. Concerning the magnitude ratings, the morphophonological template condition yielded no significant interaction with the consonantal condition ($F(1, 299) = 3.03, p = .08$) or the vocalic condition ($F(1, 299) = .001, p = .98$). Similarly, concerning the hardness ratings, it showed a significant interaction neither with the consonantal condition ($F(1, 299) = 1.42, p = .23$) nor with the vocalic condition ($F(1, 299) = .92, p = .34$). Thus, we can conclude that the morphophonological condition is not sufficient for distinct phonosemantics, which is expected for iconic words.⁸

5. Experiment 2: Referential condition of iconic words

This section argues that, in the definition of iconic words in Japanese and perhaps in other languages as well, we must acknowledge a referential (or lexical-semantic) condition in addition to the self-evident morphophonological condition. This point will be made clear based on a phonosemantic experiment using novel words with fully specified referential contexts, which were critically absent in Experiment 1.

5.1 Method and prediction

This experiment was a paper-based one, minimally designed based on the above findings. Twenty native Japanese speakers (2 females, 18 males; *M* age = 19.65) were

8. There can be another interpretation for the current results. As Bentley and Varon (1933) and Brown (1958) remark, people tend to depend strongly on sound symbolism in understanding novel words without referential specification. If this was also true in our experiment, the absence of phonosemantic contrast between the A and B words might come from their full phonosemantic interpretation. Importantly, this alternative account is based on the referentiality of words, which I will discuss as a key notion in sound symbolism in Experiment 2.

asked to make relative evaluations for each of thirty sets of four sentences in terms of the magnitude of their specific referents (e.g. the length of walking strides). A five-point scale from 1 ‘very small’ to 5 ‘very large’ was employed for the magnitude ratings for the 120 sentences.

Four sentences in each set shared a sentence frame (e.g. ‘Someone [bent] an iron board’), only differing from one another with respect to their predicate forms. Two of them were predicated by a complex verb made up of an existent or novel word with an existent template for iconic words (i.e. A template) and the semantically skeletal dummy verb *su-* ‘do’ (e.g. *zawazawa su-* ‘rustle’, *tekoteko su-* ‘walk lightly’ (intended)), which is a productive iconic- verb form. The other two sentences were predicated by a verb consisting of an existent or novel root and a verbal suffix (e.g. *zawa-tuk-* ‘rustle’, *teko-r-* ‘walk lightly’ (intended)), which is a semi-productive verb form with a reduced iconic tone (for these verb forms, see Akita 2009: Chapter 6). These two types of predicates shared the sixty bimoraic roots listed with their ‘intended’ verbal meanings in Table 6, whose first row designates the morphophonological templates assigned to them. Each root with a voiced C_1 (e.g. *deko*, *zawa*) was paired with its voiceless counterpart (e.g. *teko*, *sawa*). Novel roots were basically created on the basis of Hamano’s (1998) fine-grained descriptions of the phonosemantic system of Japanese.

Table 6. Stimulus roots for Experiment 2

	CV [^] CV-CVCV	CVCVQ [^]	CVCV(^)N(^)	CVCV [^] ri	CVCCV [^] ri
Existent	1. <i>zawa/sawa</i> (rustle)	4. <i>zara/sara</i> (feel rough)	7. <i>bati/pati</i> (slap)	10. <i>bura/pura</i> (ramble)	13. <i>gati/kati</i> (be sturdy)
	2. <i>gira/kira</i> (glitter)	5. <i>boko/poko</i> (beat)	8. <i>guru/kuru</i> (spin)	11. <i>bata/pata</i> (slam down)	14. <i>zito/sito</i> (feel moist)
	3. <i>doku/toku</i> (glug)	6. <i>doro/toro</i> (drip)	9. <i>gata/kata</i> (rattle)	12. <i>bero/pero</i> (lick)	15. <i>zaku/saku</i> (chop)
Novel	16. <i>deko/teko</i> (walk lightly)	19. <i>gusi/kusi</i> (stub)	22. <i>guku/kuku</i> (gulp)	25. <i>beke/peke</i> (break)	28. <i>buko/puko</i> (expand)
	17. <i>gasyu/kasyu</i> (crumple)	20. <i>zeku/seku</i> (throb)	23. <i>deko/teko</i> (bang)	26. <i>batyo/patyo</i> (splash)	29. <i>buke/puke</i> (swell)
	18. <i>giru/kiru</i> (twinkle)	21. <i>deru/teru</i> (slurp)	24. <i>bite/pite</i> (shut)	27. <i>guro/kuro</i> (go around)	30. <i>geko/keko</i> (be dejected)

The order of the thirty sets was randomized, but four sentences in each set were given in fixed order – voiced, template-satisfying (e.g. *za[^]wazawa su-*) > voiceless, template-satisfying (e.g. *sa[^]wasawa su-*) > voiced, template-free (e.g. *zawa-tuk-*) > voiceless, template-free (e.g. *sawa-tuk-*) – to facilitate the intended comparisons.

Our prediction was opposite to the one we made for Experiment 1. Assuming that our sentence frames successfully assigned specific referential meanings to the predicates,

the voicedness-based rating contrasts (i.e. voiced > voiceless) should be sharper between the template-satisfying stimuli (e.g. *za[^]wazawa su-* vs. *sa[^]wasawa su-*) than between the template-free ones (e.g. *zawa-tuk-* vs. *sawa-tuk-*).

5.2 Results and discussion

The prediction was again borne out. As shown by the recalculated mean ratings in Table 7, the expected consonantal magnitude symbolism was obtained in both template-satisfying and template-free sentences ($F(1, 299) = 161.51, p < .001, \eta^2 = .03$).

