

Routledge Studies in East Asian Linguistics

For a full list of titles in this series, please visit <https://www.routledge.com/Routledge-Studies-in-East-Asian-Linguistics/book-series/RSEAL>

1 The Grammar of Japanese Mimetics

Perspectives from structure, acquisition, and translation

Edited by Noriko Iwasaki, Peter Sells, and Kimi Akita

The Grammar of Japanese Mimetics

Perspectives from structure, acquisition,
and translation

**Edited by Noriko Iwasaki, Peter Sells,
and Kimi Akita**

 **Routledge**
Taylor & Francis Group
LONDON AND NEW YORK

First published 2017
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

*Routledge is an imprint of the Taylor & Francis Group,
an informa business*

© 2017 selection and editorial matter, Noriko Iwasaki, Peter Sells, and
Kimi Akita; individual chapters, the contributors

The right of Noriko Iwasaki, Peter Sells, and Kimi Akita to be identified
as the authors of the editorial material, and of the authors for their
individual s, has been asserted in accordance with sections 77 and 78 of
the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced
or utilised in any form or by any electronic, mechanical, or other
means, now known or hereafter invented, including photocopying and
recording, or in any information storage or retrieval system, without
permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks
or registered trademarks, and are used only for identification and
explanation without intent to infringe.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
A catalog record for this book has been requested

ISBN: 978-1-138-18190-8 (hbk)
ISBN: 978-1-315-64669-5 (ebk)

Typeset in Times New Roman
by Apex CoVantage, LLC

Contents

<i>List of figures</i>	vii
<i>List of tables</i>	viii
<i>Preface</i>	ix
<i>List of abbreviations</i>	x
<i>List of contributors</i>	xii
Introduction	1
PART I	
Grammatical and semantic properties of mimetics in Japanese	5
1 The significance of the grammatical study of Japanese mimetics PETER SELLS	7
2 Grammatical and functional properties of mimetics in Japanese KIMI AKITA	20
3 The position of <i>to/Ø</i> -marked mimetics in Japanese sentence structure KIYOKO TORATANI	35
4 <i>Swarm</i> -type mimetic verbs in Japanese ANN WEHMEYER	73
5 How flexible should the grammar of mimetics be? A view from Japanese poetry NATSUKO TSUJIMURA	103



Printed and bound in Great Britain by
TJ International Ltd, Padstow, Cornwall

6 Mimetics as Japanese Root Infinitive Analogues

Keiko Murasugi

6.1 Introduction

Mimetics, both in sign and spoken languages, are produced spontaneously in early human childhood. A one-year-old has a limited vocabulary, but starts to produce single words on his/her own, including mimetics. Data from a Japanese-speaking child, Sumihare (Noji 1973–1977), for example, shows that he starts producing such mimetics as *syaan* in reference to a specific sound as early as 1;01. Children tend to start producing mimetics of sounds (phonomimes), followed by mimetics of external information (phenomimes) and those of internal experiences (psychomimes) (Fukuda 1999, among others).

Mimetics display linguistic variation, and mimetic words do not necessarily translate well from one language to another. However, there are many common properties found across languages. In this chapter, I argue first that mimetics are creatively produced even without any direct evidence given from parents, and they can be ambiguous just like other expressions in natural language.

Then, using evidence from the study of child Japanese, I present evidence for the Mimetic Creation Device innately endowed in human beings. Evidence is elicited from the phenomenon of Root Infinitives (RIs), the default verb forms which young children use in a root clause. RIs have been found in the early speech of one- to two-year-old children, and their basic properties have been extensively documented elsewhere (Rizzi 1993/1994; Wexler 1994, among others). This chapter, following Murasugi and Nakatani (2013), argues that some of the innovative mimetic verbs extensively used by Japanese-speaking children are Root Infinitive Analogues (RIAs) – non-finite verbs used in a root clause. I argue that children are innately equipped with a Mimetic Creation Device, whereby mental processes lead them to make their own mimetic expressions. This enables children to learn about the projection of the syntactic categories in the target language.

6.2 Mimetic words in adult Japanese

The arbitrariness of the relationship between form and meaning, ambiguity, and productivity has long been accepted as basic properties of human language. Mimetics, however, are sometimes considered to be different from non-mimetic

words, because they are not necessarily arbitrary. Just like sign languages, they are in part iconic in the sense that the relationship between forms and meanings can be, to some extent, explained (see Introduction, this volume). For example, as mentioned in other chapters (e.g., Tsujimura, this volume), mimetic expressions are frequently used to express patients' painful experiences in Japanese. The quality of pain is expressed by the patients, as shown in (1).

- (1) a. *gaNgaN* (a strong and repeated pain)
 b. *kirikiri* (a sharp pain)
 c. *tikutiku* (a pricking pain)
 d. *doon* (a dull pain)
 e. *ziNziN* (a tingling pain)

Moreover, the severity of pain can be also distinctively expressed in Japanese as exemplified in (2).

- (2) a. *zuzuzuki* (a stinging pain)
 b. *zukiN zukiN* (a throbbing pain)
 c. *zuQkiN zuQkiN* (a strong throbbing pain)

The examples given in (1) and (2) indicate that mimetics are connected to human neurophysiology and are, at least in part, iconic.

Nevertheless, at the same time, mimetics are still arbitrary. As noted above, mimetic words, just like iconic signs, do not necessarily translate well from one language to another. Mimetics, which are supposed to mimic the sound made by some agent, or represent a specific state of affairs, vary even across dialects. For speakers of the Nagoya dialect, for example, mimetic adverbs such as *tokiN tokiN (ni)* and *tiNtiN (ni)*, which mean 'to make x (e.g., the core of a pencil) very sharp' and 'to boil x (e.g., water) extremely hot,' respectively, may sound iconic, but for non-Nagoya speakers the relationship between the sound and the meaning is not crystal clear. The stars shine *twinkle twinkle* in English, while the same stars shine *kirakira* in Japanese. A doctor whose native language is not Japanese may have difficulty in guessing the extent of a patient's pain merely based on the examples given in (1) and (2).

