

Japanese/Korean Linguistics

Volume 19

edited by

Ho-Min Sohn


Haruko Minegishi Cook

William O'Grady

Leon A. Serafim

Sang Yee Cheon

*Published for the
Stanford Linguistics
Association by*

 **CSLI**
PUBLICATIONS
Center for the Study of
Language and Information
Stanford, California

Copyright © 2011
CSLI Publications
Center for the Study of Language and Information
Leland Stanford Junior University
Printed in the United States
15 14 13 12 1 2 3 4 5

Library of Congress Cataloging-in-Publication Data

Conference on Japanese/Korean Linguistics (1st : 1989 :
University of Southern California)

Japanese/Korean Linguistics / edited by Hajime Hoji.

Volume 19 / edited by Ho-min Sohn, Haruko Cook,
William OGrady, Leon Serafim, and Sang Yee Cheon

p. cm.

Includes bibliographical references and index.

ISBN-13: 978-1-57586-619-2

ISBN-13: 978-1-57586-618-5 (pbk.)

1. Japanese language—Congresses. 2. Korean
language—Congresses. 3. Japanese language—Grammar,
Comparative—Korean—Congresses. 4. Korean language—Grammar,
Comparative—Japanese—Congresses. 5. Linguistics—Congresses.
I. Hoji, Hajime. II. Stanford Linguistics Association. III. Center for
the Study of Language and Information (U.S.) IV. Title.
PL503.C6 1989
495.6—dc20

90-2550
CIP

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

For a list of volumes in this series, along with a cumulative table of
contents, please visit

<http://cslipublications.stanford.edu/site/JAKO.shtml>

CSLI was founded in 1983 by researchers from Stanford University, SRI
International, and Xerox PARC to further the research and development of
integrated theories of language, information, and computation. CSLI headquarters
and CSLI Publications are located on the campus of Stanford University.

CSLI Publications reports new developments in the study of language,
information, and computation. Please visit our web site at

<http://cslipublications.stanford.edu/>

for comments on this and other titles, as well as for changes
and corrections by the author and publisher.

Contents

Acknowledgments ix

Part I Phonetics and Phonology

Integrated Accounts on Consonant Cluster Simplification 3

MIYEON AHN

A Statistical Model of Korean Loanword Phonology 15

HAHN KOO

**Variation and Noun-Verb Asymmetry in Consonant Cluster Simplifica-
tion in Seoul Korean** 27

KYUWON MOON

**Japanese Velar Allophones Revisited: A Quantitative Analysis Based
on the Speech Production Experiments** 43

SHIN-ICHIRO SANO

Part II Syntax

Decomposing Overt Syntax 61

YOSHIHISA KITAGAWA

**An Experimental Study of the Grammatical Status of *caki* in
Korean** 81

CHUNG-HYE HAN, DENNIS RYAN STOROSHENKO, AND R. CALEN WALSH

A Trihedral Approach to the Overgeneration of “no” in the Acquisition of Japanese Noun Phrases*

KEIKO MURASUGI

Nanzan University and University of Connecticut

TOMOMI NAKATANI

Nanzan University

CHISATO FUJI

Nanzan University

1. Introduction

It is very well known that Japanese-speaking children around ages one to four overgenerate *no* between the sentential modifier and the head NP, as shown in (1).

- (1) a. howasi ookii *no howasi (=ohasi) (2;1)
chopstick big NO chopstick
'chopsticks, the big ones, chopsticks' (Nagano 1960)

* We would like to thank the organizers, participants and the anonymous reviewers of JK 19, and scholars involved in the activities of Center for Linguistics at Nanzan University, especially Michiya Kawai, Tomoko Hashimoto, Mamoru Saito, Koji Sugisaki, Daiko Takahashi, and Yurie Tsuruhara, for valuable discussions on the topic discussed in this paper. The research presented here was supported in part by Nanzan University Pache Research Grant I-A and by JSPS Grant-in-Aid at Nanzan University (#20520397).

Japanese/Korean Linguistics 19.

