

# Children's Two-word Utterances: A Case Study of One Japanese Child

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## ABSTRACT

This study has analyzed Japanese two-word combinations spontaneously produced by one Japanese-speaking child during ages from 1;5 to 2;1 to accomplish two purposes: (i) to fill a gap in acquisition studies of Japanese two-word combinations, and (ii) to reveal what properties the combinations exhibit and how properties change with ages. The child produced his first word combinations at the age of 1;5 when he had an estimated vocabulary of 20 words. We have found: (a) the word combinations obtained during 1;5-1;7 are most likely to be formulaic and unproductive, (b) the number and variety of two-word combinations increase considerably at 1;8 and go up drastically at 2;1, (c) the number of XY combinations (i.e., combinations of two content words) steadily increases with the age while the number of XP combinations (i.e., combinations of one content word and one sentence particle) stays roughly the same, and (d) scope-discourse related particles are produced significantly earlier than argument-related particles.

**Key words:** syntax acquisition, Japanese two-word utterances, scope-discourse related particles, argument-related particles

## 1. Introduction

In acquisition literature, the earliest stages of language development have usually been characterized in terms of the length of utterances like the stages of 'one-word utterances,' 'two-word utterances,' and 'multiword utterances.' One of the key issues about the earliest stages is whether the child's one-word utterances, two-word utterances, etc. are equal or similar to the adult's sentences in structure (see Braine (1963), Radford (1990), and Powers (2001) among others for various proposals).

Some of the acquisition studies of Japanese have also investigated early one-word and two-word utterances (see Okubo (1967), Hayakawa (1979), etc.). On the whole the studies give just an outline of the stages of one-word and two-word utterances with some interesting but rather anecdotal examples or the data on which the studies are based are rather limited. This study attempts to provide an overall picture of the stage of two-word utterances of Japanese based on more extensive data. Specifically the study examines two-word utterances produced by one Japanese child and tries to uncover their properties. Section 2 provides the overview of the data under investigation, and section 3 analyzes the child's two-word utterances in detail according to his

ages. In particular, section 3.1 examines the two-word combinations produced during 1;5-1;7, and section 3.2 discusses those produced during the six months from 1;8 to 2;1. Concluding remarks are given in section 4.

## 2. Data

The analysis is based on two-word utterances produced by one Japanese-speaking child, Taa-tyan, whose family members speak the standard Japanese language. Taa-tyan's spontaneous speech was collected by Kokuritu Kokugo Kenkyuusyo (The National Institute for Japanese Language) as one of their research projects<sup>1</sup>. The present study has examined the data of the ages from 1;0 to 2;1 in two out of six volumes, Kokuritu Kokugo Kenkyuusyo ed. (1982), which contain the speech by the child between the ages 1;0 and 2;11.

When we look at spontaneous speech by Japanese-speaking children to investigate two-word and multiword utterances, we face one problem characteristic of Japanese, one of the so-called null subject languages, that non-null subject languages have never brought up. In Japanese, pronouns are typically not phonetically realized (designated as *pro*). A one-word utterance *itta* '(I) went' is perfectly grammatical in reply to the question *kyoo gakkoo-e itta?* '(did you) go to school?' in a casual conversational context even in the adult's speech. Is *itta* a one-word utterance or an utterance of two words, *pro* and *itta*? The related issue is when the Japanese child starts to use *pro*. Harada (1997) examined the acquisition studies of *pro* and found out that the Japanese child acquires *pro* some time between 12 and 24 months. Thus it is not unreasonable to consider Taa-tyan is in command of the use of *pro* in the period of investigation in this study. However, we have made a decision in this study that *pro* is not counted as one word when we identify word combinations. The utterances such as *iku* '(I will) go' and *nai* '(It) is not (found)', thus, are considered to be instances of one-word utterance, not those of two-word combination.

The following decisions have also been made to pick up word combinations from the corpus. Such words as *un* 'yes', *oo* 'oh', *nee* 'listen!' are not considered to constitute a part of word combination. Thus the utterance *un, totte* 'yes, (please) take (it to me)' is not regarded as a two-word combination. Predicates in various conjugated forms and negative predicates are counted as one word. For instance, *koi* 'the imperative form of *kuru* 'come'', *atta* 'the past form of *aru* '(there) is'', *iku* '(I will) go', *ikoo* '(let's) go', *yonde* 'read (me a book)', *kita* 'the past form of *kuru* 'come'', *mienai* 'visible-not', *kakanai* 'write-not' are all treated like one word. Furthermore, repeated words in one