Even iconic signs of sign languages are arbitrary because they belong to a particular sign language and the community that uses it. A sign intending to represent 'storm' may be understood as a storm only to the signers of the specific community; other signing communities may use a different sign to indicate the same word. Similarly, the variety of mimetic expressions suggests that they are not simply an imitation of a sound or an image (concept). Mimetics, thus, hold the basic property of arbitrariness in terms of how certain sounds or signs represent certain meanings.

Mimetics are associated with the properties of ambiguity as well. *Si!*, for example, could mean either 'Go away!' or 'Silence!' in Japanese. A sentence containing a mimetic verb *gatyagatya suru* is polysemic, and it may, as Tsujimura (this volume) states, refer to an action that yields a sound when something is moved in a non-gentle manner, or it may refer to some chaotic situation that lacks organization.

Mimetics are productive as well. As Kageyama (2007) argues, mimetic words such as *garagara*, for example, have all four syntactic functions, i.e., verbal, adverbial, adjectival, and nominal (see also Akita, this volume). This is shown in (3); note here that the capital letters indicate high pitch (Kageyama 2007).

- (3) a. verbal: *Nodo-ga GARagara-suru*. 'My throat feels irritated.'
 b. adverbial: *Iwa-ga GARagara-to kuzureta*. 'Large boulders came.'
 c. adjectival: *Eigakan-wa gaRAGARA-da*. 'The theater is almost empty.'
 d. nominal: *Akatyan-ni gaRAGARA-o ageta*. 'I gave the baby a rattle.'

Interestingly, reduplicative mimetic words exhibit phonologically different accentual patterns: verbals and adverbials bear an accent on the initial mora, whereas adjectivals and nominals are accentless in standard Japanese (cf. Kageyama 2007). According to Kageyama (2007), the phonological difference is correlated with the semantic difference in terms of temporal dynamicity. Suppose that there is a semantic feature [\pm dynamic] for a progressive development of events along a time dimension (Rothstein 2004). Then, verbal and adverbial mimetics are associated with the feature [+dynamic] because they refer to a progressive development of events along a time dimension. Hence, verbal and adverbial mimetics express their semantic dynamicity by imposing an accent on the first mora. In contrast, adjectival and nominal mimetics, which denote static concepts, are 'accentless.'

Similarly, mimetic words such as *gatyagatya* in Japanese also have all four syntactic functions (verbal, adverbial, adjectival, and nominal), and they fall into two groups regarding the placement of pitch accent.

- (4) a. verbal: *GAtyagatya-suru*. 'Something is moved in a non-gentle manner/ Something is in a chaotic situation.'
 b. adverbial: *GAtyagatya naru*. 'Something rattles.'
 c. adjectival: *gaTYAGATYA-da*. 'Something is quite messy.'
 d. nominal: *Akatyan-ni gaTYAGATYA-o ageta*. 'I gave the baby a capsule toy.'

The paradigm of the mimetic word *gatyagatya* given in (4) shows that the accentual distinction found in (3) is consistent and provides a piece of supportive evidence for Kageyama's (2007) account of the differences. Indeed, there is at least a sharp phonological contrast between verbal and nominal elements in mimetic words. Sound and meaning are thus linked by 'grammar,' even in the case of mimetic expressions.

6.3 Mimetic words in child Japanese

Iconicity and the relationship between the forms and meanings of mimetics can be, to some extent, explained in child language as well. A Japanese-speaking child, Sumihare (Noji corpus), for example, associates [d] with a hard object, while [t] with a soft object (Tajima 2004). As shown in (5), Sumihare produces *deeN* (mimetic) (1;02) when he hits his head on a pillar; while he produces *toN ta na* when he hits his body in the buggy during his second year.

- (5) a. *deeN* (onomatopoeia) (1;02)
 b. *toN ta na*
 MIM NPST SFP (1;05)

(Tajima 2004)

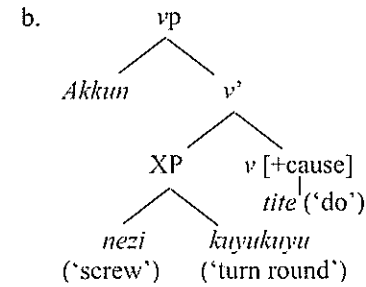
The basic properties of natural language are also found in child mimetic expressions. The primary linguistic data children by means of an innately specified linguistic knowledge, and children acquire mimetics, just like other elements in natural language, (i) without explicit teaching, (ii) on the basis of positive evidence, (iii) in a limited amount of time, and (iv) under varying circumstances. Children may sometimes learn mimetic expressions by imitating what adults say, but they are able to use them in an innovative way too, typically as a nominal element referring to a concrete object, or as a verbal element expressing an action or movement. Tomoko Hashimoto (p.c.), for example, observes that her son, Akkun (1;09), started producing *tyuN tyuN tyuN* after Tomoko poured ketchup on his food, using the expression in exactly the same way. However, soon afterwards the child started employing the expression in various ways, overgeneralizing to refer to the action or command of pouring mayonnaise, margarine, and soy-bean paste on food. Furthermore, he innovatively created the mimetic expression *tya tya tya* to refer to the action of putting salt and cheese powder on food, without being given any positive evidence.

Such cases indicate that parents may sometimes give a model sample to children, but children do not learn mimetics only by imitation. Rather, children can create innovative mimetic expressions of their own.

There are cases where mimetic expressions are initially used as a nominal element, and then come to be creatively used as a verb over the course of grammatical development. For example, Tomoko Hashimoto (p.c.) observed that Akkun (2;04) started voluntarily producing *koN koN koN* to refer to a hammer, first with a nominal usage. Later, the expression came to be followed by *tiyu* (= *suru* 'do') for the verbal usage, with the meaning of 'I want to use the hammer' or 'please hammer this,' which Murasugi and Hashimoto (2004) analyze as the onset of the projection of small *v* with the [+cause] feature. Here, the child seems to be using *tiyu* (= *suru* 'do') to describe an activity that causes a certain event or change of state. The adult counterpart of *tiyu* (= *suru* 'do') can assign the agent role, like the English verb *do*. Further, the rest of the utterance seems to describe an event or a change of state.