Edited by Ho-min Sohn, Haruko Cook, William O'Grady, Leon A. Serafim, & Sang Yee Cheon.
Copyright © 2011, CSLI Publications

- b. maarui *no unti (2;0)
 round NO poop 'a round poop' (Yokoyama 1990)
- c. Yuta-ga asyon-deru *no yatyu wa kore, kore (Yuta 2;3)
 Yuta-Nom playing-is NO thing Top this this
 'The thing that Yuta (I) is playing with is this (train).'

In (1a) and (1b), children insert *no* between the adjective (e.g. *ookii* (big) and *marui* (round)) and the head nominal (e.g. *howasi* (chopsticks) and *unti* (poop)) at around two years of age. Later, at two to four years of age, as in (1c), Japanese-speaking children insert *no* between the sentential modifier *Yuta ga asyon-deru* (Yuta is playing) and the head nominal *yatyu* (thing).

In adult Japanese, there are mainly three types of *no*.

- (2) a. [Yamada] no hon (Genitive Case marker)
 Gen book 'Yamada's book'
- b. akai no (Pronoun)
 red (+present) one 'the red one'
- c. Emi-ga hazimete robusutaa-o tabe-ta no wa
 -Nom for the first time lobster-Acc ate CompTop
 Bosuton de da (Complementizer)
 Boston in Copula
 'It is in Boston that Emi ate a lobster for the first time.'

(2a) is the genitive case marker, which roughly corresponds to *'s* or *of* in English. (2b) is a pronoun, which roughly corresponds to *one* in English. A complementizer in (2c) is the head of the presuppositional phrase in the cleft sentence, which corresponds to *that* in English.

In the history of Japanese acquisition, three contradictory analyses, the Pronoun Hypothesis, the Genitive Case Hypothesis, and the Complementizer Hypothesis have been proposed regarding the syntactic status of the over-generated *no*. Accordingly, the age children overgenerate *no* is contradictory: Some say it happens when children are one year old (e.g. Nagano 1960), but some say it lasts until four years old (e.g. Murasugi 1991).

In this paper, mainly based on our longitudinal study with a Japanese-speaking child, Yuta, and the corpus analysis of CHILDES (Sumihare and Jun), we argue that the mysteriously long overgeneration phenomenon of *no*, in fact, stems from three distinct sources, as proposed by Murasugi (2009). We show that three contradictory hypotheses (i.e. Pronoun, Genitive Case, and Complementizer) proposed in the past acquisition researches, are basically all correct. First, a pronoun *no* is used due to the limit in production at the two-word stage. Second, the genitive Case marker *no* is inserted because

of the miscategorization of adjectives as nominals. Third, a complementizer *no* is overgenerated due to the parameterization in the structure of relative clauses. The overgeneration of *no*, which looks like a single phenomenon, is reanalyzed as a trihedral phenomenon, and each phase represents one of the crucial developmental stages in language acquisition.

2. The Complementizer Hypothesis: Relative Clause Parameter (Murasugi 1991)

Murasugi (1991), based on her longitudinal and experimental study with Japanese-speaking children at two to four years of age, proposes that the overgenerated *no* is a complementizer. According to her analysis, a structure of a sentential modifier is parameterized; either CP or TP depending on the languages. Murasugi argues that sentential modifiers in adult Japanese (and Korean) are TPs, unlike CP relatives in English. However, Japanese-speaking children initially hypothesize that Japanese relative clauses are CPs, and overgenerate a complementizer between the sentential modifier and the head nominal.

Children's first complex NPs are found after two years of age, and they are usually a fixed expression without overgeneration (Murasugi and Hashimoto 2004). Our subject Yuta's first complex NPs were also fixed expressions. The relevant examples are shown in (3).

- (3) a. Tottan-ga katte kure-ta purezento da yo (2;0)
 father-Nom buy gave present Copula Int
 '(This is) the present that my father bought (for me).'
- b. Kore, Yuki-tyan-ga kure-ta purezento na no (2;0)
 this, -Nom gave present Copula Int
 'This is the present that Yuki-tyan gave (to me).'

In (3), the verbs were limited to *katte kureru* (buy and give) and *kureru* (give) only. The head NP was also limited to the NP, *purezento* (present).

Later, some children overgenerate *no* on sentential modifiers. Yuta started to overgenerate *no* productively not only in complex NPs as in (4a) and (4b), but also after adjectives as in (4c), after 2;2.