Table 7. The results of Experiment 2

C_1	Root	Template	
		Satisfying	Free
Voiced	Existent	.65	-.36
	Novel	.50	-.42
Voiceless	Existent	.43	-.50
	Novel	.19	-.56

What is crucial for our discussion is that the template-satisfying stimuli (e.g. *za[^]wazawa/sa[^]wasawa su-*) were judged as by far larger than the template-free ones (e.g. *zawa/sawa-tuk-*) ($F(1, 299) = 1769.14, p < .001, \eta^2 = .49$). Moreover, a significant interaction was obtained between the consonantal and morphophonological conditions ($F(1, 299) = 26.99, p < .001$). This means that the phonosemantic contrasts between the voiced and voiceless consonants were greater in the template-satisfying (e.g. *za[^]wazawa su-* vs. *sa[^]wasawa su-*) than in the template-free predicates (e.g. *zawa-tuk-* vs. *sawa-tuk-*). Paired with Experiment 1, the present result means that Japanese iconic words must be defined both formally (i.e. morphophonologically) and functionally (i.e. referentially).

This conclusion is reinforced by the significant contribution of the third factor (i.e. the novelty of roots) ($F(1, 299) = 48.23, p < .001, \eta^2 = .01$) and its near-significant interaction with the other two (i.e. voicedness and morphophonological templates) ($F(1, 299) = 3.40, p = .07$). That is, the voicedness-based magnitude contrasts, which were sharper in the template-satisfying predicates, were still clearer in the predicates with an existent root (e.g. *za[^]wazawa su-* vs. *sa[^]wasawa su-*) than in those with a novel root (e.g. *de[^]kodeko su-* vs. *te[^]koteko su-*). This trend can be interpreted in favor of the proposed referential condition of iconic words. It is likely that the familiarity of roots helped the subjects access the intended referent scenes based on their lexical knowledge. Consequently, it can be emphasized that referential specificity plays an important role in the occurrence of special phonosemantic effects, which, in turn,

together with peculiar morphophonology, give rise to the perceived categorial salience of iconic words.

Our findings are further compatible with the exceptional semantics of some highly fixed semi-iconic adverbs. As is often true for languages abundant in iconic words, Japanese has a set of words that can be located around the boundary of the iconic word category (Tamori and Schourup 1999: 68–69; Childs 2001). Of particular relevance to the present discussion are semi-regular adverbs like (6).

- (6) *do[^]NdoN* ‘steadily and rapidly’, *do[^]sidosi* ‘unreservedly’, *meQki[^]ri* ‘remarkably’, *siQka[^]ri* ‘tightly, surely’, *suQka[^]ri* ‘completely’, *teQki[^]ri* ‘(misunderstand) completely’, *tyo[^]kutyoku* ‘from time to time’

Despite the fact that these words satisfy the productive templates for iconic words (i.e. CV[^]N-CVN, CV[^]CV-CVCV, CVCCV[^]ri), they sound less iconic and are often conceived as regular adverbs (see Akita 2008; 2009: Chapter 2) for an experimental substantiation of this intuition). From the viewpoint of our referential condition, the ‘de-iconization’ in these examples is attributable to the abstraction of their referents. As can be known from their translations, these adverbs represent an abstract manner, degree, or frequency, which is obviously less specific than what the majority of iconic manner words represent, such as *to[^]botobo* ‘plodding’, *niQko[^]ri* ‘smiling’, and the examples given in earlier sections. Thus, we can now clearly point out a natural correlation between the specificity of referentiality and the degree of perceived iconicity of words.

6. Conclusion

This paper has empirically established the (phono)semantic definition of iconic words in Japanese, which have been treated as ‘sound-symbolic words’ on intuitive and impressionistic grounds. A pair of phonosemantic experiments clarified the existence and origin of their special (or ‘vivid’) sound-symbolic properties. It has been claimed that both of the lexical peculiarities (i.e. morphophonological and referential ones) of iconic words must be taken into account in their phonosemantic definition. It does not seem impractical to think that the two peculiar facets of iconic words are iconically linked with each other based on the natural correspondence between marked form and marked meaning (Klamer 2002).

With its generality, the present fundamental improvement in the understanding of the semantics of iconic words seems to be extensible to other languages. Furthermore, our attention to lexical referentiality – which is the basis for a semantic investigation, but which tends to be slighted in the study of ‘imagistic’ values of consonants and vowels – will allow us to invite these apparently peripheral vocabulary items to general semantic theories.