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1 The project started when Taa-tyan was 1;0 and was finished when the child became 4;0. Taa-tyan's speech was audio recorded about two hours every month and about twelve hours on his birthday and was later transcribed and published in six volumes. Taa-tyan's speech was recorded by his mother whenever she noticed him speaking a lot. Thus the recording time for one opportunity was not long and varied but the recorded time added up reached about two hours each month.

utterance are counted as one word. The utterances such as *wan ita ita* '(there) was (a) dog', *sakki sakki pappu pappu* 'some time ago (the red light was) on and off', *imoo kore imoo* 'this (is a) sweet potato', *baabu ookii baabu* '(a) big bus' are treated as a two-word utterance. On the other hand, sentence particles, case particles, and other particles are counted as one word. The utterances such as *ii yo*<sup>2</sup> 'good, indeed', *konai nee* '(he will) not come, won't he?', *amai no* '(this is) sweet, indeed', *kore wa* '(what's) this?' are all two-word combinations.

Taa-tyan produced his first word at the age of 11 months. The child began to produce his first word combinations at the age of 1;5 when he had an estimated vocabulary of 20 words<sup>3</sup>. He furthermore began to combine three words at 1;8, and four words at 1;9. At the age of 2;1, he produced combinations of as large as seven words. Table 1 provides the number of different word combinations that occur in the transcripts of Taa-tyan's speech between the ages 1;5 and 2;1.

Table 1

The numbers of different word combinations per month

AGE	1;5	1;6	1;7	1;8	1;9	1;10	1;11	2;0	2;1	Sum
2 <sup>a</sup>	1 (1) <sup>b</sup>	3 (3)	5 (25)	21 (60)	55 (187)	33 (128)	52 (90)	72 (105)	174 (312)	416 (911)
3				2 (2)	28 (57)	12 (19)	10 (12)	29 (38)	159 (215)	240 (343)
4					4 (4)	4 (7)	1 (1)	8 (8)	68 (77)	85 (97)
5									20 (21)	20 (21)
6									7 (8)	7 (8)
7									1 (1)	1 (1)
<b>Sum</b>	1 (1)	3 (3)	5 (25)	23 (62)	87 (248)	49 (154)	63 (103)	109 (151)	429 (634)	769 (1381)

<sup>a</sup>The figures 2-7 on the leftmost column respectively stand for two-, three-, four-, five-, six-, seven-word combinations.

<sup>b</sup>The figure in parentheses represents the number of occurrences of word combinations.

### 3. Analysis

Taa-tyan produced 769 different word combinations with various length between the ages 1;5-2;1. As can be seen in Table 2, 416 out of all the combinations produced in the period are two-word combinations. In this section, we will basically focus our attention on two-word combinations and try to make clear how their properties change

2 Particles are shown in boldfaced type in the examples given in the text.

3 The words include *atii* 'hot', *mamma* 'food', *nyaa*[=*nai*] 'not exist', *taatan* 'Taa-tyan', *ataa* '(there) was, was found', *buubuu* 'car', *baabaa*[=*wanwan*] 'dog', *nenne* 'sleep', *itaa* '(there) was, was found', *tyotyoto* 'butterfly', *paan* 'bread', *baau baau* 'carp streamer', *ziiya* 'cheese', *nyai nyai* 'put away', *kokkoo*[=*kukku*] 'shoes', *doozyo* 'please', *haa* 'yes', *unn unn* 'no', *giigii* 'chopsticks', *paipai* 'breast'. Each of the words exhibits various similar but varied pronunciations. Take *atii* for an illustration, the word was also pronounced as *azii*, *atti*, *ati*, *atyui*.

according to the ages.

**Table 2**

The numbers of two-word combinations per month

AGE	1;5	1;6	1;7	1;8	1;9	1;10	1;11	2;0	2;1	Sum
	1 (1)	3 (3)	5 (25)	21 (60)	55 (187)	33 (128)	52 (90)	72 (105)	174 (312)	416 (911)

### 3.1. The ages between 1;5 and 1;7

The word combinations Taa-tyan produced are much limited both in variety and in frequency during the first three months after Taa-tyan produced his first word combination at 1;5. All the different word combinations in the first three months are given in (1) with the gloss for each word and the meaning of the utterance in English. The meaning of each utterance is guessed or reconstructed from the context where the utterance was produced.