- (4) a. Kare-teru *no hana da yo (2;2)
 wither-is NO flower Copula Int '(I have) a withered flower.'
- b. Yuta-ga asyon-deru *no yatyu wa kore, kore (2;3)
 -Nom playing-is NO thing Top this this
 'The thing that Yuta (I) is playing with is this (train).'
- c. Kore nagai *no yatyu da ne (2;3)
 this long NO one Copula Int 'This is a long one.'

In (4a), Yuta inserted *no* between the modifier *kare-teru* (is withered) and the head nominal *hana* (flower). Similarly, in (4b), Yuta (playing with a train in front of the box with the picture of the train, and comparing the toy and the picture of it), overgenerated *no* between the sentential modifier *Yuta-ga asyon-deru* and the head NP, *yatyu*. In (4c), he overgenerated *no* after the adjective *nagai* (long).

Murasugi (1991) reports that children at around two to four years of age overgenerate a complementizer *no* between the head NP and all types of sentential modifiers, as exemplified in (5).

- (5) a. *tigau* *no *outi* (3;0)
 differ NO house 'the different house'
 b. *Emi-tyan-ga kai-ta* *no *sinderera* (2;11-4;2)
 -Nom drew NO Cinderella 'the Cinderella that Emi drew'
 c. *ookii* *no *tako* (2;11-4;2)
 big NO octopus 'a big octopus' (Murasugi 1991)

In (5a), *no* is inserted between the inflected verb, *tigau* (differ) and the head nominal, *outi* (house), and in (5b), it is inserted between the sentential modifier and the head nominal. In (5c), *no* is overgenerated after the adjective, *ookii* (big), as well.

Crucially, however, she reports that those children, who overgenerated *no*, sometimes undergenerated the genitive Case marker on PPs, as in (6), although they can correctly insert it between two NPs, as in (7).

- (6) Tokyo *made* [φ] *basu* (3;2)
 to *(Gen) bus 'the bus to Tokyo' (Murasugi 1991)
 (7) a. *Emi-no hon* (Emi:2;9) b. *megane-no ozityan* (Miki: 2;4)
 -Genbook glasses-Gen man
 'Emi's book' 'the man with eye glasses' (Murasugi 1991)

Thus, the overgeneration takes place when the genitive Case marking is not fully acquired.

One piece of direct empirical evidence for the Complementizer Hypothesis was found in Toyama dialect in Japanese as in (8a) and Korean as in (8b).

- (8) a. *Anpanman *tui-toru* *ga *koppu* (Ken 2;11)
 (a character) attaching-is GA cup
 'the cup which is pictured with "Anpanman"' (Murasugi 1991)

- b. *Acessi otopai tha-nun* *kes *solli ya* (2-3 years old) (Kim 1987)
 uncle motorcycle riding-is KES sound is
 'Lit. (This) is the sound that a man is riding a motorcycle.'

The overgenerated item is a complementizer, for instance, *ga* in Toyama dialect, and *kes* in Korean, but not the genitive case marker (*no* in Toyama dialect nor *uy* in Korean).

Thus, not only Japanese-speaking children but also Korean-speaking children initially hypothesize that their relative clauses are CPs, and overgenerate a complementizer between the sentential modifier and the head nominal.

Murasugi and Hashimoto (2004), however, argue that the Complementizer Hypothesis alone cannot fully explain the overgeneration phenomenon of *no*. In fact, the overgeneration of *no* is observed with very young children, even at around the age of one, when they start producing two-word utterances. Crucially, then, not only T or C related items, but also, even the genitive Case marker is not produced. Murasugi and Hashimoto point out that it is very unlikely that the same type of overgeneration lasts for four years, and conclude that there are two types of overgeneration of *no*: A pronoun and a complementizer.

3. The Pronoun Hypothesis In Addition To the Complementizer Analysis (Nagano 1960, Murasugi and Hashimoto 2004, 2006)

The Pronoun Hypothesis was in fact originally proposed by Nagano (1960) fifty years ago. His argument is very simple and clear: The overgenerated *no* cannot be the genitive Case marker, because the overgeneration takes place when there is no genitive Case marker found in the child production, but only pronoun *no* is produced. Examples in (9) are cited from Nagano (1960).