References

- Akita, K. 2008. Onsyootyoogo-no 'hantyuuka-mondai'-e-no hitotu-no kotae: Tamori & Schourup (1999)-e-no ripurai (Defining the mimetic category in the Japanese lexicon: A reply to Tamori and Schourup (1999)). In *Proceedings of the Eighth Annual Meeting of the Japanese Cognitive Linguistics Association*, 428–438. Tokyo: Japanese Cognitive Linguistics Association.
- Akita, K. 2009. A Grammar of Sound-Symbolic Words in Japanese: Theoretical Approaches to Iconic and Lexical Properties of Mimetics. Ph.D. dissertation, Kobe University. (http://www.lib.kobe-u.ac.jp/infolib/meta_pub/G0000003gakui_D1004724).
- Akita, K. To appear. Phonosemantic evidence for the mimetic stratum in the Japanese lexicon. In *Proceedings of the Thirty-Fourth Annual Meeting of the Berkeley Linguistics Society*. Berkeley, CA: Berkeley Linguistics Society.
- Bartens, A. 2000. *Ideophones and Sound Symbolism in Atlantic Creoles* [Suomalaisen Tiedeakatemia Toimituksia. Sarja Humaniora, Nide 304]. Helsinki: Finnish Academy of Sciences and Letters.
- Bentley, M. & Varon, E.J. 1933. An accessory study of 'phonetic symbolism'. *American Journal of Psychology* 45: 76–86.
- Bodomo, A.B. 2006. The structure of ideophones in African and Asian languages: The case of Dagaare and Cantonese. In *Selected Proceedings of the 35th Annual Conference on African Linguistics: African Languages and Linguistics in Broad Perspectives*, J. Mugane, J.P. Hutchinson & D.A. Worman (eds), 203–213. Somerville, MA: Cascadia Proceedings Project.
- Brown, R.W. 1958. *Words and Things: An Introduction to Language*. New York, NY: The Free Press.
- Childs, G.T. 1994. African ideophones. In *Sound Symbolism*, L. Hinton, J. Nichols & J.J. Ohala (eds), 178–204. Cambridge: CUP.
- Childs, G.T. 2001. Research on ideophones, whither hence? The need for a social theory of ideophones. In *Ideophones* [Typological Studies in Language 44], F.K.E. Voeltz & C. Kilian-Hatz (eds), 63–74. Amsterdam: John Benjamins.
- Dingemanse, M. 2011. The Meaning and Use of Ideophones in Siwu. Ph.D. dissertation. Nijmegen: Max Planck Institute for Psycholinguistics/Radboud Universiteit.
- Doke, C.M. 1935. *Bantu Linguistic Terminology*. London: Longmans, Green, and Co.
- Fordyce, J.F. 1983. The ideophone as a phonosemantic class: The case of Yoruba. In *Current Approaches to African Linguistics*, Vol. 1, I.R. Dihoff (ed.), 263–278. Dordrecht: Foris.
- Fortune, G. 1962. *Ideophones in Shona: An Inaugural Lecture Given in the University College of Rhodesia and Nyasaland on 28 April 1961*. London: OUP.
- Haiman, J. 1980. The iconicity of grammar: Isomorphism and motivation. *Language* 56: 515–540.
- Hamano, S. 1998. *The Sound-Symbolic System of Japanese* [Studies in Japanese Linguistics 10]. Tokyo: Kurocio.
- Haryu, E. & Zhao, L. 2007. Yuuseion-to museion-o daisyoo-ni taioo-zukeru kankaku-no kigen: Giongo-rikai-no nit-tyuu-hikaku (Understanding the symbolic values of Japanese onomatopoeia: Comparison of Japanese and Chinese speakers). *Shinrigaku kenkyu/ Japanese Psychological Research* 78: 424–432.
- Hinton, L., Nichols, J. & Ohala, J.J. 1994. Introduction: Sound-symbolic processes. In *Sound Symbolism*, L. Hinton, J. Nichols & J.J. Ohala (eds), 1–12. Cambridge: CUP.
- Johnson, M.R. 1976. Toward a definition of the ideophone in Bantu. *The Ohio State University Working Papers in Linguistics* 21: 240–253.

- Takehi, H., Tamori, I. & Schourup, L. 1996. *Dictionary of Iconic Expressions in Japanese*. Berlin: Mouton de Gruyter.
- Klamer, M. 2002. Semantically motivated lexical patterns: A study of Dutch and Kambera expressives. *Language* 78: 258–286.
- Koriat, A. & Levy, I. 1977. The symbolic implications of vowels and of their orthographic representations in two natural languages. *Journal of Psycholinguistic Research* 6: 93–103.
- Makino, S. 2007. An argument for non-arbitrary relationship between sound and meaning in Japanese grammar. In *Japanese Linguistics: European Chapter*, Y. Ikegami, V. Eschbach-Szabo & A. Włodarczyk (eds), 239–250. Tokyo: Kurosio.
- Makino, S. & Tsutsui, M. 1986. *Nihongo kihon bunpoo ziten* (A dictionary of basic Japanese grammar). Tokyo: The Japan Times.
- Masuda, K. 2005. The physical basis for phonological iconicity. In *Insistent Images [Iconicity in Language and Literature 5]*, E. Tabakowska, C. Ljungberg & O. Fischer (eds), 57–71. Amsterdam: John Benjamins.
- Newman, P. 1968. Ideophones from a syntactic point of view. *Journal of West African Languages* 5: 107–117.
- Newman, P. 2001. Are ideophones really as weird and extra-systematic as linguists make them out to be? In *Ideophones [Typological Studies in Language 44]*, F.K.E. Voeltz & C. Kilian-Hatz (eds), 251–258. Amsterdam: John Benjamins.
- Newman, S.S. 1933. Further experiments in phonetic symbolism. *The American Journal of Psychology* 45: 53–75.
- Oda, H. 2000. An Embodied Semantic Mechanism for Mimetic Words in Japanese. Ph.D. dissertation, Indiana University.
- Ohala, J.J. 1994. The frequency code underlies the sound-symbolic use of voice pitch. In *Sound Symbolism*, L. Hinton, J. Nichols & J.J. Ohala (eds), 325–347. Cambridge: CUP.
- Peirce, C.S. 1932. *Collected Papers of Charles Sanders Peirce*, Vol. 2. Cambridge, MA: Harvard University Press.
- Samarin, W.J. 1971. Survey of Bantu ideophones. *African Language Studies* 12: 130–168.
- Sapir, E. 1929. A study in phonetic symbolism. *Journal of Experimental Psychology* 12(3): 225–239.
- Tamori, I. & Schourup, L. 1999. *Onomatopoe: Keitai-to imi* (Onomatopoeia: Form and meaning) [*Japanese-English Contrastive Studies* 6]. Tokyo: Kurosio.
- Tanz, C. 1971. Sound symbolism in words relating to proximity and distance. *Language and Speech* 14: 266–276.
- Trauttmüller, H. 1996. Sound symbolism in deictic words. *Quarterly Progress and Status Report* 37: 147–150. Stockholm: KTH Royal Institute of Technology.
- Ullian, R. 1978. Size-sound symbolism. In *Universals of Human Language*, Vol. 2: *Phonology*, J. Greenberg (ed.), 525–567. Stanford, CA: Stanford University Press.
- Woodworth, N.L. 1991. Sound symbolism in proximal and distal forms. *Linguistics* 29: 273–299.