Similarly, Akkun produced *kuyukuyu-suru* 'turn around,' as shown in (6a). In (6a), *tite* (do) describes an activity that causes a screw to turn around, and Akkun is the agent. The complement of the small *v* is indicated not as VP but as XP, because it lacks what would be recognized as a verb in the adult grammar. Here *kuyukuyu* (= *kurukuru*) is a mimetic word describing things turning around, and the XP expresses the meaning 'the screw turns around.' The structure of (6a), then, will be as in (6b).

- (6) a. *Akkun nezi kuyukuyu tite, kono ko syaberu.* (2;09)
 screw turn around(MIM) do this child talk.NPST
 'When Akkun (I) will wind this one around, it will talk.'



(Murasugi & Hashimoto 2004)

This type of 'sentence' with a mimetic expression is used quite productively at around the beginning of the third year (after the RIA stage we discuss in the following section). During this stage, the syntactic category of the mimetic expression (=XP) is not set as the one in the adult grammar, and *tiyu/tita/tite* 'do' is always used to describe the activity that causes a certain event or change of state, like *do* in adult English; the rest of the utterance then describes the event or change of state. Based on this line of argument, Murasugi and Hashimoto (2004) observe that small *v* is acquired very early (see also Kageyama 2007 for relevant discussion of some types of stative mimetic verbs).

Tsujimura (2005) also notes that Japanese-speaking children produce many mimetic verbs and discusses the similarity between the child mimetic verbs and innovative verbs (or contextuials) such as *sutabaru* (dine at Starbucks) in adult Japanese. In what follows, I will argue that some of the early mimetic verbs produced by Japanese-speaking children are innovative and, in fact, RIAs.

6.4 Mimetics as Root Infinitive Analogues in child Japanese

Although the linguistic data available to children is relatively limited, Japanese-speaking children produce a lot of mimetics in spontaneous speech. As we mentioned above, the way children use mimetics does not necessarily reflect the input they receive, and therefore this knowledge is supplemented with some sort of linguistic capacity. Children are innately equipped with mental processes that help initiate mimetic expressions, and this device enables children to learn about the projection of syntactic categories in the target language. In this section, I will provide some evidence for this proposal by showing a descriptive study presented by Murasugi and Nakatani (2013), who posit that there is a stage in which Japanese-speaking children employ mimetic expressions as RIAs.

It is well known that children have a preference for non-finite verb forms during the early stages of language acquisition (see, for example, Blom & Wijnen 2000; Deen 2002; Salustri & Hyams 2003; Hyams 2005). This exemplifies the Root Infinitive (RI) phenomenon, which has played a significant role in the explanation of syntactic development. One- and two-year-olds produce RIs because they have some deficiencies in syntactic representation. There are some salient morpho-syntactic and semantic properties of RIs, as listed in (7).

- (7) a. RIs are optional: RIs occur side by side with fully inflected verbs.
 b. RIs are tenseless verbs in root contexts.
 c. RIs occur predominantly with null subjects.
 d. RIs generally do not occur in *wh*-questions.
 e. RIs occur in modal contexts (Modal Reference Effects (MREs)).
 f. RIs are used in aspectual contexts (Aspect Effects).
 g. RIs are restricted to event-denoting predicates (Eventivity Constraint).
 (adopted from Deen 2002; Salustri & Hyams 2003; Hyams 2005)

In some languages with relatively rich morphology, such as Dutch (Haegeman 1995; Blom & Wijnen 2000) and French (Krämer 1993; Rasetti 2003, among others), children may optionally use the infinitival forms of inflection on the verb, rather than finite ones. Note here that ‘#’ indicates that the sentence is not acceptable in the adult grammar.

- (8) a. #*Peter bal pakken.* (2;1) (Dutch)
 Peter ball get-INF
 ‘Peter (wants to) get the ball.’
 (Blom & Wijnen 2000)
- b. #*Dormir petit bébé.* (1;11) (French)
 sleep-INF little baby
 ‘A little baby sleeps.’
 (Guasti 2004)

On the other hand, in languages which are relatively poor in inflectional morphology, such as English, non-finite verbs appear in the finite (root) contexts as bare verbs. In adult English, infinitive forms are generally bare stems, and English-speaking children produce the bare stems within the age range of 20–36 months, as shown in (9).

- (9) a. #*Eve sit floor.* (1;7) (English)
 (Brown 1973)
- b. #*That truck fall down.* (2;0) (English)
 (Sano & Hyams 1994)

In Swahili, as in English, very young children also omit functional elements such as tense and subject-verb agreement (Deen 2002). An equivalent non-finite stage has also been identified for children acquiring languages that do not have an infinitive construction. In Modern Greek, for example, a bare subjunctive/perfective is reported to be the RIA (Varlokosta et al. 1996; Hyams 2002).

Interestingly enough, there are also many languages whose RIA is the ‘full’ form, or the surrogate infinitive form. Kim and Phillips (1998) suggest that the RI analogue for Korean is the verb stem with the mood marker *-e*; Murasugi and Fuji (2008), among others, argue that the Japanese RIA form is the verb stem followed by the past-tense marker *-ta*.

Sumihare, for example, started using the past tense form (the *-ta* form) in the middle of his second year, referring to the perfective event in the same way as

adults do, as shown in (10) (cf. Murasugi et al. 2007; Murasugi & Fuji 2008, among others).

- (10) a. *Buu ki-ta.* (S: 1;05)
 MIM come-PST
 ‘A car has come.’
 b. *Tabeta.* (S: 1;06)
 eat-PST
 ‘(I) ate (up) (an apple).’
 c. *Oti-ta.* (S: 1;07)
 fall-PST
 ‘(It) has fallen.’

However, at around 1;06 through 1;11, Sumihare used the *V-ta* form differently from that of adult speech. At this stage, the Modal Reference Effects (MREs) shown in (7e) are observed: the *V-ta* form denotes the meaning of volition (desire) or request.