- |        |               |             |       |         |                                       |
|--------|---------------|-------------|-------|---------|---------------------------------------|
| (1) a. | moo           | nai         | (1;5) | $f=1^4$ | XY                                    |
|        | any more      | is-not      |       |         | 'I don't want any more.'              |
| b.     | aa            | nai         | (1;6) | $f=1$   | XY                                    |
|        | butter        | is-not      |       |         | 'There is no butter.'                 |
| c.     | bappuu        | naaii       | (1;6) | $f=1$   | XY                                    |
|        | bus           | is-not      |       |         | 'There are no buses.'                 |
| d.     | nai           | nee         | (1;6) | $f=1$   | XP                                    |
|        | is-not        | SP          |       |         | '(It) is not found, isn't it?'        |
| e.     | ringo         | naa[=nai]   | (1;7) | $f=1$   | XY                                    |
|        | apple         | is-not      |       |         | 'There are no apples.'                |
| f.     | baibai        | goo         | (1;7) | $f=1$   | XY                                    |
|        | byebye        | train       |       |         | '(The subway) train is gone.'         |
| g.     | papa[=paipai] | nyaai[=nai] | (1;7) | $f=1$   | XY                                    |
|        | breast        | is-not      |       |         | 'There is no breast.'                 |
| h.     | nai           | nee         | (1;7) | $f=13$  | XP                                    |
|        | is-not        | SP          |       |         | '(Something) is not found, isn't it?' |
| i.     | inai          | nee         | (1;7) | $f=9$   | XP                                    |
|        | is-not        | SP          |       |         | '(Someone) is not found, isn't he?'   |

Although the number of word combinations is very small, it is easy to group them

4 The letter *f* stands for frequency.

into two categories: the combination of two content words (XY henceforth) and those of one content word and one sentence particle (XP<sup>5</sup> hereafter). Notice that all the combinations except (1f) contain *nai* 'is-not' or *inai* 'is-not' as one element. At first glance, the utterances with (*i*)*nai* are adult-like and the element (*i*)*nai* looks like a predicate. On the other hand, the form (*i*)*nai* has not occurred in other conjugated forms and the number of X+*nai* combinations dropped suddenly from 1;10, when other combinations increase. Note also that the sentence particle employed in XP combination is limited only to *nee*. Thus the word combinations in this period seem to be more like formulaic expressions than productive combinations.

### 3.2. The ages between 1;8 and 2;1

From the age of 1;8 on, different word combinations increase in number steadily. As can be seen in Table 2, there are sharp increases at 1;9, at 2;0, and at 2;1. Accordingly we examine word combinations in terms of four stages: at 1;8, between 1;9-1;11, at 2;0, and at 2;1.

#### 3.2.1 At the age of 1;8

At 1;8, Taa-tyan produced 17 XY combinations and 4 XP combinations. The XY combinations are further divided into three groups: (i) 6 A(djective) and N(oun) combinations such as *aoi buubuu* '(a) blue car', *ookii pan* 'large bread', and *akai tyontin* [= *tyootin*] '(a) red paper lantern', (ii) 4 X+*nai* combinations such as *meeme* [= *dame*] *naa* [= *nai*] 'must-not-do not', *buu* [= *budoo*] *naa* [= *nai*] 'grapes is-not', and *akai nai* '(a) red (car) is-not(-found)', and (iii) 7 others. The AN combinations are seemingly adult-like noun phrases. The X+*nai* combinations are interesting in that X can be varied from nouns, which are acceptable in adult utterances, to adjectives and adjectival nouns in *syuusikei* 'sentence final form', which should be *renyookei* 'gerundive form', thus *meeme nai* should be *meemeezya nai* and *akai nai* should be *akaku nai* in adult speech. The other combinations are illustrated in (2).

- (2) a. akai akai nainai  
red red put-back '(You will) put (a) red (marker) back.'
- b. anka nainai  
foot-warmer put-back '(You will) put (a) foot warmer back.'
- c. imo koree imo  
sweet potato this sweet potato 'This (is a) sweet potato.'
- d. meeme wen [recollecting that the child wept at the clinic]<sup>6</sup>

5 Note that from the age 2;0 on, P covers particles such as *mo* 'also', *to* 'and', *de* 'with', *dake* 'only', and *wa* 'topic marker' in addition to sentence particles.

6 The statement enclosed with square brackets briefly describes the context where the utterance was produced.

eyes	weep	'(I) wept.'
e. onmo	piipoo piipoo	
outdoors	onomatopoeia	'(A police car) runs sounding <i>piipoo piipoo</i> .'