Iconic thinking and the contact-induced transfer of linguistic material

The case of Japanese, signed Japanese, and Japan Sign Language

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Stated very simply iconic thinking is the ability to recognize similarities in different phenomena. This way of thinking can often lead to imitation and borrowing when languages come into contact, two important methods that languages have available to them for forming new words and enriching their lexicons. These methods, along with many others, are available to all languages, including sign languages. The present analysis describes how lexical borrowing and word-formation processes in Japan Sign Language (JSL) interact to expand JSL's lexicon and grammar. The first portion of the analysis illustrates how the structures of words in spoken Japanese can be borrowed into JSL (and an interlanguage, Signed Japanese [SJ]) and then how this can influence the development and use of manual affixes for the transfer of meaning and syntactic relations.

Can we imagine a golden age when all the words were young and...transparent...? If such an age existed, it was one of perfect harmony: things revealed their value in words, and words captured the most salient features of things. — Anatoly Liberman

1. Introduction

For most of the older languages of the world, the golden age of transparency – if it ever really existed – to which Anatoly Liberman (2005:8) refers in the above quotation has, unfortunately, passed. It may not be too late, however, to observe some of this transparency in a number of the younger languages of the world. For example, for most sign languages, it may still be early enough in their evolution and development to call the present age the ‘golden age’. That is, in many young sign languages, the metaphors and other forms of iconicity originally instrumental in the formation of the signs are still somewhat transparent, although the iconicity might not be so apparent on first glance. For example, the four signs below are iconic in origin, but are not understandable without some explanation.

The first three signs, (1a), (1b), and (1c), all have the same meaning, and all are originally (partially) iconic, but they are formed differently. The first two are Japan Sign Language (JSL) signs, while (1c) is from American Sign Language (ASL).

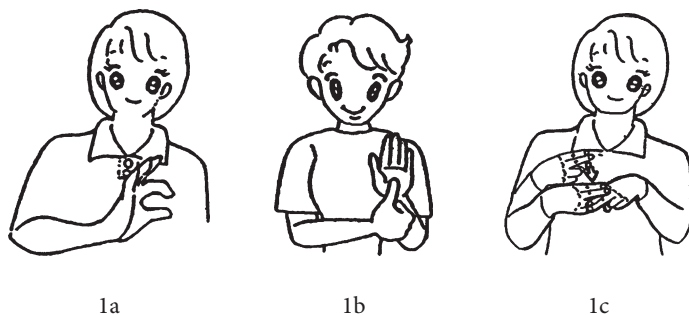


Figure 1.

How can signs that are iconic look so different? The signs in (1a) and (1b) both mean NAME, and (1a) is used mainly in the western part of Japan, while (1b) is used mainly in the eastern part. The sign in (1a) is an iconic representation of a name card on a lapel or shirt pocket. The sign in (1b) is a bit more complicated. The sign originally was signed a bit differently, with the non-dominant left hand more in front of the body with the palm facing upwards, and the thumb of the dominant right hand was then pressed down on the upturned left palm, as if giving a thumb print. This is in fact what was originally iconic about the sign; it was originally an imitation of the movements of a person providing a thumb print to 'sign' his/her name. Many years ago in Japan, people signed their names using a special stamp, or if they did not have a stamp (or could not write their name), a thumb print was provided. Over the years, this sign has seen some phonetic reduction, and is now expressed in a more neutral position, as shown in (1b).

The ASL sign in (1c) also means NAME, and the question is how can a sign that looks so different still be iconic and have the same meaning. The reasons are both cultural and historical. In the past, in the United States as well, there were many people who sometimes needed to sign their names, but for one reason or another, were not able to read or write. This group of people often included deaf people. In the United States, instead of a stamp or thumb print, people were often asked to draw an X where the signature should be. The sign in (1c), then, is intended to represent the X of the signature. In this way, then, both (1b) and (1c) are iconic representations, from different cultures and different countries with different histories, for ways of providing some sort of substitute for a name or signature.

There can also be identical signs in different sign languages that are iconic in origin but very different in meaning. Sign (2), below, is a sign in both JSL and ASL, but it has a different meaning in each of these languages.



Figure 2.

In ASL this sign means HISTORY, and is an initialized sign with the fingerspelling handshape for H, the first letter of HISTORY, and then a movement that represents, in a rather contracted manner, something like a movement from the past (from behind) to the present (signer's front). In JSL this same sign means something like SEEMS or MAYBE, and originated with the tracing of something like a question mark (?) in the air after a doubtful or questionable statement, to indicate the doubt about the statement. This sign has also been reduced, over time, to two little bumps in the air. Sign (2), then, is an example of how an (originally) iconic sign, with a similar appearance in two different sign languages, can have completely different meanings.

Sign languages, then, like spoken languages, can evolve and change in many ways, often causing a loss of transparency in originally iconic signs. Some of these changes are motivated by internal (i.e. cognitive) factors, while others are caused by external pressures. One common form of external pressure that can result in language change is language contact. The following analysis will be concerned mainly with iconicity and the transfer of linguistic material caused by the external pressure brought about by such language contact. The languages involved in the contact-induced transfer to be discussed in this paper are spoken Japanese and Japan Sign Language, the language of the deaf in Japan.

Sign languages like JSL naturally arise when deaf people gather together in large enough numbers to form communities, and this situation is often said to first occur when schools for the deaf are established. In Japan, the first school for the deaf was

established in Kyoto, in 1868, and its creation is usually considered to be the beginning of JSL in Japan. From this beginning over 140 years ago, what is now JSL has evolved through various stages, from home signs, to pidgins, to creoles, and over the generations, has arrived at the stage where it is now a somewhat unified and stable natural human language (see Kegl 1999; Lucas 2001; and Aronoff et al. 2004, 2005).

