

## ***Why* in the Left Periphery in Child Japanese: Evidence from Children's Word Order**

**Synopsis:** It has been quite widely accepted that *why*-type adverbs, unlike other *wh*-adverbials, are generated in the left periphery of clause structure in many languages including Japanese (Rizzi 1990, 1997; Ko 2005, 2006; Stepanov & Tsai 2008; Shlonsky & Soare 2010; Fujii et al. 2014; Miyagawa 2017; a.o.). How early does this knowledge come into existence in children's grammar (Ko 2006; Thornton 2008)? We report, through analyzing CHILDES corpora for Japanese (MacWhinney 2000; Oshima-Takane et al. 1998; Miyata 2012), that *why*-type adverbs appear in clause initial position more often than *where*-type adverbials in children's spontaneous speech. The *wh*-in-situ nature of Japanese then leads us to conclude that *why*-type adverbs are located higher than other *wh*-adverbials in children's grammar as well as adults'.

**Methodology:** The rationale of the methodology for data analysis adopted here is as follows. Given that Japanese is a radical pro-drop and *wh*-in-situ, the higher syntactic position a *wh*-phrase occupies, the more likely it is to be pronounced clause-initially. If so, we can infer, from word order in children's production data, which *wh*-phrase is higher than the other in the syntactic structure that they have access to.

We followed the following procedure in examining corpora. We first searched for children's utterances containing any of the three *wh*-words: *doosite* 'why', *nande* 'why' and *doko* 'where', using the CLAN program. We then distinguished by hand the *wh*-phrases found into the four categories, A to D below.

- A) **Fragmental:** The *wh*-phrase constitutes an utterance by itself. E.g. *Nande?* 'why?' *Doko?* 'Where?' *Doko-ni?* 'To where?'
- B) **Clause-initial:** In a given clause, nothing precedes the *wh*-phrase. E.g. *Doko-ni itta-no?* 'Where did you go?'; and *Kimi-wa [doko-ni itta-to] itta no?* 'Where did you say you went?'
- C) **Interjection:** In a given clause, some string precedes the *wh*-phrase but it is an interjection. E.g. *Etto, doko-ni itta-no?* 'Well, where did you go?'
- D) **Not clause-initial:** In a given clause, some string that is not an interjection precedes the *wh*-phrase: *Kimi-wa doko-ni itta-no?* 'Where did you go?'

Data analysis was conducted in a systematic and consistent manner. It is quite easy to identify clause boundaries in utterances containing multiple clauses and determine which expressions are interjections.

**Results and Discussion:** We have so far examined natural speech data of two Japanese children (and plan to look at more children's later): Nanami (1;1.29-5;0.17, Nisisawa and Miyata 2009) and Tomito (2;11.27- 5;1.23, Miyata and Nishisawa 2010) in the Miipro corpus. Following are some actual examples of coding utterances found in Nanami's speech.

- (1) *Nande rappakara dete kita no?* 'Why did (it) come out from the trumpet?' (3;5.23) [*Nande*, Cat. B]
- (2) *Oishasan nande kore kowashichatta no?* 'Why did the doctor break this?' (2;10.4) [*Nande*, Cat. D]
- (3) *Doko iku no?* 'Where (are you) going?' (2;2.13) [*Doko*, Cat. B]
- (4) *Kore doko de katte kita no?* 'Where did (you) buy this?' (2;6;8) [*Doko*, Cat. D]

Table 1 below shows the frequencies of *nande* 'why', *doosite* 'why' and *doko* 'where'

relative to their positions in clauses. Here we grouped the counts of Category B and Category C under the label ‘Initial’. Also, the counts of Category A are not included here because they tell us little about word order.

		<i>nande</i> 'why'		<i>doosite</i> 'why'		<i>doko</i> 'where'		
		Freq.	Resid.	Freq.	Resid.	Freq.	Resid.	Total
Nanami	Initial	55	6.113 **	38	5.436 **	85	-8.967 **	178
	Not initial	14	-6.113 **	7	-5.436 **	184	8.967 **	205
	Total	69		45		269		383
Tomito	Initial	100	5.14 **	14	-0.571	49	-4.879 **	163
	Not initial	26	-5.14 **	10	0.571	57	4.879 **	93
	Total	126		24		106		256

**Table 1:** Distribution of wh-phrase relative to position: Nanami’s and Tomito’s corpora

The chi-square analysis of the cross-patterning of the wh-phrase's position and its frequency reveals a significant association between the kind of wh-phrase and its position in both corpora ( $\chi^2(2)= 80.650$ ,  $p < .01$  for Nanami’s corpus, and  $\chi^2(2)= 27.658$ ,  $p < .01$  for Tomito’s corpus). As can be seen from the adjusted residulas, the two *why*-type adverbs tend to occur clause-initially while the *where*-type tends not to in Nanami’s speech. As for Tomito’s, although *doosite* does not exhibit a significant effect, the others do: *nande* significantly prefers occurring clause-initially and *doko* disprefers it.

**Conclusion:** The present study reports that *why*-type adverbs occur clause-initially more frequently than *where*-type adverbs in two Japanese children’s natural speech data. The difference in word order between *why*-questions and *where*-questions in children’s production is not surprising at all if *why*-type adverbs are located higher than *where*-type ones in children’s syntactic representation. The overall result is consonant with the finding of Ko’s (2006) about Korean, according to which, in natural speech data obtained from a two-year old, *way* ‘why’ precedes a nominative subject at a high rate while *eti* ‘where’ never precedes it.

**Selected References:** Fujii, T. et al. 2014. Comparative Remarks on *Wh*-adverbials In-situ in Japanese, Saito (ed.), Oxford University Press; Ko, H. 2005. Syntax of *Why*-in-situ: Merge into [Spec,CP] in the Overt Syntax, *NLLT* 23; Ko, H. 2006. On the Structural Height of Reason *Wh*-Adverbials: Acquisition and Consequences, Cover & Cheng (eds.), MIT Press; MacWhinney, B. 2000. *The CHILDES Project: Tools for Analyzing Talk, Third Edition*, Lawrence Erlbaum; Miyagawa, S. 2017, *Agreement Beyond Phi*, MIT Press; Miyata, S., H. Y. Nishisawa. 2010. MiiPro – Tomito corpus, Pittsburgh, PA: TalkBank; Nishisawa, H. Y., S. Miyata. 2009. MiiPro – Nanami corpus, Pittsburgh, PA: TalkBank; Oshima-Takane, Y. et al. (eds.) 1998. *CHILDES for Japanese. Second Edition*. The JCHAT Project Nagoya; Rizzi, L. 1990. *Relativized Minimality*, MIT Press; Rizzi, L. 1997. The Fine Structure of the Left Periphery, Haegeman (ed.), Kluwer; Shlonsky, U., G. Soare. 2010. Where’s ‘Why’? *LI* 42; Stepanov, A., W.-T. D. Tsai. 2008. Cartography and Licensing of *Wh*-adjuncts: A Cross-linguistic Perspective, *NLLT* 26; Thornton, R. 2008. *Why* Continuity. *NLLT* 26.