It is interesting to note that no case particles are produced yet so that any word combinations may be allowed. Specifically such combinations (2a, d, and e) are never observed in adult utterances. The sentence particle in XP combinations is only *ne* at the previous stage but at this stage we observe three different sentence particles, *ne*, *na*, and *yo*.

### 3.2.2. Between the ages 1;9 and 1;11

At the age of 1;9, the number of different word combinations increases remarkably but the developmental trend remains roughly the same during the ages from 1;9 to 1;11. Taa-tyan produced 50 XY and 5 XP combinations at 1;9, 27 XY and 6 XP combinations at 1;10, and 48 XY and 4 XP combinations at 1;11. The sentence particles used in XP combination include *ne*, *yo*, *no*, *ka* 'interrogative particle'. XY combinations obtained during these three months are divided into three groups as in the previous stage: (i) AN combinations (8 at 1;9, 6 at 1;10, and 9 at 1;11) such as *amai pan* (1;9) '(a) sweetened bun', *aoi kukku* (1;9) 'blue shoes', *aoi googoo[=ressya]* (1;10) '(a) blue train', *ookii buu* (1;10) '(a) big car', *akai umauma* (1;11) 'red food(=cherry)', and *akai ti* (1;11) 'red blood', (ii) X+(i)*nai* combinations (16 at 1;9, 5 at 1;10, and 7 at 1;11) such as *zii[=zi] nai* (1;9) 'letters is-not', and *okii nai* (1;9) '(a) big (one) is-not(-found)', *moo nai* (1;10) '(there) is-not any more (bread)', *neenne naainai* (1;10) 'sleep is-not (=I will not take a nap)', *hitootyuu[=hitotu] nai* (1;11) 'one (bus) not', *banana nai* (1;11) 'banana no (=there are no bananas)', and (iii) other combinations (21 at 1;9, 14 at 1;10, and 28 at 1;11). The AN combination seems to be an adult-like noun phrase. X+*nai* combinations exhibit some interesting properties. Some of the combinations exhibit reverse word order *nai*+X along with X+*nai* order, thus obtaining *nainai meme* (1;9) 'is-not eye drops (=there are no eye drops)' and *naai hasi* (1;9) 'is-not chopsticks (=there are no chopsticks)'. Moreover, X can be not only a noun (that is acceptable in the adult's speech) but also various other words such as an adjective, a verb, and a numeral.

The other combinations are intriguing in that more thematic relations than had been observed at the previous stage are involved. Some of the examples are given below with the interpretation reconstructed from the context where a two-word combination is produced. At the age of 1;9 the child produced coordination (3a), noun + demonstrative (3b), subject + predicate (3c-e), instrumental + predicate (3f), locative + predicate (3g), time + predicate (3h), and subject + object (3i). No case particles and other particles are used so that the child seems to have produced combinations of any two words including combinations that the adult never licenses.

(3) At the age of 1;9

- a. buuun kankan  
car railroad crossing 'I want to see) cars and the railroad crossing.'
- b. piipoo utti[=kotti] [asked which is a big police car]  
police-car this 'this police car'
- c. kokoa ii  
here right 'This place (is just) right (for the purpose).'
- d. buubuu ita  
car was 'There was a car.'
- e. piipoopiipoo pappappaa pappappaa  
police-car on-and-off '(The red light on a) police car (was) on and off.'
- f. buubuu ikoo  
car let's go 'Let's go (by) car.'
- g. kokoa iita  
here was '(Something) was (found) here.'
- h. sakki sakki pappa pappa [Recalling that the child went to the railroad  
crossing with his father]  
some time ago on-and-off 'Some time age (the red light on the railroad  
crossing was) on and off.'
- i. Tomo-tyan akai  
Tomo-tyan red 'Tomo-tyan also has (a) red (car).'

At the age of 1;10, the child produced varieties of combination such as possessor + possessed (4a), appositive (4b), subject + predicate (4c-f), predicate + subject (4g), adverb + predicate (4h), object + predicate (4i), subject + *wh*-word (4j). At this age no case particles and other particles are observed either so that the child seems to have produced combinations of any two words including combinations that the adult never allows.

(4) At the age of 1;10

- a. piipopii tinti[=denti]  
police-car battery '(a) police car('s) battery'
- b. piipoopiipoo buubuu  
police-car car '(a) car (called a) police car'
- c. wan ita ita  
dog was '(A) dog was (found).'
- d. Bun-tyan attaa  
Bun-tyan was 'Bun-tyan was (found).'
- e. buu-uu-uu akai  
fire-engine red '(A) fire engine is red.'

