Three Types of "Root Infinitives": Theoretical Implications from Child Japanese

Root Infinitives (RIs) are non-finite verbs in matrix clauses, which are widely observed in child languages at around the age of two, as in (1) (Rizzi 1993/1994, Wexler 1994, among others). Instead of RIs, however, children speaking such languages as Inuktitut, Swahili and Malagasy (Swift&allen 2002, Deen 2002, Ntelitheos&Manorohanta 2004, among others) produce bare verbs by omitting the functional elements as in (2)*[1], and children speaking languages such as Italian (Salustri&Hyams 2003), Spanish (Grinstead 1994), Greek (Hyams 2005), Korean (Kim&Phillips 1998), Turkish (Aksu-Koç&Ketrez 2003) and Japanese (Murasugi, Fuji&Hashimoto 2007, Murasugi, Nakatani&fuji 2009) produce "Root Infinitive Analogues (RIAs)" attaching the default marker on the verb stem as shown in (3)-(5). Deen (2002) proposes that very-early-non-finite verb forms that the young children produce are classified into three as shown in Table 1: RIs, non-RIs and bare verbs.

This paper basically supports the typology proposed by Deen (2002) for the very-early-non-finite verb forms. Based on a longitudinal observation of a Japanese-speaking child (0;1-2;3) and the corpus analysis (CHILDES: Jun/Aki/Tai/Taro/Sumihare), and the previous studies on child Korean（Kim&Phillips 1998）, first, we present the empirical evidence showing that in both Japanese and Korean, the Surrogate Infinitives, instead of Root Infinitives, appear as the very-early-non-finite verbs (Root Infinitive Analogues) as in (3)-(5). We argue that children acquiring [-bare stem] languages whose verb stem cannot stand alone, (Hyams 1986), at around one/two year(s) of age, attach an unmarked morpheme (e.g., *ta* (past-tense) in Japanese (Murasugi, Fuji&Hashimoto 2007) and *–e* (mood marker) in Korean (Kim&Phillips 1998)) to the verb stem to make it a well-formed morphological "(surrogate) form," the mechanism of which is also found in the adult grammar (Cinque 2004, among others).

Second, we show that Japanese-speaking children also produce the Swahili-type Root Infinitive Analogues. We argue that Japanese-speaking children, at around 1;5-1;8, produce not only the Surrogate Infinitives (V+*ta*) shown in (5), but also the "bare" onomatopoeias (dropping the light verb *suru* 'do') as in (6), as RIAs. Both types of RIAs show the typical properties that the very-early-non-finite verbs often have; they are used in modal contexts (the Modal Reference Effects=MREs) and they express result state and progressive of events. Comparing the child bare onomatopoeia RIAs with the analysis of the adult onomatopoeias (typically followed by the light verb *suru* 'do') used with specific argument structure (Tsujimura 2009) and MRE found in the adult bare onomatopoeic verbs as in (7), we argue that no learnability problem arises. Even 1-year-old children know the properties of the onomatopoeic verbs, and use the "bare" onomatopoeic verbs as the Root Infinitive Analogues.

Based on the argument given above, we propose, refining Deen's (2002) proposal, that the child non-finite verbs are classified into three types as shown in Table 2: RIs like German and Dutch, RIAs of Surrogate Infinitives like Italian, Spanish, and Korean, and RIAs of bare verbs like Inuktitut and Swahili. Japanese, a [-bare stem] language with rich onomatopoeias, is a language which allows two types of RIAs, i.e., the Surrogate Infinitives like Italian, and the "bare" onomatopoeic verbs, like Swahili.

Child languages may give adult languages counsel. The typology presented here would not only ensure the existence of three types of "Root Infinitives" in child languages, but also suggest the three types of verb types in the world languages. Furthermore, two types of Root Infinitive Analogues observed in child Japanese give advice to the linguistic theory: If the [-stem] language allows an option to have bare verbs, children voluntarily try out the two types of "Root Infinitive forms" as the first possible verb forms even at the age of one, without being given any direct model from their input available.