- (9) a. *howasi ookii* *no *howasi* (=ohasi) (2;1)
 chopstick big one chopstick 'chopsticks, the big ones, chopsticks'
 b. *Amuna* (=Harumi) *tittyai* *no *Amuna* (2;1)
 small one
 'Harumi, the small one, Harumi' (Nagano 1960)

In (9a) and (9b), *no* looks like to be erroneously inserted between the adjective (e.g. *ookii* (big) and *tiisai* (small)) and the NP (e.g. *howasi*, which is *ohasi* (chopsticks) and *Amuna*, which is *Harumi*) at 2;1. The overgeneration in question appears just after the pronoun *no* starts to be correctly produced at 2;1, as in (10), but before the genitive Case marking is fully acquired, as in (11).

structure, they produce an NP headed by the pronoun *no* (one) first, to provide a frame for an NP, and the modifier, or the head nominal is realized as the second independent NP. Children use this strategy since the genitive Case marker is not yet acquired at the beginning of the two-word stage. Murasugi (2009) further proposes that this stage reflects the earliest morphological realization of the operation of merger, and that the onset of the merger starts with the phrases headed by the smaller category (*no* (one) as N') with less semantic content. This hypothesis holds as there is a pause between the pronoun *no* and the second NP.

The argument given so far shows that there are at least two sources for the apparently same “overgeneration” phenomenon. The one observed in ages one and two is a pronoun, and the other observed in ages two through four is a complementizer.

However, another empirical problem arises. *No* is overgenerated when children have already acquired the genitive case marker, have no problem in combining two elements, and produce no relative clauses. The mysterious *no* associated with those characteristics is exemplified in (16).

- (16) a. atarasii *no kami (Yuta 1;11) b. siroi *no gohan (Yuta 2;0)
 new NO paper ‘a new paper’ white NO rice ‘white rice’
 c. Tiisai *no buubuu tootta yo (Sumihare 1;11)
 small NO car passed Intensifier ‘A small car passed.’

Crucially, the overgeneration is found after the two-word stage, at around the age of two, with limited adjectives such as color, size, shape, and state.

At this mysterious stage, the genitive Case marker between two NPs is productively and correctly used. For example, as in (17), Yuta started to produce the genitive Case marker between NPs at 1;11, and Sumihare started at 2;0.

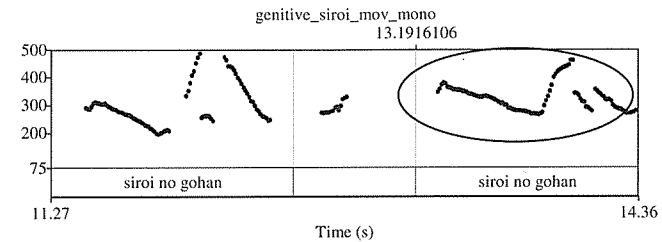
- (17) a. Ko otoosan-no hanasi da yo (Yuta 1;11)
 this father-Gen story CopulaInt ‘This is a story of father.’
 b. Ringo-no ozityan-ga... (Sumihare 2;0)
 apple-Gen man-Nom ‘The man (who sells) apples is...’

Praat analysis reveals that unlike the case of a pronoun, there is no pause found between *no* and the NP following it. In Figure 3, no separation has been made between *siroi no* (white one) and *gohan* (rice), and they are produced as a unit.

The facts shown above cannot be explained by the Complementizer Hypothesis either. This mysterious *no* is produced by children who have not

acquired complex NPs yet, and the cleft sentences are hardly observed. Moreover, as noted above, the overgeneration is found only with the present-tensed adjectives of color, size, and state.

Figure 3. No pause found between *no* and the head NP with the mysterious overgeneration of *no*



In the next section, we argue that children, at around the age of two, have difficulties in acquiring “the category of adjectives,” and some adjectives are treated as nominals, and some, as verbs. Those “nominal-like adjectives” never inflect with tense, and children, who already know the genitive Case marker insertion between the nominal projections, correctly insert the genitive Case marker between the “nominal-like adjectives” and the head nominal. This would be the mysterious stage of overgeneration of *no* found before a relative clause is acquired. (See Murasugi (2009) for details.)