- (11) a. #*Atti Atti Atti i-ta.* (1;06) (irrealis/volition) (adult form: *ik-u*, or *ik-e*)
 There there there go-PST
 ‘I want to go there / Go there.’
 b. #*Tii si-ta.* (1;07) (irrealis/volition) (adult form: *si-ta-i*)
 mimetic (pee) do-PST
 ‘I want to take a pee.’
 c. #*Baba pai-ta.* (1;08) (request) (adult form: *pai-si-te*)
 mud MIM(throw away)-PST
 ‘Please throw (this) away.’
 (Murasugi et al. 2007; Murasugi & Fuji 2008)

The context for (11a) is the following: Sumihare’s father (Noji, the observer) went out for a walk with Sumihare on his back. Noji tried to go back home, but Sumihare pointed to a different direction and produced *atti* ‘there’ twice. Sumihare got frustrated and said, *atti i-ta* ‘there go-PST’ angrily again. Noji notes on this example: *i-ta* means *ik-u* ‘go-NPST’; Sumihare uttered *i-ta* because he could not say *ik-u* (Noji 1973, I:195). Noji also provides important comments for (11b), which convinces us of the MREs at the early stage of Japanese acquisition: Sumihare used *tii-si-ta* in a volitional context when he wanted to take a pee. As for (11c), Sumihare produced *pai-ta*, attaching *-ta* on the mimetic form *pai* ‘to throw away’ in order to ask his mother to remove mud from a potato (Murasugi et al. 2007; Murasugi & Fuji 2008).

Ta-predicates are also used for the result state, progressive, and the irrealis meaning. Observe the examples given in (12) (see also Tsujimura 2005 and Akita’s 2009 discussion on how some ‘mimetic *-ta*’ predicates are actually equivalent to *-tte itta* (lit. ‘It sounded like ‘mimetic’’)).

- (12) a. #*Baba tui-ta.* (1;06) (result state) (adult form: *tui-te-i-ru*)
 dirt stick-PST
 ‘The dirt is on the finger.’

- b. #*Sii-ta*. (1;07) (progressive) (adult form: *sikko si-te-i-ru*)
pee-PST
'She is taking a pee.'
- c. #*Meen-ta*. (1;07) (irrealis) (adult form: *meen to i-u*)
'meen'MIM-PST
'(Mommy would say) "Meen".'
- (Murasugi et al. 2007; Murasugi & Fuji 2008)

In (12a), Sumihare found *baba* (some dirt) on his finger and intended to inform his mother of this. Here, the aspectual morpheme *-te-i-ru* may be better attached to the verb stem *tui* in the adult Japanese, but Sumihare used *tui-ta*. Likewise, in (12b), Sumihare employed the *V-ta* form instead of the *V-te-i-ru* form for the progressive event when one of his friends was taking a pee. (12c) indicates that mimetics can be quotative. Here, Sumihare's mother asked him what she would say if Sumihare wetted his underpants (with pee), and he replied, 'she would say, "Meen".' Here, the non-past form *i-u* 'to say' or the future-tense form *i-u-daroo* would be used in adult grammar, but the *V-ta* form was used instead (Murasugi et al. 2007; Murasugi & Fuji 2008). While the percentage of *V-ta* form decreases with age, he uses the *V-ta* form in almost all cases at 1;06–1;07.

Murasugi et al. (2009) and Murasugi and Nakatani (2013) argued that children produce bare mimetics (or verbal mimetics without morphemes attached) in addition to the form of Verb-*ta* as very early nonfinite verbs, based on the corpus analysis of CHILDES (Sumihare 0;00–6;00, Noji 1973–1977) and Tomomi Nakatani's longitudinal study with a Japanese-speaking child, Yuta (0;01–3;05). The children we observed produced mimetic verbs and *V-ta* forms during the same period when tense-related elements, such as nominative case *-ga*, and complementizer-related elements, such as *to/no* and *wh*-phrases, were not found to occur with the verbal forms. Crucially, bare mimetic verbs and *V-ta* forms, as exemplified in this chapter, were predominantly produced from the onset of verbal forms until 1;08, when the fully conjugated verb form started to appear in natural production. Most importantly, no other verb conjugations were found in the children's production from 1;06 through 1;08. These facts naturally lead us to construct a hypothesis that, if bare mimetics show the typical properties of RIAs, then bare mimetics produced along with *ta*-forms are RIAs as well (cf. Murasugi et al. 2007; Murasugi & Fuji 2008, among others).

To begin with, we need to question whether or not children use nominal mimetics and verbal mimetics as RIAs distinctively, as adults do. The examples in (13) show that Japanese-speaking children do in fact use the two types of mimetics distinctively (Murasugi & Nakatani 2013).

- (13) a. *Buu it-ta. Atti it-ta.* (S:1;05) [nominal]
MIM go-PST there go-PST
'A three-wheeler went by that way.'
- b. *Tittyai buu buu, tittyai buu buu.* (Y:1;08) [nominal]
small MIM small MIM
'a small car'

- c. *Dadadadadadada.* (Y:1;06) [looking at shinkansen] [verbal]
MIM
'Shinkansen, a bullet train, is running extremely fast.'
- d. *TooN-naa.* (S:1;07) [S falls down and hits the head.] [verbal]
MIM-SFP
'(I) fell down.'

(Murasugi & Nakatani 2013)

Nominal mimetics are exemplified in (13a) and (13b). A mimetic *buu* in (13a), for example, refers to a three-wheeler, which is the subject of the verb *it-ta* 'went.' *Buu buu* in (13b), modified by the adjective *tittyai* 'small,' refers to a car. In contrast, in (13c), Yuta produced *dadadadadadada* when he saw a bullet train, *shinkansen*, which runs very fast. Note here that, at this stage, he always referred to shinkansen as *sinkantan*; he used *dadadadadadada* only for the on-going action of the shinkansen. The mimetics produced by Sumihare were sometimes directly followed by the sentence-final particle *na* to emphasize empathy as in (13d).