- f. ao ii  
blue good '(I like (a) blue (one).'
- g. attaa piipoo  
was police-car '(A) police car was (found).'
- h. hyaa[=hayaku] kooii  
instantly come 'Come instantly!'
- i. nai[=nani] taati [not remembering the name Pooh, the child produced  
nai[=nani] instead. He asked his mother to make Pooh  
stand up.]  
what stand-up '(Make) Pooh stand up.'
- j. kore nani  
this what 'What('s) this?'

At the age of 1;11, varieties of combination were produced such as coordination (5a), noun + noun (5b), noun + modifier (5c), noun + numeral (5d), subject + predicate (5e-g), object + predicate (5h-i), locative + predicate (5j), adverb + predicate (5k), predicate + subject (5l), locative + subject (5m), subject + *wh*-word (5n). The same thing can also be seen at this stage that no case particles and other particles are produced so that the child seems to have combined any two words and he did produce many combinations that the adult never permits.

(5) At the age of 1;11

- a. pinku aka [Looking at a pink balloon and a red balloon painted on a  
plate]  
pink red '(A) pink (balloon and a) red (balloon)'
- b. pittyya pittya pittya pittya o-uta  
[mimetic for rainfalling] song '(the) song of a rainy day'
- c. zyampaa nyaa  
jumper cat '(a) jumper (with a picture of a) cat (on)'
- d. ana hutaatyu  
hole two 'two hole(s)'
- e. minna minna itai  
all pinch 'All (the pants are too tight and) pinch.'
- f. tyaantyan nainai  
Taa-tyan put-back 'Taa-tyan (wants to) put (this) back.'
- g. kiiro itai  
yellow pinch '(The) yellow (pants are too tight and) pinch.'
- h. puutaa[=huta] totte  
cover take-out 'Take (the) cover out.'
- i. oppai tyuutyuu



- breast suck            '(I will) suck (at my mother's) breast.'
- j. zintyan[=ziityan] iku  
grandfather go            '(I will) go (to the) grandfather('s).'
- k. mata, mata konkon  
again hit                    '(I will) hit (toy railroad tracks) again.'
- l. siro banana            [After peeling the skin of a banana]  
white banana            '(The inner part of a) banana (is) white.'
- m. mukoo yuki  
over-there snow            '(There are some) snow over there.'
- n. aoi aoi nanii  
blue what                    'What is (that) blue (one).'

### 3.2.3. At the age of 2;0

At the age of 2;0, the number of different word combinations increases considerably. Notice, however, that the number of XY combinations shows slow though steady increase, 59, while there are a remarkable rise in the number of XP combinations, 13, from only 5 in average in the period 1;9-1;11. The XP combinations *ko-nai nee* '(Someone does) not come, doesn't he?', *ame yo* '(It's) rain(ing)!', and *amai no* '(It's) sweet, indeed.' are familiar ones with P being a sentence particle. We have the first occurrences of particles *mo* 'also (adverbial postposition)' and *no* 'one (pronominal)' at this month of age<sup>7</sup>. Some of the X+*mo* and X+*no* combinations are given in (6).

- (6) a. okaasyan mo  
mother also            '(I want) mother also (to eat strawberries).'
- b. pantu mo  
pants also              '(Put on) pants too.'
- c. pinku no  
pink one                '(a) pink one (=button)'
- d. akai no  
red one                 '(a) red one (=car)'

59 XY combinations obtained at 2;0 are again divided into three groups: (i) 5 AN combinations such as *siroi banzyuu* '(a) white bun with a bean-jam filling', *akai naihu* '(a) red knife', (ii) 3 X+*nai* combinations such as *moo nai* '(there) is-not any more', *boo [=boosi] nai* '(I do)n't (find my) cap', and (iii) 51 other combinations. Compared with the combinations produced for the last three months, the AN and X+*nai* combinations exhibit a sharp drop in the number of occurrence. The total number of AN occurrences drastically went down from 90 (1;9), 85 (1;10), and 22 (1;11) to only 5 and that

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<sup>7</sup> We understand that it is not adequate to consider *no* in a pronominal use a particle but for the purpose of this study, we tentatively take it as one of the particles.

of X+nai from 31 (1;9), 8 (1;10), and 8 (1;11) to only 4 respectively.

The number of other combinations increased from 21 in average over the last three months to 51. However, the range of different kinds of combination for the most part remains the same as before. Taa-tyan produced such combinations as: coordination (7a), noun + noun (7b), numeral + noun (7c), subject + predicate (7d-g), predicate + subject (7h), adverb + predicate (7i, j), locative + predicate (7k, l), instrumental + predicate, (7m), object + predicate (7n-p), predicate + object (7q), subject + locative (7r), subject + object (7s), adverb + object (7t), object + adverb (7u), subject + *wh*-word (7v), and not classifiable (7w). Note that the child has not employed case particles yet and appears to have combined any two content words.