4. The Genitive Case Marker Hypothesis

The Genitive Case Marker Hypothesis has been proposed by many researchers in the past fifty years (Iwabuchi and Muraishi 1968, Harada 1980, 1984, Clancy 1985, Yokoyama 1990, Ito 1998, among others). Among those, Yokoyama’s (1990) generalization is quite important. He argues that the erroneous *no* is a genitive Case marker, and it is overgenerated only with the adjectives referring to color, size, and shape (e.g. *akai* (red), *ookii* (big), *maarui* (round)), but never with other adjectives (e.g. *abunai* (dangerous), *yasasii* (kind)), as shown in (18).

- (18) a. *ookii* *no sakana (1;8) b. *maarui* *no unti (2;0)
 big NO fish 'a big fish' round NO poop 'a round poop'

Yokoyama's apparently curious generalization is further confirmed by Murasugi and Hashimoto (2004). They find that the adjectives of color, size, and shape do not inflect with tense, but appear only in present-tense forms.

This generalization is further supported by our longitudinal study with Yuta and also by our corpus analysis of Sumihare. The overgeneration occurs only with the adjectives which refer to color, size, shape, and state, but it never occurs with such adjectives as *itai* (is painful), *omoi* (is heavy), or *kowai* (is scary), which only appear in the predicative form with tense (i.e. present and past) but never in the prenominal form. As these adjectives never appear in the prenominal form, there is naturally no chance that the overgeneration should take place. Rather, these adjectives are not associated with the overgenerated *no*, and behave like verbs, as in (19).

- (19) a. *Oisii*, kore. *Oisii*, kore (Yuta 1;10)
 delicious this delicious this 'This is delicious.'
 b. *Koko* *babatii* yo ne (Sumihare 2;0)
 here dirty Int Int '(It is) dirty here.'
 c. *Okaatyan* *pompo* itai no (Sumihare 2;0)
 Mommy onomatopoeia ache Q
 'Mommy, is (your) stomach aching?'

In (19), the adjectives, *oisii* (delicious), *babatii* (dirty), *itai* (painful), are used as predicates, conjugating with tense as shown in Tables 1 and 2.

Table 1 shows that the past-tense forms of nominal-like adjectives are produced relatively late, but those of verb-like adjectives are produced relatively early in the case of Yuta.

Table 1. The age of the first appearance of the present- /past-tense forms of adjectives by Yuta

Nominal-like Adjectives (of Touch and Sight)			Verb-like Adjectives		
Adjectives	Present-tense	Past-tense	Adjectives	Present-tense	Past-tense
<i>ookii</i> 'big'	<i>ooki-i</i> (1;8)	<i>ookik-atta</i> (2;0)	<i>itai</i> 'painful'	<i>ita-i</i> (1;11)	<i>itak-atta</i> (1;11)
<i>tiisai</i> 'small'	<i>tiisa-i</i> (1;11)	<i>tiisaik-atta</i> (2;1)	<i>oisii</i> 'delicious'	<i>oisi-i</i> (1;10)	<i>Oisik-atta</i> (1;10)
<i>kuroi</i> 'black'	<i>kuro-i</i> (2;0)	<i>kurok-atta</i> (2;4)	<i>kowai</i> 'scary'	<i>kowa-i</i> (1;10)	<i>kowak-atta</i> (2;2)

The contrast between nominal-like adjectives and verb-like adjectives is clearer in the case of Sumihare, as shown in Table 2.