The difference between nominal mimetics and verbal mimetics is, according to Murasugi and Nakatani (2013), also found in the variation of form. The verbal mimetic *buu*, for instance, has variations in its form. Typically, mimetics used as verbs are reduplicated in various ways, as in *bubuu, buu bubuu buu buu* at around 1;06–1;08. Based on the analysis of the context in which the mimetics are used, the observer, Tomomi Nakatani, states that the reduplication of the mimetics in the child RIAs seems to add an adverbial meaning (e.g., fast) to the verbal meaning (e.g., the car runs). Nominal mimetics, such as *waNwaN* (a dog), on the other hand, do not have such variations in their forms (Murasugi & Nakatani 2013).

It is noteworthy that reduplication is often used to express habitual, iterative, and continuative features. It is well known that adjectival predications in American Sign Language (ASL) can have aspectual modulation with a reduplicated form. For example, telic predications, such as 'to get sick,' can be atelic, as in 'to be sick,' through reduplication (i.e., TO GET SICK + TO GET SICK = TO BE SICK) (Klima & Bellugi 1979: 246). Similarly, in Swedish Sign Language (SSL), there is a general distinction between fast and slow reduplication of verbs, which affects the aspect system of the language. Note here that the notation in Example (14) is read in the following way: 'VERB+++' is the representation of fast reduplication, while 'VERB####' represents slow reduplication. The sign for 'wait' has two reduplicated forms as shown in (14b) and (14c).

- (14) Fast and slow reduplication in SSL:
a. WAIT 'wait'
b. WAIT+++ 'be waiting, wait for a while'
c. WAIT#### 'wait for a long time'

(Bergman & Dahl 1994: 402f)

By employing different types of reduplication, different aspectual meanings are expressed in SSL, just as in children's innovative verbs in Japanese.

Another difference between nominal and verbal mimetics in child Japanese is found in their pitch contours. Murasugi and Nakatani (2013) used Praat (Boersma & Weenink 2005), a program for speech analysis and synthesis, to measure the pitch contour of each mimetic collected in their longitudinal study. It was found that the nominal *buubuu* and the verbal *buu* were distinct in their pitch accents. Namely, a marked fall in pitch was observable in the nominal *buubuu*, while the verbal *buu* had flat or rising intonation (see Murasugi & Nakatani 2013 for details). Such patterns were also observed in the contrast between the nominal *byuu* (a crayon or a pen) and the verbal *byuu* (to draw a picture with a crayon or a pen) as well. This is true for the discussion of holophrastic and nominal mimetics in adult Japanese (see Toratani, this volume).

Here, recall Kageyama's (2007) description of a sharp phonological contrast between the verbal elements and the nominal elements in the mimetic words given in (3) and (4). Despite the fact that the pitch-accent pattern of the child form is not identical to the (young) adult form, just like *guGUru* 'to google' (verbal) versus *GUuguru* 'Google' (nominal) used by young Japanese, and *reCOrd* (verbal) versus *REcord* (nominal) in English, the phonological contrast reflects the categorical differences. The results of the Praat analysis presented by Murasugi and Nakatani (2013) thus indicate that the innovative mimetic verbs and nouns in child Japanese are associated with distinct phonological properties.

With this in mind, are bare mimetics associated with the typical properties of RIAs given in (7)? Interestingly, the answer to this crucial question is positive. Hoekstra and Hyams (1998) argue that RIs are compatible with a prevalent modal interpretation (mainly deontic and volitional), determined by the inherent quality of this interpretation as being marked [-realized] (Hoekstra & Hyams 1998: 103). This generalization is captured by the so-called Modal Reference Effect (MRE). MREs given in (7e) are, in fact, found with such bare mimetics as *pai* followed by the *-ta* given in (15a), and sentence-final particle *na* given in (15b), *buu* in (15c), and *byuu* in (15e), just like the other typical RIAs with *ta*-predicates.

(15) Modal Reference Effects of Mimetics

- a. *Baba pai-ta*. (S:1;08) [S wants mother to remove the dirt on a potato.]
dirt MIM-PST
'(You) remove the dirt.'
- b. *Odenti pai-na*. (S:1;10) [trying to take off his gown]
gown MIM-SFP (mood)
'(I want to) take off (my) gown.'
- c. *Buu, buu, buu*. (Y:1;06) [Y wants grandmother to move the chair he was sitting on.]
MIM
'(You) move (the chair).'
- d. *Byuuuu, byuuuu*. (Y:1;08) [Y wants his mother to draw a picture.]
MIM
'(You) draw a picture.'

(Murasugi & Nakatani 2013)

In (15a), for example, Sumihare produced *baba pai-ta* (mimetic *pai* followed by the past tense morpheme *-ta*) to ask his mother to remove dirt from a potato. This

expresses volition and request, but not a past event. (15c) also indicates that *buu buu* is produced when ordering someone to move a chair.

Aspect Effects given in (7f) above are also found in children's innovative mimetics. Tomomi Nakatani observed that such bare mimetics as *toNtoN*, *gasyaaN*, and *pooi* were used to express the (present) progressive and resultative aspect in meaning (Murasugi & Nakatani 2013).

(16) Aspect Effects of Mimetics

- a. *ToNtoN toNtoN*. (S:1;06) [running after children trotting happily]
MIM
'(I) am running.' (progressive)
 - b. *Omoti toNtoN-naa*. (S:1;09) [watching rice-cake making]
rice-cake MIM-SFP
'(They are) making rice-cake.' (progressive)
 - c. *GasyaaN*. (Y:1;06) [looking at the broken bowl]
MIM
'This bowl is broken.' (result state)
 - d. *Pooi*. (Y:1;06) [looking at grandfather taking out the trash]
MIM
'Grandpa is taking out the trash.' (progressive)
- (Murasugi & Nakatani 2013)

(16a) shows that Sumihare produced *toNtoN toNtoN* to express the progressive aspect. The expression shown in (16b) was uttered when the child was trying to describe the event taking place at that moment. In contrast, (16c) shows that the child produced *gasyaaN* to express the resultative aspect of a broken bowl, but not to refer to the bowl itself. Tomomi Nakatani, the observer, states that she could never find an instance where the child referred to the bowl itself as *gasyaaN* in the longitudinal study.