(1) a. Papa schoenen wassen (Dutch) b. Thorstn das haben (German)
Daddy shoes wash-Inf. (Weverink 1989) Thorstn that have-Inf. (Poeppel & Wexler 1993)

(2) φ φ -lal-a tini (adult form: ni-na-lal-a chini) (Mus 2;4) (Swahili)
SA-T -V -Ind down 'I am lying down (here).'
(Deen's (2001) analysis of the longitudinal data of four Swahili-speaking children)

(3) a. dam**mi**! (1;10) (Italian: Imperative)
give-to me_{cl} 'give it to me.' (Salustri & Hyams 2003)
b. *Yo quie**re** hacerlo (3;0) (adult form: Yo quiero) (Spanish: 3rd Singular)
I-Nom want-3rdSg do-Inf-Cl Acc Sg.Masc 'I wants to do it.' (Grinstead 1994)

(4) a. mek-**e** emma (2 yrs) (adult form: mek-ca (eat-Propositive)) (Korean)
eat-Decl mommy 'Let's eat, Mommy.'
b. Ka:k-**ti** (1;5) (adult form: kalktim (get up-Past-1Sg)) (Turkish)
get-up-Past (Aksu-Koç & Ketrez 2003)

(5) a. Ai-**ta**. Ai-**ta** (1;7) (adult form: volition/request ake-ru/ake-te) (Japanese)
open-Past open-Past '(I) want to / (You) open (the cabinet).' (Nakatani & Murasugi 2009)
b. Baba tui-**ta** (1;6) (adult form: result tui-teiru)
thread stick-Past 'The thread stuck (to my finger).' (Murasugi, Fuji & Hashimoto 2007)

(6) a. buu (1;6) [request]
onomatopoeia 'I want to get down from a chair.'
b. bibi, bibi (1;6) [request]
onomatopoeia 'I want you to open a zipper.'
c. gasyaan (1;6) [result state]
onomatopoeia 'This bowl is broken.'
d. pooi (1;6) [progressive]
onomatopoeia 'Grandpa is taking out the trash.'
(Nakatani & Murasugi 2010)

(7) a. sesuzi-ga syan
back-Nom onomatopoeia
'(He) straightens his back.'
(Tamori 2002:33 from Tsujimura 2009)
b. sesuzi-o syan
back-Acc onomatopoeia
'(You) straighten your back.'
(Nakatani & Murasugi 2010)

Table 1: Summary of languages that allow RIs, disallow RIs and allow bare verbs (Deen 2002)

True RI Languages		Non-RI Languages		Bare Verb Languages	
German	Swedish	Italian	Japanese	English	Quechua
French	Icelandic	Spanish		Sesotho	Inuktitut
Dutch	Russian	Catalan		Siswati	

Table 2: Summary of languages that allow RIs, allow Surrogate Infinitives and allow bare verbs

True RI Languages		Surrogate Infinitive Languages		Bare Verb Languages	
German	Swedish	Italian	Turkish	English	Inuktitut
French	Icelandic	Spanish	Greek	Sesotho	Swahili
Dutch		Catalan	Romanian	Siswati	Malagasy
		Korean	K'iche' Maya	Quechua	
		Japanese	Kuwaiti Arabic	Japanese	

*1 A parallel analysis is made for child Inuktitut (Swift & Allen 2002) and child Malagasy (Ntelitheos & Manorohanta 2004) as in (i) and (ii).
(i) pii! (Louisa 2;10) (Inuktitut)
Piiq -φ
Remove-Infl '(You) get off.' (S&A 2002)
(ii) φ tomany za (Tsiorisoa 2;7) (Malagasy)
Past-AT cry 1Sg.Nom.Strong
'I cried.' (adult form: nitomany aho) (N&M 2004)

Selected References:

Deen, K. U. 2002. *The acquisition of Nairobi Swahili: The morphosyntax of inflectional prefixes and subjects*. Ph.D. dissertation, UCLA.
Hyams, N. 1986. *Language acquisition and the theory of parameters*. Dordrecht: D Reidel Publishing Co.
Kim, M. & C. Phillips. (1998) Complex verb construction in child Korean: Overt markers of covert functional structure. *BUCLD 22*. 430-441.
Tsujimura, N. (2009) Onomatope dousi no imi · kou kouzou no iti kousatu [Examination of the meaning and argument structure of mimetic verbs]. *KLS 29; Proceedings of the Thirty-Third Annual Meeting*, Kansai Linguistics Society, 334-343.