- (7) a. oziityan obaатыan  
grandfather grandmother 'grandfather (and) grandmother'
- b. omeme syensyei[=sensei]  
eyes doctor 'eye doctor'
- c. hutaati googoo  
two trains 'two trains'
- d. kore Bun-tyan  
this Bun-tyan 'This is Bun-tyan.'
- e. kaizyuu kita  
monster came '(A) monster came.'
- f. Taa-tyan kiru  
Taa-tyan cut 'Taa-tyan (will) cut (something with a kitchen knife).'
- g. anka attakai  
foot-warmer warm '(The) foot warmer is warm.'
- h. atta patokaa  
was police car '(A) police car was (found).'
- i. mata gotyun[=gotun]  
again bump into '(The car) bumped into (another car) again.'
- j. ittyoni[=issyoni] nete  
together lie down 'Lie down to sleep together (with me).'
- k. onmo iku  
out of doors go '(I will) go outside.'
- l. oziityan iku  
grandfather go '(I want to) go (to the) grandfather('s house).'
- m. kaaten huita  
curtain wiped '(I) wiped (my hands on a) curtain.'
- n. otobai[=ootobai] suki  
motorcycle like '(I) like (a) motorcycle.'
- o. anka totte

- foot-warmer take 'Hand (me a) foot warmer.'
- p. zibon[=zubon] haku  
 pants put on '(I want to) put on (my) pants.'
- q. zyaa itigo  
 wash strawberries '(I want to) wash strawberries.'
- r. otontyan[=otootyan] tita[=sita]  
 father downstairs 'Father (is) downstairs.'
- s. okaatyan syatsu  
 mother undershirt 'Mother (took her) undershirt (off and slept).'
- t. motto budoo  
 more grapes '(I want) more grapes.'
- u. ame ame hayai  
 rain soon '(Sing me a song of) rain soon.'
- v. kore naani  
 this what 'What('s) this?'
- w. mune syatsu  
 chest shirt '(a part of his) shirt (corresponding to his) chest'

### 3.2.4. At the age of 2;1

At the age of 2;1, the number of different word combinations of both XY and XP drastically increases from 72 at 2;0 to 174. The 59 XP combinations include first occurrences of such particles as *to* 'and', *de* 'with', *dake* 'only', and *wa*<sup>8</sup> 'topic-marker' alongside with the particle *mo*, *oziiyan mo?* '(does) grandfather also (eat salad)?', *takusii mo* '(I will put back a) taxi, too.', the particle *no*, *otoosyan no* 'father's one (=shoes)', and familiar sentence particles, *zyaa nee* 'well, then', and *haru no* '(I) do put (a) sticker (here)'. Some of the XP combinations with *to*, *de*, *dake*, *wa* are given in (8).

- (8) a. kore to  
 this with '(together) with this'
- b. kore de  
 this with '(Run a race) with this (car.)'
- c. hasi de  
 chopsticks with '(I will eat) with chopsticks.'
- d. zidoosya dake [Running a race with a yellow car and a green car and  
 finding that a yellow one ran off the course and that only  
 a green one kept running]  
 car only 'Only (a green) car (keeps running.)'
- e. Bun-tyan wa?

8 We don't know why but we have only 'noun + *wa*?' combinations at this age. That is, Taa-tyan produced the topic marker in interrogative two-word combinations only.

- |    |          |     |   |
|----|----------|-----|---|
|    | Bun-tyan | Top | '(Does) Bun-tyan (take morning exercise)?'    |
| f. | kookoku  | wa? | [Looking for ad bills inserted in newspapers] |
|    | ad       | Top | '(Where are) ad bills?'                       |
| g. | e        | wa? |   |
|    | picture  | Top | '(Where is a) picture (of an old woman)?'     |

Turning now to 115 XY combinations obtained at 2;1, we have two groups: (i) 14 AN combinations such as *kiiroi nekkutai*[=*nekkutai*] '(a) yellow tie', *okkii okkii epuron* '(a) big kitchen apron', *tittyai maru* '(a) small circle', and (ii) 101 other combinations. Note that we have only one X+*nai* combination *kami nai* '(there) is no paper' though we have one three-word combination and one four-word combination with *nai*: *tarebi* [= *taberu*] *nai no* 'eat not SP' and *okaasyan no nai no* '(there) are not mother's (ones (=shoes)) SP'