Just like typical RI and RIAs, the mimetics that Murasugi and Nakatani (2013) analyzed as verbs based on analysis with Praat are eventive. For example, 100% of the verbal mimetics produced by Yuta (1;03–1;08), listed in (17), were eventive.

(17) Eventive Constraint of Mimetics

- buu* 'move,' *poi* 'throw a thing,' *byuu* 'draw,' *zyaa* 'pour,' *dada* 'run fast,' *biribiri* 'tear,' *bibi* 'zip'

Thus, Murasugi and Nakatani (2013) argue that mimetics in child Japanese show MREs, Aspect Effects, and the Eventivity Constraint, or the typical properties of RIs. The analysis given above naturally leads us to conclude that some of the mimetic verbs produced by one- to two-year-old children in Japanese are RIAs.

6.5 Mimetic Creation Device

Some animals, such as husky dogs, can imitate a sound they hear. It is, however, only human beings that can provide an image conceptualized within specific semantic grounds to be projected to a syntactic category.

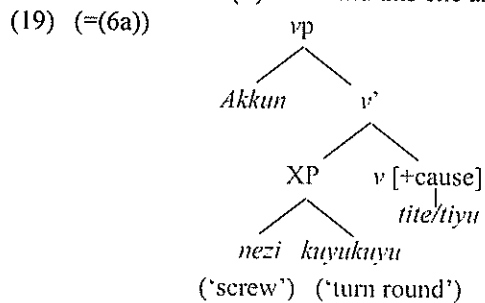
Mimetics, iconic in part, appear to exist as a grammatical sub-system in languages, although their scope and productivity vary cross-linguistically. Children

acquire mimetics (i) without explicit teaching, (ii) on the basis of positive evidence, (iii) in a limited amount of time, (iv) under varying circumstances, and mimetics are used as RI(A)s by children. Children's production of mimetics does not necessarily reflect the input they receive, and hence this knowledge is, at least in part, supplemented with some sort of linguistic capacity.

The linguistic capacity, or some form of device, enables speakers – both adults and children – to provide an image conceptualized within specific semantic grounds to be projected to a syntactic category. In other words, human beings are endowed with a device to create mimetics, and children, without being taught by caretakers, creatively bootstrap and associate the conceptualized image with semantic meaning. The properties (or conceptualized images) are then merged with syntactic heads, thereby projecting various syntactic categories – for example vP, Adverbial Phrase, Adjectival Phrase, and Nominal Phrase – the outcomes of which behave in exactly the same way as the lexical and functional elements in the language. We term this device the Mimetic Creation Device.

How does the device function? Let us take an example of vP. Recall here that there are cases where young children naturally produce a verb form whose stem is a nominal mimetic, as shown in the structure of (6a), which is schematized as in (6b), repeated below.

- (18) (=6a) *Akkun nezi kuyukuyu tite, kono ko syaberu.* (2;09)
 Screw turn around (MIM) do this child talk.NPST
 'When Akkun (/I) will wind this one around, it will talk.'



(Murasugi & Hashimoto 2004)

The structure proposed by Murasugi and Hashimoto (2004) for child grammar indicates that, if the conceptualized image is associated with small *v*, it projects a verbal category (cf. Toratani, this volume). This process cannot be explained unless we assume that there is a device that lets children create the verbal structure based on the nominal mimetics, because adults (caretakers of the child) do not use the expression *koNkoN tyu* (Section 6.3, above) to refer to the action in question, as we mentioned in the beginning of this chapter. Hence, the form cannot be considered to be learned just by imitating the adult instruction. In this case, the caretakers typically used such sentence as *kanaduti-de utu* ('to hit (something) with a hammer') to express the situation.

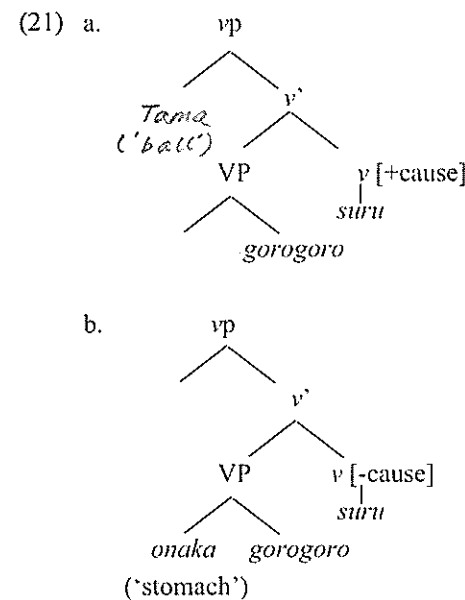
Here we must ask: how do children learn the structure of the 'mimetic + do' form that they voluntarily construct? The learnability problem raised here is very

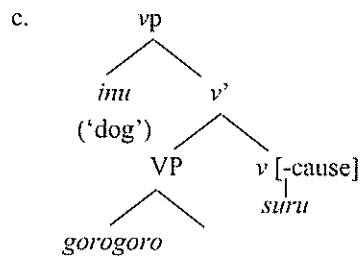
intriguing, because the structure 'mimetic + do' is potentially possible in the adult grammar. For example, *koNkoNkoN suru* 'to hit (something) with a hammer' given above, was not actually produced by the caretakers of Akkun, but it is a possible form in Japanese; it just sounds childish if adults use the expression.

Furthermore, the structure given in (19) would explain the well-known mystery of mimetic verbs that Tsujimura (this volume) also discusses. That is, it would explain why some mimetic verbs can be either transitive, unaccusative, or unergative in adult Japanese, as illustrated in (20).

- (20) a. *Tama-o gorogoro-suru.*
 ball-ACC roll(MIM) do.NPST
 '(I) roll the ball.'
 b. *Onaka-ga gorogoro-suru.*
 stomach-NOM growl(MIM) do.NPST
 'My stomach is growling.'
 c. *Inu-ga gorogoro-suru.*
 dog-NOM roll over(MIM) do.NPST
 'The dog is rolling over.'