This period of 140 years, however, is a short time for a language and its morphology, lexicon, and grammar to develop and evolve, and therefore JSL, like many minority languages in contact situations, has borrowed liberally from the closest majority language, spoken Japanese. JSL, then, like most other sign languages, is a minority language surrounded by a majority spoken language. In addition, most deaf Japanese children go through an oral education system, and most are raised by hearing parents (over 90% of deaf children are born to hearing parents), so they are often, to some extent, bilingual in both JSL and spoken Japanese.

In such cases, in addition to the natural sign language of the deaf, and the spoken language of the majority hearing community, an interlanguage, something along the continuum between the signed and spoken language, often develops. In Japan, as well, a manual version of Japanese, Signed Japanese (SJ), coexists with JSL, and is often used by bilingual deaf people when communicating with hearing or hard-of-hearing people. So although JSL is an independent language, different from spoken Japanese, spoken Japanese has had considerable influence on JSL, especially in its lexicon, while SJ employs the grammar of spoken Japanese with the signs of JSL. The present analysis will consider how both internal processes and external pressures interact to affect the morphology and word-formation processes in both SJ and JSL to expand their lexicons.

2. Sign language morphology and word-formation processes

For sign language morphology, Aronoff et al. (2004: 21) offer a concise summary of two types of complex sign language morphology from previous crosslinguistic research:

The study of sign languages from all over the world has made it clear that these languages constitute a morphological type: all well studied established sign languages are reported to have the same particular types of complex morphology. Two central sign language morphological constructions are verb agreement for person and number of subject and object in a semantically defined class of verbs (Engberg-Pedersen 1993; Meir 2002; Padden 1988); and a system of polymorphemic classifier constructions that combine nominal classifier handshapes with path shapes, manners of movement, and locations. (Emmorey 2003)

These two types of sign language morphology in JSL have also been discussed briefly in two previous research papers in the *Iconicity in Language and Literature* series

(Herlofsky 2005, 2007), and so the focus in this paper will be on a third type of sign language morphology that Aronoff et al. consider to be “another type of morphology that is more commonly found in spoken languages, including creole languages: sequential affixation that has arisen through grammaticalization” (2004:21). This type of sequential affixation, which results from language contact, as in creole languages, will be considered in Section 4, after a brief discussion of other types of word-formation induced by language contact.

To summarize the conclusions of other research articles contained in Brentari's (2001) cross-linguistic investigation of word-formation processes and foreign vocabulary in sign languages, there are three ways in which sign languages can create new vocabulary items: through the language internal word-formation processes (such as compounding and derivation) that all natural languages possess, through the borrowing of vocabulary items from other spoken languages, and through the borrowing of vocabulary items from other sign languages. (There is a fourth (more artificial) process in the case of many sign languages, a process that often involves components of the other three, that will not concern us here: creation, by decree, by some (often government sponsored) language planning/management committee.)

The word-formation and borrowing processes noted in Brentari (2001) can be further elaborated, as discussed for spoken languages in Heine and Kuteva (2005:2), into four types, in which what is transferred can be summarized as:

- a. Form, that is, sounds or combinations of sounds
- b. Meanings (including grammatical meanings or functions) or combinations of meanings
- c. Form-meaning units or combinations of form-meaning units
- d. Syntactic relations, that is, the order of meaningful elements

It is only necessary to change the word ‘sounds’ in (a) to ‘signs’, or perhaps ‘manual/non-manual signs’, to have a list of transfer types that is applicable to the study of sign languages. And although, as Heine and Kuteva (2005:5) state, contact-induced change can be “a complex process that not infrequently extends over centuries, or even millennia”, in some sign-language-contact situations, it can occur much more quickly, where the transfer or replication of linguistic material “starts out with gradually changing use patterns, leading from minor to major patterns; at the same time, these patterns increasingly acquire properties of distinct categories, and eventually they may turn into conventionalized grammatical categories” (*ibid.*). This process is now sometimes occurring rather rapidly in many sign languages throughout the world.

For sign languages, which, in addition to being relatively young languages, have no writing systems, it is notoriously difficult to determine the etymology of their signs, let alone the development and change of signs and their use patterns. It is the purpose of the present analysis, however, to attempt to provide illustrations of some examples of

the types of contact-induced linguistic transfer that Heine and Kuteva identify above. The languages to be discussed in the analysis that follows are spoken Japanese, JSL, and the interlanguage SJ, and this article will illustrate how Japanese has influenced both SJ and JSL to such an extent that a considerable amount of linguistic material has already been transferred.

The basic transfer process begins with the ability to recognize similarities between different structures in different languages, and continues through changes in use patterns that are concisely described in Heine and Kuteva as occurring when speakers (or signers) in a replica language R

create a new use pattern or category in language R on the model of another language (M), where the outcome of the process is not an exact copy of what exists in M but rather a new structure that is shaped, first, by what is available in R, second, by universal constraints on conceptualization, third, by what speakers of R conceive as being pragmatically most appropriate in the situation in which language takes place, and fourth, by the length and intensity of contact and – accordingly – by the relative degree to which replication is grammaticalized. (2005:7)

In this paper, I refer to this ability to recognize similarities in different structures, and then modeling the R (replica) language on the M language, as being related to iconic thinking (see also Fischer 2007; Deacon 1997; and the final section of this paper), which I claim is a key ingredient to the contact-induced transfer of linguistic material. This means that the group using the R language recognizes that there is something in language M that fills a slot (either lexical form or grammatical pattern) that is not filled, or not filled adequately, in language R, and thus, over time, through extended use patterns, borrows this material for their own use in R

The following section will provide illustrations of the four types of transfer listed above with data from SJ and JSL, and in Section 4, a more detailed analysis of the process described in the quotation above will be provided for various examples of manual affixes.