Table 2. The age of the first appearance of the present- /past-tense forms of adjectives by Sumihare (CHILDES)

Nominal-like Adjectives (of Touch and Sight)			Verb-like Adjectives		
Adjectives	Present-tense	Past-tense	Adjectives	Present-tense	Past-tense
<i>ookii</i> 'big'	<i>ooki-i</i> (1;11)	<i>ookik-atta</i> (2;9)	<i>itai</i> 'painful'	<i>ita-i</i> (1;8)	<i>itak-atta</i> (2;0)
<i>akai</i> 'red'	<i>aka-i</i> (1;11)	<i>akak-atta</i> (4;0)	<i>omoi</i> 'heavy'	<i>omo-i</i> (1;8)	<i>omok-atta</i> (2;2)
<i>siroi</i> 'white'	<i>siro-i</i> (2;2)	<i>sirok-atta</i> (3;6)	<i>kusai</i> 'smelly'	<i>kusa-i</i> (2;2)	<i>kusak-atta</i> (2;3)

Sumihare produced only the present forms for nominal-like adjectives, but never the inflected forms, when he inserted *no* between the adjectives of touch and sight (e.g. color, size, shape, and state) and the head nominals. On the other hand, the verb-like adjectives (e.g. *itai* (painful), *omoi* (heavy), *kusai* (smelly)), which are not erroneously genitive Case marked, inflected with tense much earlier.

There are several pieces of evidence to show that the adjectives referring to the sense of touch and sight are used as nominals. For example, as shown in (20), these adjectives are used as referential noun phrases.

- (20) a. **Kiiroi* to **akai* to (Sumihare 2;9)
 yellow and red and
 '(They're) a yellow (crayon) and a red (crayon).'
 (Adult form: *kiiroi/akai-no* (yellow/red one), / *kiiro/aka* (yellow/red))
 b. **Tiisai* *koo-te* ya (Sumihare 2;7)
 small buy-Request Int 'Please buy a small (dog).'
 (Adult form: *tiisai-no* (small one))

In (20a), Sumihare erroneously used the adjectives *kiiroi* (yellow) and *akai* (red) to refer to the concrete objects, a yellow crayon and a red crayon. Similarly in (20b), he used the adjective *tiisai* (small) to refer to a small dog.

These nominal-like adjectives appear in the argument position being Case marked as well.

- (21) **Tittyai-ga* *atte* **maarui-ga* *atte*...*konna* **ookii-ga* *atte*...(Yuta 2;2)
 small-Nom be round-Nom be such big-Nom be
 'There is (a) small (circle), (a) round (one), and such (a) big (one)...'
 (Adult form: *Tittyai/maarui/ookii no* (small/round/big one))

Yuta uttered as in (21), while he was repeatedly drawing circles. The adjectives, *tiisai* (small), *marui* (round) and *ookii* (big), appear in the subject position associated with the nominative Case marker *ga*.

The most valid generalization to be drawn from the description so far is that the adjectives referring to the sense of touch and sight are miscatego-

rized as nominals (Murasugi 2009). Hence, those children who already know the system of genitive Case marking between two NPs, “correctly” assign the genitive *no* to the “nominals” which are, in fact, adjectives in adult grammar.

Then, why do children miscategorize certain adjectives? We conjecture that adjectives referring to color, size and shape share the properties of concrete nominals in that they are consistent, absolute, and evidential, compared with other types of adjectives such as emotion and evaluation (cf. Berman 1988, Mintz and Gleitman 2002). And as argued by de Villiers and de Villiers (1978), a certain set of adjectives of size and shape go together as colors in child language.

Furthermore, acquiring adjectives is difficult because it is “a fluid category” (Gassar and Smith 1998, Berman 1988, Polinsky 2005, among others). As shown in (22), the position where the adjective *big* appears in adult English can be occupied with the verb *dropped* or the noun *a dog*. Thus, the syntactic cue is ambiguous for children.

(22) a. It's [big] b. It [dropped] c. It's [a dog]

The syntactic cue is ambiguous in Japanese, too. Both adjectives and nominals can be followed by the polite sentence-ending marker *desu*, as in (23), while both adjectives and verbs inflect with tense, as in (24).

(23) a. akai desu (Adjective)
 is-red (Adj) Polite '(It) is red.'
 b. aka desu (Nominal)
 a red color (Nominal) Polite '(It) is a red color.'

(24) a. ooki-i ookik-atta b. aka-i akak-atta (Adjectives)
 big-Pres big-Past red-Pres red-Past
 c. tabe-ru tabe-ta d. nom-(r)u non-da (Verbs)
 eat-Pres eat-Past drink-Pres drink-Past

In this sense, the Japanese adjective is also “a fluid category,” and this could make adjectives difficult to be acquired.