The mechanism of *gorogoro-suru*, or the homophonous verb with three-way ambiguities, could be naturally explained if we assume the structure proposed by Murasugi and Hashimoto (2004). That is, when *v* is associated with [+cause], the mimetic verb will be transitive as in (20a). When *v* is associated with [-cause], the mimetic verb will be either unaccusative or unergative, as shown in (20b) and (20c), respectively. Each structure would be schematized as shown in (21) (see also Kageyama 2007).





Here, the mimetic *gorogoro*, which can be an imperative verb (meaning ‘roll over!’) when it is bare, is a lexical element, probably V. It is then combined with *v* whose features, either [+cause] or [-cause], are lexically realized by *suru*. Thus, the structure hypothesized by the children as in (6) is continuous in the adult grammar of Japanese and, hence, is learnable.

Mimetics are associated with iconic properties, so we find mimetics with similar sounds and functions in the world languages (see Akita, this volume). However, mimetics are also associated with the typical properties of languages: the arbitrariness of the relationship between form and meaning, ambiguity, and productivity. Innovative meaning assignment, however, would also reflect specific grammatical properties of a particular language, which yield linguistic variations in mimetic expressions. Variations in mimetics are limited within the grammatical properties of the language.

The Mimetic Creation Device allows for universal mimetics, and children naturally produce mimetics. In Japanese, mimetics (sometimes followed by the suffix *-ta*, or the sentence-final particle *na*) can also be RIAs, and can occur within sentences. Bare mimetics, in this case, make bare verbal forms just like bare verbs (or RIAs) in English and Swahili, whereby verb stems can stand alone. The morphological properties regarding whether or not the verb stem can stand by itself may determine the form of the RIA, and typically, in Japanese, RIAs appear in surrogate forms. However, as well as the *V-ta*-formed RIAs, mimetics are also productively used as RIAs in Japanese.

Thus, there are commonalities among mimetics in world languages, and the differences in form are also restricted within the range of human languages. These facts would be naturally explained if we assume that a device for integrating mimetics into grammar is endowed as part of the Language Acquisition Device for human beings.

6.6 Conclusion

In this chapter, I have argued that mimetic words have the same semantic properties as non-mimetic words. The innovative meaning assignment would also reflect specific grammatical properties of a particular language, which yield linguistic variations in mimetic expressions. Specifically, following Murasugi and Nakatani (2013), I argued that in the acquisition of Japanese, mimetics are found in children’s spontaneous production as RIAs, the default verb forms which

young children use in root clauses, while they are not possible in the target adult grammar. Japanese-speaking children, at around one to two years of age, employ mimetics (sometimes associated with *-ta*) as well as *V-ta* forms as typical RIAs, which exhibit the Modal Reference Effects, Aspect Effects, and the Eventivity Constraint, or the typical properties of RIs in European languages. Among others, Murasugi et al. (2009) and Murasugi and Nakatani (2013) argue that bare mimetics used as RIAs in Japanese make bare verbal forms, just like bare verbs (or RIAs) in English and Swahili, for example, where verb stems can stand alone.

The fact that caretakers do not use mimetics (and *V-ta* forms) in the way that children do would naturally suggest that children do not merely keep track of the frequencies of a given word that occurs in the input. Rather, very young children have a device, which I term the Mimetic Creation Device, which allows them to creatively bootstrap and associate the image conceptualized with the semantic meaning, and merge the mimetic expression with a syntactic head to project a syntactic category.

Such a device would naturally explain the universality and variability found among mimetics (see other chapters in this volume). Mimetic variability is due to the grammatical properties of the particular language. In Japanese, for example, mimetics can be nominal, but they can occur within predicates, or can be used as adverbs/adjectives followed by some functional elements. It may be for the same reason that mimetics often form the stem of categories in adult Japanese, while mimetics are used as RIAs in child Japanese. This would relate to the morphological properties of the language, as well as the syntactic properties which allow productive lexical realization of functional elements, such as *v*, which select mimetics as their complement.

Acknowledgments

I would like to thank Noriko Iwasaki, Peter Sells, Mika Kizu, and Kimi Akita, whose vision led us to be engaged in the *wakuwaku* (a Japanese mimetic meaning ‘extremely fun’) project of mimetics. A part of this chapter was presented with Tomomi Nakatani at the 20th Japanese/Korean Linguistics Conference (JK20) at the University of Oxford, the content of which was published in *Japanese/Korean Linguistics 20*, the proceedings of the conference (2013, edited by Bjarke Frellesvig and Peter Sells), and was also introduced in the *Handbook of Japanese Psycholinguistics* (2015, edited by Mineharu Nakayama). I would like to thank Tomomi Nakatani and Tomoko Hashimoto, who allowed me to use the data they have collected in their longitudinal studies of their own children, for invaluable discussions on the acquisition of mimetics. Also, while I can’t name them all here, I wish to thank the students and colleagues for the invaluable suggestions for the project presented here, in particular, Chisato Fuji, Kamil Deen Diane Lillo-Martin, Naoko Sawada, Koji Sugisaki, and William Snyder.

Last but not least, I would like to deeply thank the editors, anonymous reviewers, Tomoko Kawamura, Anthony Cripps, and Mamoru Saito, for their valuable

comments and suggestions for this chapter. The research presented here is supported in part by a Nanzan University Pache Research Grant (I-A, 2014–2016), and the JSPS Grant-in-Aid (#26370515).