3. Transfer of linguistic material

3.1 Form

The transfer of form without meaning in JSL is most simply illustrated by the handshapes of the JSL manual syllabary. Sign languages have fingerspelling systems or manual syllabaries for representing the sounds/letters of the majority spoken/written languages that surround them. In the JSL manual syllabary (that manually represents the Japanese written syllabary), all of the vowel handshapes and some of the consonant-vowel handshapes have been borrowed from ASL fingerspelling handshapes (see Herlofsky 2004, 2008 for details), and shown below are the JSL manual

syllabary handshapes for the RA-RI-RU-RE-RO line of the Japanese written syllabary. The RA shape (3a), on the left, is borrowed from the ASL fingerspelling for R, while RI (3b) is written in the air in imitation of the written syllabary letter RI (These written syllabary letters appear over each of their respective handshapes in 3), and the other three handshapes on the right, RU-RE-RO (3c, 3d, 3e), imitate the shapes of the written syllabary letters with handshapes (without the movement included in 3b).



Figure 3.

3.2 Meaning

One way in which meaning alone can be transferred into a language is when, instead of borrowing a new word from the M language, only the meaning, using the forms available in the R language, is transferred and conveyed through the formation of a new word. For example, when a new word was needed to convey the meaning of someone who comes to help in someone's (usually the elderly) home, the Japanese language borrowed the English words 'home-helper', and created the term *hoomu-herupaa* in Japanese, thereby borrowing both the meaning and pronunciation (form) from English. JSL, on the other hand, created its own expression out of a combination of already existing signs, for HOME (4a) and HELPER (4b), without borrowing the sounds (form) of Japanese or English. (Although mouthing the Japanese words, or even voicing them, can accompany the signs, these and similar non-manual aspects of JSL/SJ will not be considered in this analysis.) The compound has thus borrowed the meaning from English, through Japanese, but has used its own preexisting forms (manual signs) in a new loan translation-like compound, as illustrated below (Figure 4).

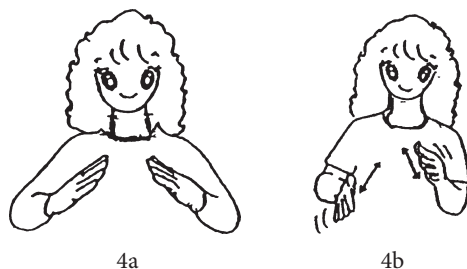


Figure 4.

3.3 Form-meaning units

The borrowing of form-meaning units, as in the borrowing of words like *hoomuherupaa* into Japanese from English, is one of the most common forms of borrowing, and, as suggested in Brentari (2001), can come in four types in sign languages, where the 'forms' borrowed are either written forms, gestural/emblem forms, or signs from another sign language. One of these types of form-meaning transfer, the imitation of a written form, can be illustrated by the following two different methods of Chinese character imitation. The first sign is a handshape imitation of the form of the Chinese character for NORTH (5a), while the second example consists of drawing the character for RIVER (5b) in the air.

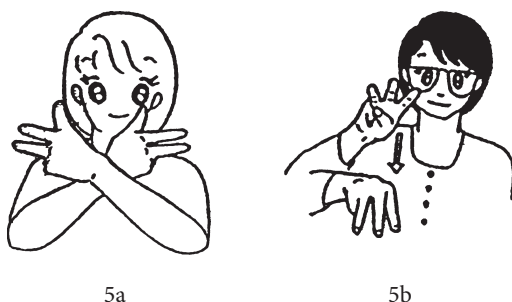


Figure 5.

Another type of form-meaning unit transfer is the borrowing of a gesture/emblem from a spoken M language. The Japanese gestural emblems for 'boyfriend' and 'girlfriend' appear below, and were borrowed into JSL to mean MALE (6a) and FEMALE (6b).



Figure 6.

A third type of form-meaning unit transfer is the case of a sign borrowed from another sign language. For example, the sign for I-LOVE-YOU in ASL (Figure 7) has become an international greeting in many sign languages, including JSL.



Figure 7.

And finally, the fourth type of form-meaning transfer involves signs that are formed with the initial sound of a word being expressed by fingerspelling, and then the semantic portion of the sign being expressed by the motion of the hand, as in the sign for EUROPE (Figure 8) below, where the handshape (form) is the fingerspelling for 'e', and the motion expresses metaphorically the concept (meaning) of a large expanse of land. In this way, then, the handshape (the borrowed portion) is combined with the movement (the semantic portion) to form the new JSL sign.



Figure 8.

3.4 Syntactic relations

Syntactic relations, or the order of elements in JSL, are most visibly influenced by the grammar and syntactic order of Japanese, and by extension, SJ. In the examples below, sentence (Figure 9) is SJ and follows the Japanese word order, and means YET (9a) MARRIED (9b) NOT (9c) ('I'm not married yet'), while the second sentence (Figure 10) is an example of more natural JSL order with YET following the verb ('MARRIED (10a) YET (10b)'), which carries the same negative meaning 'I'm not married yet', but the negation is not expressed lexically (i.e. by a *separate* form) but by non-manual markers. Notice the facial expression and the increased distance between the hands (representing the goal, and where the person is at present), making the sentence mean something like 'I'm not married YET!'

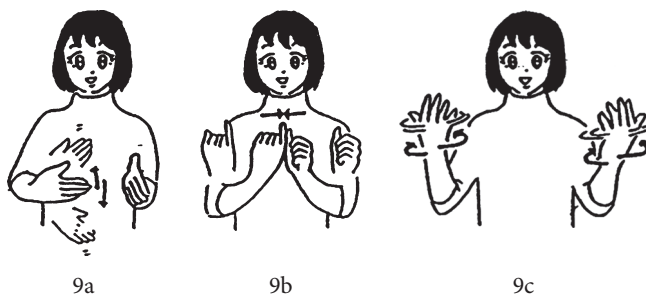


Figure 9.