Note here that even if we assume that children's miscategorization of certain adjectives causes the genitive Case marker insertion, the Complementizer Hypothesis should be still maintained. For example, remember the overgeneration phenomena in Toyama dialect in Japanese and Korean. As in (8a) and (8b), repeated below, the overgenerated item is a complementizer, but not the genitive Case marker.

(8) a. *Anpanman tui-toru *ga koppu (Ken 2;11)
 (a character) attaching-is GA cup
 'the cup which is pictured with “Anpanman” (Murasugi 1991)
 b. Accessi otopai tha-nun *kes soli ya (2-3 years old)(Kim 1987)
 uncle motorcycle riding-is KES sound is
 'Lit. (This) is the sound that a man is riding a motorcycle.'

Thus, the Complementizer Hypothesis we discussed in Section 2, should be maintained, and there are three distinct stages of the “overgeneration” of *no*.

The hypothesis that there are three stages in the “overgeneration” of *no* is further supported by our corpus analysis of Jun. First, Jun, at 2;2, produced a pronoun but not the genitive Case marker. He produced (25a) and (25b), where there was a brief pause between *no* and the head nominals, *basu* (bus) and *okaasan* (mother). This is exactly the Pronoun stage as is discussed in Section 3.

(25) a. Ookii no [pause] basyu(=basu) wa? (2;4)
 big N'(one) bus Top '(Where) is the big bus?'
 b. ookii no [pause] okaasan (2;5)
 big N' (one) mother 'the big one, mother'

Then, at around 2;5, when the genitive Case markers were productively used as in (26), he inserted *no* between adjectives referring to color, size and shape and the head nominals, without making any pauses, as in (27).

(26) Kokko-no outi ya (2;5)
 chicken-Gen house Int '(This is) a chicken's house.'
(27) a. Hore, ookii *no torakku atta zo hore (2;6)
 hey big NO truck was Int hey 'Hey, there is a big truck.'
 b. tiisai *no akatyan (2;6) c. kuroi *no zidoosya (2;6)
 small NO baby 'a small baby' black NO car 'a black car'

Just like Yuta and Sumihare, the overgeneration occurs only with the adjectives of touch and sight, and those adjectives are sometimes used as nominals as well.

(28) a. *Ookii-ga otiru (2;7) (Adult: ookii-kuruma-ga / ookii-no-ga)
 big-Nom fall 'The big (toy car) is falling.'
 b. FAT: Kore-wa nan desu ka
 this-Top what Cop Q 'What is this?' (Showing CHI a new toy)
 CHI: Atarasii *no *akai (2;8) (Adult: atarasii akai-no)
 new NO red '(It's) new red.'

In (28a), the adjective *ookii* (big) appears in the subject position associated with the nominative Case marker *ga*. In (28b), he used the adjective *akai* (red) to refer to the concrete object, a red toy. Hence, those adjectives are treated as nominals, and the overgenerated *no* in (27) is the genitive Case marker, being "correctly" inserted between two NPs.

Finally, as in (29), he started overgenerating *no* with relative clauses at around 2;8.

- (29) a. *koware-ten *no yatu zidoosya* (2;8)
is-broken NO thing car '(This is) a broken car.'
b. *Omosiroi *no yakiimo ya kore*
funny NO baked sweet potato Int this
'This is a funny baked sweet potato.' (2;10)

In (29a), *no* is overgenerated between the modifier *koware-ten* (=teru) (is broken) and the head nominal *yatu* (thing). (29b) shows that the overgeneration occurs with any kind of adjectives at this stage. Thus, this is the Complementizer stage, where Jun hypothesizes that Japanese relative clauses are CPs (Murasugi 1991).

Thus, the longitudinal studies with Akkun and Yuta, and the corpus analysis of Sumihare and Jun (CHILDES) indicate that Japanese-speaking children through three stages of "overgeneration" of *no*.

5. Conclusion

In this paper, we argued that there are three stages of Japanese-speaking children's overgeneration of *no*, in line with Murasugi (2009). The overgeneration of *no*, which apparently looks like a single phenomenon includes three parts: *No* as (i) a pronoun (N') at the late age of one, (ii) the genitive Case marker at around the age of two, and (iii) a complementizer (C) at around the age of two through four. The only case that we can truly name as overgeneration is the third stage, or the overgeneration of C. In the other two, *no* is actually used "correctly".