References

- Akita, Kimi. 2009. *A grammar of sound-symbolic words in Japanese: Theoretical approaches to iconic and lexical properties of Japanese mimetics*. Kobe: Kobe University dissertation.
- Bergman, Brita & Östen Dahl. 1994. Ideophones in sign languages? The place of reduplication in the tense-aspect system of Swedish sign language. In Carl Bache, Hans Basboll & Carl-Erik Lindberg (eds.), *Tense, aspect and action: Empirical and theoretical contributions to language typology*, 397–422. Berlin: Mouton de Gruyter.
- Blom, Elma & Frank Wijnen. 2000. How Dutch children's root infinitives become modal. In S. Catherine Howell, Sarah A. Fish & Thea Keith-Lucas (eds.), *Proceedings of the 24th annual Boston University Conference on Language Development (BUCLD)*, 128–139. Somerville, MA: Cascadilla Press.
- Boersma, Paul & David Weenink. 2005. *Praat: Doing phonetics by computer* (Version 4.3.01). Available online at <http://www.praat.org/>.
- Brown, Roger. 1973. *A first language*. Cambridge, MA: Harvard University Press.
- Deen, Kamil Ud. 2002. *The acquisition of Nairobi Swahili: The morphosyntax of inflectional prefixes and subjects*. Los Angeles, CA: UCLA dissertation.
- Fukuda, Kanae. 1999. *Giongo giitaigo no hattatu. Giongo/gitaigo ni yomu kokoro no arika* [Studying words of feeling: In search of mind by reading onomatopoeias]. Tokyo: Shinyosha. 135–153.
- Guasti, Maria Teresa. 2004. *Language acquisition: Growth of grammar*. Cambridge, MA: MIT Press.
- Haegeman, Liliane. 1995. Root infinitives, tense, and truncated structures in Dutch. *Language Acquisition* 4. 205–255.
- Hoekstra, Teun & Nina Hyams. 1998. Aspects of root infinitives. *Lingua* 106. 91–112.
- Hyams, Nina. 2002. Clausal structure in child Greek: A reply to Varlokosta, Vainikka and Rohrbacher and a reanalysis. *The Linguistic Review* 19. 225–270.
- Hyams, Nina. 2005. Child non-finite clauses and the mood-aspect connection: Evidence from child Greek. In Paula Kempchinsky & Roumyana Slabakova (eds.), *The syntax, semantics and acquisition of aspect*, 293–316. Dordrecht: Kluwer.
- Kageyama, Taro. 2007. Explorations in the conceptual semantics of mimetic verbs. In Bjarke Frellesvig, Masayoshi Shibatani & John Charles Smith (eds.), *Current issues in the history and structures of Japanese*, 27–82. Tokyo: Kurosio.
- Kim, Meesook & Colin Phillips. 1998. Complex verb constructions in child Korean: Overt markers of covert functional structure. In Annabel Greenhill, Mary Hughes, Heather Littlefield & Hugh Walsh (eds.), *Proceedings of the 22nd annual Boston University Conference on Language Development (BUCLD)*, 430–441. Somerville, MA: Cascadilla Press.
- Klima, Edward & Ursula Bellugi. 1979. *The sign of language*. Cambridge, MA: Harvard University Press.
- Krämer, Irene. 1993. The licensing of subjects in early child language. In Colin Phillips (ed.), *Papers on case and agreement I, MIT Working Papers in Linguistics (MITWPL)* 19, 197–212. Cambridge, MA: MIT.
- Murasugi, Keiko. 2015. Root infinitive analogues in child Japanese. In Mineharu Nakayama (ed.), *Handbook of Japanese psycholinguistics*, 117–148. Berlin: De Gruyter Mouton.
- Murasugi, Keiko & Chisato Fuji. 2008. Root infinitives: The parallel route that Japanese- and Korean-speaking children step in. In William McClure & Marcel den Dikken (eds.), *Japanese/Korean Linguistics* 18, 3–15. Stanford, CA: CSLI Publications.
- Murasugi, Keiko, Chisato Fuji & Tomoko Hashimoto. 2007. What's acquired later in an agglutinative language. *Nanzan Linguistics* 6. 47–78.
- Murasugi, Keiko & Tomoko Hashimoto. 2004. Three pieces of acquisition evidence for the v-VP frame. *Nanzan Linguistics* 1. 1–19.
- Murasugi, Keiko & Tomomi Nakatani. 2013. Three types of 'root infinitives': Theoretical implications from child Japanese. In Bjarke Frellesvig & Peter Sells (eds.), *Japanese/Korean Linguistics* 20, 263–279. Stanford, CA: CSLI Publications.
- Murasugi, Keiko, Tomomi Nakatani & Chisato Fuji. 2009. *The roots of root infinitives: The surrogate verb forms common in adult and child grammar*. Paper presented at the 34th Boston University Conference on Child Language Development (BUCLD 34).
- Noji, Junya. 1973–1977. *Yōjiki no gengoseikatsu no jittai* [The language use in child age] 1–IV. Tokyo: Bunka Hyōron Shuppan.
- Rasetti, Lucienne. 2003. *Optional categories in early french syntax: A developmental study of root infinitives and null arguments*. Genève: University of Genève dissertation.
- Rizzi, Luigi. 1993/1994. Some notes on linguistic theory and language development: The case of root infinitives. *Language Acquisition* 3. 371–393.
- Rothstein, Susan. 2004. *Structuring events: An essay on the semantics of lexical aspect*. Oxford: Blackwell.
- Salustri, Manola & Nina Hyams. 2003. Is there an analogue to the RI stage in the null subject languages? In Barbara Beachley, Amanda Brown & Frances Conlin (eds.), *Proceedings of the 27th annual Boston University Conference on Language Development (BUCLD)*, 692–703. Somerville, MA: Cascadilla Press.
- Sano, Tetsuya & Nina Hyams. 1994. Agreement, finiteness, and the development of null arguments. *North East Linguistics Society (NELS)* 24. 544–558.
- Tajima, Yoko. 2014. *The creation and acquisition of Japanese onomatopoeia*. Nagoya: Nanzan University BA thesis.
- Tsujimura, Natsuko. 2005. Mimetic verbs and innovative verbs in the acquisition of Japanese. *The Berkeley Linguistics Society (BLS)* 31. 371–382.
- Varlokosta, Spyridoula, Anne Vainikka & Bernhard Rohrbacher. 1996. Root infinitives without infinitives. In Andy Stringfellow, Dalia Cahana-Amitay, Elizabeth Hughes & Andrea Zukowski (eds.), *Proceedings of the 20th annual Boston University Conference on Language Development (BUCLD)*, 816–827. Somerville, MA: Cascadilla Press.
- Wexler, Kenneth. 1994. Optional infinitives, head movement, and economy of derivation. In David Lightfoot & Norbert Hornstein (eds.), *Verb movement*, 305–350. Cambridge: Cambridge University Press.