The number of different other combinations went up from 51 to 101, while kinds of combinations found remained roughly the same as in the previous stage. Taa-tyan produced such combinations as coordination (9a), noun + noun (9b), demonstrative + noun (9c-e), noun + numeral (9f), subject + predicate (9g, h), predicate + subject (9i), adverb + predicate (9j,k), locative + predicate (9l, m), object + predicate (9n, o), predicate + object (9p), subject + locative (9q), subject + object (9r, s), adverb + object (9t), object + adverb (9u), subject + source (9v), subject + *wh*-word (9w, x), and unclassifiable (9y, z). Much the same as before, no case particles are produced yet so that the child seems to have combined any two different content words.

- |        |            |                       |                                   |
|--------|------------|-----------------------|-----------------------------------|
| (9) a. | Bun-tyan   | Noko-tyan             |                                   |
|        | Bun-tyan   | Noko-tyan             | 'Bun-tyan and Noko-tyan'          |
| b.     | akatyan    | boosi                 |                                   |
|        | baby       | hat                   | '(the) baby('s) hat'              |
| c.     | dotti      | o-tete                |                                   |
|        | which      | hand                  | '(In) which hand (is something)?' |
| d.     | kono       | kurai                 |                                   |
|        | this       | much                  | 'about this much'                 |
| e.     | kooyuu     | haana[= <i>hana</i> ] |                                   |
|        | such       | flower                | 'such flowers'                    |
| f.     | syuupiikaa | hitootyuu             |                                   |
|        | speaker    | one                   | 'one speaker'                     |
| g.     | kore       | tittyai               |                                   |
|        | this       | little                | 'This is little.'                 |
| h.     | Taa-tyan   | tottyatta             |                                   |
|        | Taa-tyan   | take-off-perf.        | 'Taa-tyan has taken (it) off.'    |
| i.     | atta       | syuupiikaa            |                                   |

	was speaker		'(A) speaker was (found).'
j.	motto kotyokotyō		
	more tickle		'Tickle (me) more.'
k.	akarui syuru[=suru]		
	light do		'(I want to) make (here) light.'
l.	okyutyai[=otukai] iko		
	errand go-lets		'Let's go on an errand.'
m.	oniwa ika-nai		
	garden go-not		'(I wo)n't go to the garden.'
n.	hutatyū hutatyū tyōdai		
	two give		'Give (me) two.'
o.	nanika tarebu[=taberu]		
	something eat		'(I want to) eat something.'
p.	tyokityōki kore		[Clipping a triangle from an ad bill]
	cut this		'(I am) clip(ping) this.'
q.	moisyōsai[=monosasi] kokō		
	ruler here		'(There is a) ruler here.'
r.	Noko-tyan kakkō		
	Noko-tyan look		'Noko-tyan (has a) look (of her mother).'
s.	okaasyan mane		
	mother mimic		'Mother, do (just as Taa-tyan will do).'
t.	kondo syōboōzidoōsya		
	this time fire-engine		'(I will make) a fire engine (run) this time.'
u.	nenne korōori hayaku		
	cradlesong soon		'(Sing me a) cradlesong soon.'
v.	kore ozityan		
	this uncle		'This (car was presented by my) uncle.'
w.	kore nani		
	this what		'What('s) this?'
x.	o-tenki naani		
	weather what		'(Tell me) what('s) weather?'
y.	okaasyan mattete		
	mother wait		'Mother (will bring it to me while Taa-tyan will) wait (here).'
z.	kore oniityan		
	this boy		'This (picture shows that a) boy (is spinning a top).'

What we have observed in section 3 are summarized in Table 3.

**Table 3**

The numbers of XY and XP combinations per month

AGE	1;5	1;6	1;7	1;8	1;9	1;10	1;11	2;0	2;1
XY	1	2	3	17	50	27	48	59	115
AN				6	8	6	9	5	14
X+nai	1	2	2	4	16	6	7	3	1
others			1	7	26	15	32	51	100
XP		1	2	4	5	6	4	13	59
X ne		1	2	2	2	1		1	1
X na				1					
X yo				1	3	2	2	2	
X ka						1			
X no <sup>a</sup>						2	2	4	25
X no <sup>b</sup>								2	11
X mo								4	7
X to									2
X de									2
X dake									1
X wa <sup>?</sup>									10
SUM	1	3	5	21	55	33	52	72	174