The fifty-year-debate in the field of Japanese acquisition has never ended because of the belief that the overgeneration takes place for a single reason. However, the overgeneration of *no* is due to three independent reasons, is a trihedral phenomenon, and informs us of the important phases in the stages of grammar acquisition, i.e. the immature merge operation, the miscategorization of adjectives, and the setting of the relative clause parameter.

References

Berman, R. 1988. Word Class Distinctions in Developing Grammar. *Categories and Processes in Language Acquisition* eds. Y. Levy, I. Schlesinger and M.D.S. Braine, 45-72. Hillsdale: Lawrence Erlbaum Associates.

- Boersma, P. and Weenink, D. 2009. *Praat: Doing Phonetics by Computer* (Version 5.1.23) [Computer Program]. Retrieved October 31, 2009, from <http://www.praat.org/>
- de Villiers, J. G. and de Villiers, P. A. 1978. *Language Acquisition*. Cambridge, MA: Harvard University Press.
- Gasser, M. and Smith, L. 1998. Learning Noun and Adjective Meanings: A Connectionist Account. *Language and Cognitive Processes Special Issue: Language Acquisition and Connectionism* 13: 269-306.
- Iwabuchi, E. and Muraishi, S. 1968. Kotoba no Syuutoku [Acquisition of Language]. *Kotoba no Tanzyoo: Ubugoe kara Go sai made* [The Birth of Speech: From Newborn Babies to 5-year-olds], eds. E. Iwabuchi, K. Hatano, J. Naito, I. Kirikae, T. Tokizane, M. Sawashima, S. Muraishi, and T. Takizawa, 109-177. Tokyo: Nihon Hoosoo Shuppan Kyookai.
- Kim, Y. 1987. *The Acquisition of Relative Clauses in English and Korean: Development in Spontaneous Production*. Doctoral dissertation, Harvard University.
- Mintz, T. and Gleitman, L. 2002. Adjectives Really Do Modify Nouns: The Incremental and Restricted Nature of Early Adjective Acquisition. *Cognition* 84: 267-293.
- Murasugi, K. 1991. Noun Phrases in Japanese and English: A Study in Syntax, Learnability and Acquisition. Doctoral dissertation, University of Connecticut.
- Murasugi, K. 2009. The Onset of Complex NPs in Child Production. Presented at WAFL 6. Nagoya University. September 5th.
- Murasugi, K. and Hashimoto, T. 2004. Two Different Types of Overgeneration of 'no' in Japanese Noun Phrases. *Proceedings of the 4th Asian GLOW in Seoul*, ed. Hang-Jin Yoon, 327-349. Seoul: Hankook.
- Murasugi, K. and Hashimoto, T. 2006. Gengo Kakutoku ni okeru Meisikunai deno Kazyooseisei [The Overgeneration of 'no' in the Acquisition of Japanese Noun Phrases]. *KSL* 26: 12-21. Kansai Linguistic Society.
- Nagano, S. 1960. Yooji no Gengo Hattatsu - Tokuni Joshi 'no' no Shuutokukatei nituite [Language Development: A Case Study of Japanese 'no']. *Kansai Daigaku Kokubun Gakkai: Shimada Kyooju Koki Kinen Kokubungaku Ronsyu*, 405-418.
- Noji, J. 1973-1977. *Yooziki no Gengoseikatu no Zittai* [The Language Use by Children]. I-IV. Tokyo: Bunka Hyoron Syuppan.
- Polinsky, M. 2005. Word Class Distinctions in an Incomplete Grammar. *Perspectives on Language and Language Development*, eds. D. Ravid and H. Bat-Zeev Shildkrout, 419-36. Dordrecht: Kluwer.
- Yokoyama, M. 1990. Yoozi no Rentai Syuusyoku Hatuwa ni okeru Zyosi 'no' no Goyoo [Errors of Particle 'no' in Young Japanese Children's Adjective-Noun Constructions]. *Hattatu Sinrigaku Kenkyuu* 1, 2-9.