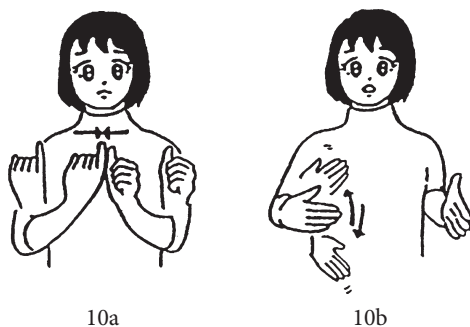


Figure 10.

What should be especially interesting to a linguist about the above example, other than the clear illustration that SJ (with the sequence borrowed from Japanese) and JSL have different grammars, is that JSL seems to be able to express negation without an explicit negative form. It is perhaps the iconic nature of the JSL sign for YET, graphically illustrating that the one hand has not reached the other yet, that includes the negative meaning. It is this type of possible combination of meaning (YET + NOT) in one visual sign that results in what is often referred to as the 'simultaneous' nature of

sign language signs, as opposed to the 'sequential' nature of spoken/written language words.

The sequential/simultaneous contrast is even clearer in the following examples. Sentence (Figure 11) is SJ, and follows the Japanese sequential word order, and means ENTIRELY (11a), SEE (11b), NOT (11c), REASON (11d) NOT-SAY (11e), '(I'm) not saying (that I) don't watch any (movies)'.

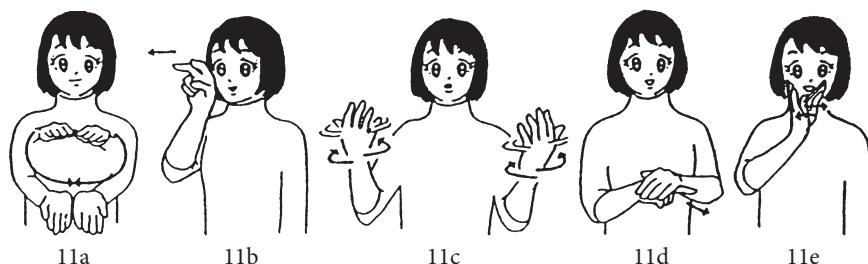


Figure 11.

The JSL sentence in Figure 12, which has the same meaning, is much shorter.

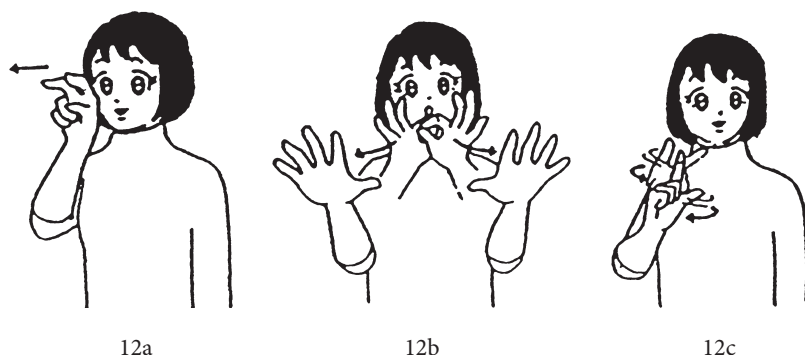


Figure 12.

The signs in Figure 12 that do not appear in Figure 11 are (12b) and (12c), and these are signs that are a bit more complicated (and therefore simultaneous) than those in (11). The signs in Figure 12 are SEE (12a), ZERO (12b), and DIFFER (12c), and might be translated directly as 'It's not (that I) see zero (movies)'. Again, no overt negative sign is used, but in fact two near-negatives are used to form a positive meaning. The sign DIFFER in (12c) means something like 'NOT X', while the ZERO sign in (12b) also has a negative meaning. In fact, according to Aronoff et al. (2004), it is common for sign languages to use a sign meaning ZERO to form negative morphemes. The following section provides a more detailed analysis of sentences like these and the transfer of syntactic relations and meaning.

4. The transfer of meaning and syntactic relations

Although lexical borrowing can be rather sudden, in contrast, grammatical borrowing and/or grammatical ‘pattern borrowing’ usually take a long period of time. For inter-languages like SJ, however, grammatical pattern ‘borrowing’ can resemble lexical borrowing, and can therefore occur over a relatively short period of time, as is also the case with substratum influence. That is, as noted in the discussion of borrowed use patterns referred to by Heine and Kuteva (2005:7) above, the replica language (SJ) can create (relatively quickly, since the people doing the creating are bilingual) a new ‘use pattern’ based on the model language (Japanese) by recruiting SJ (or JSL) forms to imitate the forms and use patterns of Japanese.

Aronoff et al. (2005:305–6) consider such morphological/grammatical borrowing to be of little interest, stating that replica languages (‘mesolects’ in their terminology, and the model languages are ‘acrolects’) “that mirror the grammar of the lexifier (or acrolect) language are clearly uninteresting for any discussion of morphological properties of young contact languages.” It is not so clear to me why this kind of borrowing or ‘mirroring’ (iconic thinking) should be of little interest. It seems to me that there is a need to record the development of any young language, but especially young sign languages that have no writing systems that can preserve a record of their changes and development. In fact, just a page after the above quote, Aronoff et al. (2005:307) lament the fact that “detailed histories of grammatical development of most sign languages are unknown.”

Since documentation of any changes and developments in sign languages may at some point in the future prove valuable, and also since it is always possible that even these types of imitations of the model language’s morphology/grammar might become an integral part of the fully developed sign language in the future, even these patterns that “mirror the grammar” of the spoken language, should be of interest. At least it should be interesting to see (and record) how sign languages (especially their interlanguage forms) mirror the majority spoken language, and if these methods of imitation are similar to those of the spoken-language mirroring processes. The discussion that follows will focus on this type of process.