<sup>a</sup>no=sentence particle<sup>b</sup>no=pronoun

As can be seen in Table 3, from the age of 1;8 on, the number and the variety of combinations increase. At 1;8, Taa-tyan produced 17 XY combinations and 4 XP combinations. At the age 1;9, the number of different word combinations increases more but the developmental trend remains roughly the same for the following two months. Taa-tyan produced 50 XY and 5 XP combinations at 1;9, 27 XY and 6 XP combinations at 1;10, and 48 XY and 4 XP combinations at 1;11. At the age of 2;0, the number of different word combinations increases more. At the age of 2;1, the number of different word combinations of both XY and XP drastically increases from 72 at 2;0 to 174. XY combinations are further classified into 3 groups: AN, X+(i)nai, and other combinations.

#### 4. Concluding remarks

To sum, Taa-tyan produced his first word at the age of 11 months. The child began to produce his first word combinations at the age of 1;5 when he had an estimated

vocabulary of 20 words. The child produced 769 different word combinations with various length between the ages 1;5-2;1. Out of 769, 416 are two-word combinations.

What we have found are as follows. First, the word combinations obtained during 1;5-1;7 are most likely to be formulaic and unproductive. Second, the number and variety of two-word combinations increase considerably during 1;8-2;0, and go up drastically at 2;1. During the period, no case particles are produced so that any word combinations seem to be allowed. In other words, any semantic/thematic/grammatical relations are expressed by just combining two words. Third, the range of sentence particles produced extends from only *ne* before 1;8, to *ne*, *na*, and *yo* at 1;8, and further to *ne*, *yo*, *no*, *ka* 'interrogative particle' at 1;9-1;11. It is notable that other particles appear relatively late. *No* 'one (as a pronominal)' and *mo* 'also' do not enter the child's vocabulary until the age of 2;0. Such particles as *to* 'and', *de* 'with', *dake* 'only', *wa*<sup>9</sup> 'topic marker' firstly occur as late as 2;1. No case particles such as *ga* 'nominative case marker', *o* 'accusative case marker', *ni* 'dative case marker', and *no* 'genitive case marker' are produced till 2;1 as far as two-word combinations are concerned<sup>10</sup>. And finally during the period 1;5-2;0, the number of XY combinations constantly increases with the age while the number of XP combinations relatively remains the same.

To combine the second finding with the last one, we will get an interesting result related to interpretive properties. In the current approach to interpretive properties of language (see Chomsky (2000) and Piattelli-Palmarini et al. eds. (2009) among others), there are two basic kinds of interpretive properties: properties of argumental semantics and scope-discourse properties. The former deals with assigning thematic roles of a predicate to its arguments and the latter is related to properties that are somehow connected to the way how information is organized and conveyed in discourse such as the scope of operators, topicality, focus, and so on. Take an English construction (10) as an illustration, where a phrase *this book* is preposed to the beginning of the clause.

(10) This book, you should really read.

*This book* in (10) is interpreted both as a Topic and as an argument of the verb *read*.

Japanese has a wide range of particles from sentence particles, adverbial particles, to case particles and postpositions. Sentence and adverbial particles are connected to scope-discourse properties and case particles (and possibly postpositions) typically ex-

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9 The topic marker *wa* actually appeared in three-word combinations at 2;0, for example, *kyoo wa nainai* 'today (I will) put (them) back' (2;0). Note also that the first occurrence of *wa* in two-word combinations are observed at 2;1 only in the form of X+*wa*?, but in multiword combinations, *wa* occurred in other forms. For instance, the child produced such utterances as *kyoo wa pan tareru* [= *taberu*] *no* 'today (I will) eat (a) bun' (2;1).

10 Notice that the genitive case marker *no* occurred in multiword combinations at 2;0 on. Some of the examples are: *pinku no botan* '(a) pink button' (2;0), *okaasyan* [= *okaasan*] *no kutyu* [= *kutu*] 'mother's shoes' (2;1), and *Taa-tyan no kiiroi takusii* 'Taa-tyan's yellow taxi' (2;1).

hibit argumental properties. Turning to our findings, they show that sentence particles appear first, then adverbial particles, and lastly case particles and postpositions. In other words, the child first employs scope-discourse related particles several months before he starts to be in command of argument related particles. Moreover, the number of XP combinations remains basically the same while the number of XY combinations shows a fast and steady increase throughout the period, thus the combinational development is seen only in the argument related area. The result that scope-discourse related particles are produced significantly earlier than argument related ones seems to indicate that early two-word combinations are merely strings of two words with no internal structure.

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