As mentioned above, this mirroring process involves what I refer to as iconic thinking, and begins with the recognition of similarities in different entities. This same process has been given different names by different researchers. For example, Lyons (1977:76) defines the notion of language-related creativity as “the language user’s ability to extend the system by means of motivated, but unpredictable, principles of abstraction and comparison.” Aikhenvald (2007:57–8), in a discussion of the productivity of word-formation processes, and after noting this definition by Lyons, states that creativity “in the application of a rule or a process by analogy may be indicative of its productivity.” Again, it is this utilization of extension of systems, by “motivated” principles of “abstraction”, “comparison”, and “analogy”, that I refer to as iconic thinking, and which can lead to the transfer of linguistic material.

This type of iconic thinking will be illustrated with the following examples, which will consist of an analysis that will first examine the transfer of meaning and syntactic relations by examining combinations of the following four signs: SLEEPY/TO-SLEEP (13a), NOT/DON'T-HAVE (13b), DIFFICULT/CAN'T (13c), and FINISHED/-ED (13d). (The pair of meanings for the sign in 13d indicates that it can function as the free-form verb FINISHED, as well as the fact that it has been grammaticalized to function as the past tense-like bound form -ED.)

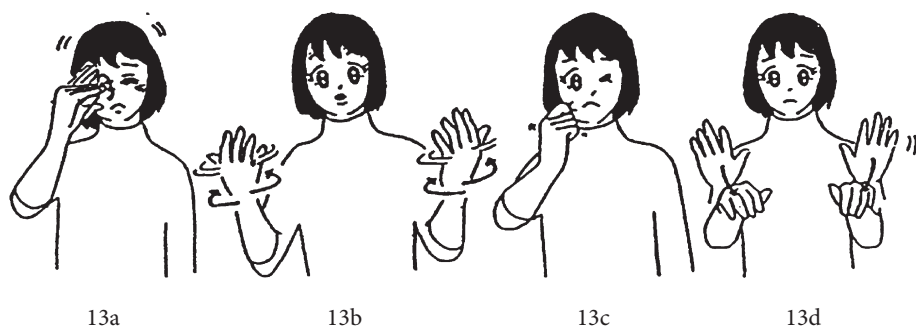
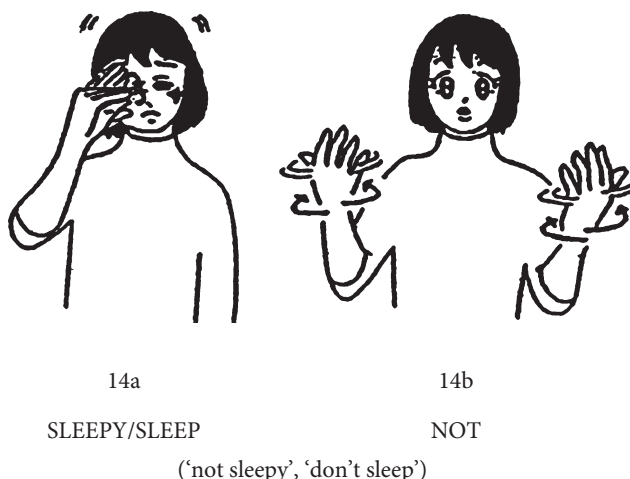


Figure 13.

It should be noted that these signs are free forms that can be used just as they are as words in sentences, or even can form one-sign sentences themselves. These signs can also be combined with other signs, as shown below. In the examples that follow, the four signs above may still be free morphemes, but might also be interpreted as stems and affixes (see Aronoff et al. 2004 for a discussion of a similar phenomenon in ASL).



14a
SLEEPY/SLEEP

14b
NOT

('not sleepy', 'don't sleep')

Figure 14.

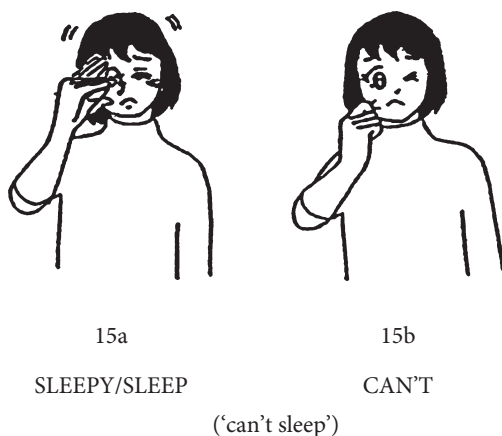


Figure 15.

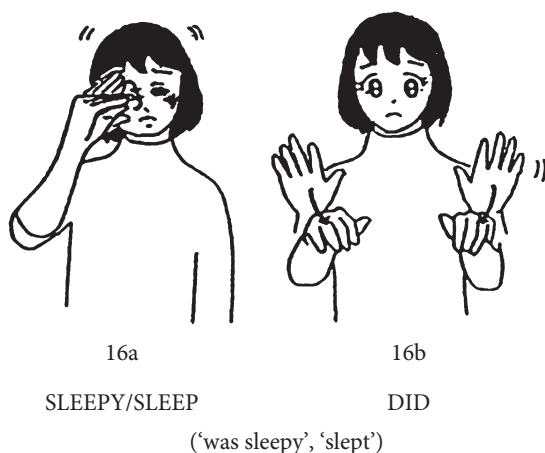


Figure 16.

These are all fairly close to being direct translations of Japanese – in Japanese, the later portion of the word would be considered an affix – and therefore can be considered to be more SJ-like than JSL-like, although two-sign combinations like these are also common in JSL. A problem arises, however, when there are longer sign combinations that directly imitate the affix sequences typical of a synthetic language like Japanese. For example, in Japanese, it is common to combine the negative, potential, and past affixes into a single word. For example, while ‘I sleep’ would be *nemuru*, ‘I didn’t sleep’ would be *nemuranakatta*, where the negative (*-nakat-*) (17b) and past (*-ta*) (17c) affixes are added. In SJ, these affixes are directly reflected in the sign combinations.