

The Developmental Sequence of Children's Narrative Skills

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1. PURPOSE AND BACKGROUND

In order to produce thematically motivated and well-formed narratives, a narrator is required to have the narrative discourse skills for constructing thematic coherence on the macro-level of plot organization ("global structure"), and the ability to construct linguistic cohesion on the micro-level of event organization ("local structure"). This study investigated the developmental process of children's ability to construct the local structure, examining the following points: 1) whether the ability to construct a local structure emerges and evolves earlier than that of the global structure (Inaba, 1999), 2) whether the developmental phases found in the local level of event packaging confirms the four developmental phases proposed by Berman and Slobin (1994), and 3) whether the characteristics for children's discourse processing support the three developmental phases of Karmiloff-Smith's (1992) Representational Redescription model.

Berman and Slobin (1994) found a common developmental pattern of a single continuum comprising four phases in the evolution of narrative capacity: (a) spatially-motivated linking of utterances in the form of a picture-by-picture description (3-year-olds); (b) temporal organization at a local level of interclausal sequential chaining of events (most 5-year-olds); (c) sequential and/or causal chaining of partially elaborated events (most 9-year-olds); and (d) global organization of entire texts around a unified action-structure (some 9-year-olds, and the adults).

Inaba (1999) investigated the development of narrative discourse competence for constructing global structure and revealed the following three points. First, the ability to produce plot components of the global structure develops relatively early: many of the 3-year-old children showed a good command of grammatical forms and lexicon for describing individual evidence, but the ability to construct a global structure emerges rather late, starting around age 5, and developing with age. Second, narrative production is a joint process of event comprehension and language production: that is, discourse skill and linguistic skills are interrelated in development, supporting earlier research (Berman and Slobin, 1994; Hudson and Shapiro, 1991). Third, linguistic development occurs bottom-up first, then via top-down in the middle period, and finally through integration of data and internal representation, supporting the Representational Redescription model proposed by Karmiloff-Smith (1985, 1986a, 1986b, 1992).

The current study's focus shifts from global to local, and explores the development of the ability to construct local structure, making use of the same data base as Inaba's (1999) study. Local structure was evaluated by stipulating five elements (referred to as "event components"): 1) background elements, 2) temporal location, 3) plot-advancing elements, 4) state of affairs, and 5) attendant circumstances/motivation (defined 2.2). The first analysis pays attention to the development of the ability to produce these event components. The second analysis concerns how the subjects combine these event components to package it as a cohesive single event in a story.

2. METHOD

2.1 Subjects and Database

The narrative texts analyzed in this study are oral narratives derived from "Frog, Where Are You?" (Mayer, 1969), a picture storybook without verbal text. The book consists of twenty-four pictures, showing the story of a boy and his dog who go searching for their pet frog which has escaped.

The author of this study gathered the narratives from Japanese children (from 3 to 11 years old) and

adults, following the same procedure and instruction as Berman et al. (1986). The basic procedure and instructions given when the data were collected were reproduced in Inaba (2001). This study analyses the texts produced by members of six different age groups – 3 years, 4 years, 5 years, 9 years, 11 years, and adults – in this data base. There were ten subjects in each group. The age-range, mean age, background, and further information about the subjects can be found in Inaba (1999), which makes use of the same data base as this study.

2.2 Definition: Five Components of Local Structure

The scene chosen for the study was Picture 3 of the book, which depicts the boy lying on his bed with the dog on top of him, looking at an empty jar. A child must be make certain inferences in order to be able to speak of the frog's disappearance in Picture 3, since the first three pictures only show (1) a jar with a frog in it, (2) a frog climbing out of a jar, and (3) an empty jar.

Proper scene organization requires the narrator to master several different abilities other than the ability to make inferences about what is not visible on the printed page¹. For example, they need the abilities 1) to conceive of the state of affairs illustrated in a picture or inferred from it, 2) to infer relations between situations in linking them together, and 3) to describe a single event, combining different components of the picture by means of proper linguistic representation.

In order to evaluate local structure in qualitative and quantitative terms, this study posited five components of this scene as necessary to demonstrate the ability to relate the contents of the picture, based on the maximum of five component parts which appeared in adult accounts of this scene. Shown with a label for each element in parentheses, they are:

- (1) **(BKG): background elements** of the change of state event (the boy was asleep and has woken up); *e. g. otokonoko ga okiru* (the boy gets up), *otokonoko ga me o samasu* (the boy wakes up)
- (2) **(TPL): temporal location** (in the morning, the next morning); *e. g. asa* (in the morning), *tsugi no asa* (next morning), *asa ni natte* (when morning came)
- (3) **(PLA): plot-advancing** elements implying that the protagonist learns something (the boy sees, discovers, realizes); *e. g. kizuku* (notice), *miru* (see), *mitsukeru* (find), *hakkensuru* (discover)
- (4) **(STA): state of affairs** which is depicted (the jar is empty) or inferred (frog has gotten lost, disappeared, ran away); *e. g. bin ga karappo* (the jar is empty), *kaeru ga inakunatta* (the frog disappeared), *kaeru ga nigeta* (the frog has run away)
- (5) **(ACR): attendant circumstances** of or **motivation** for the protagonist's response – either subsequent action (getting out of bed to look for the frog) or affective reaction (feeling surprised, concerned, curious); *e. g. okite kaeru o sagashi ni iku* (getting out of bed to go look for the frog), *bikkurishita* (was surprised), *shinpaishita* (was worried), *kanashii* (is sad), *doko ni itta no ka to omou* (wondered where it went).

These criteria were adopted from Berman and Slobin (1994) in the analysis of the narrative's local structure. This study applied these criteria to evaluate the Japanese narrative structure by the same standards Berman and Slobin (1994) used.

3. ANALYSIS I: COMPONENT PRODUCTION

3.1 Event Organization

The first analysis addresses the development of the ability to mention explicitly the event components for Picture 3. This ability is measured by the number of components referred to by the children in each age group.

In this study, the analysis did not employ statistical tests because of the small number of subjects in each group, and because their texts varied in length. Therefore this study endeavored to present and interpret only those quantitative differences that seem large enough, and consistent enough, to suggest a pattern. In addition, this study has, as far as possible, tried to present forms not only in terms of number and/or proportion of occurrences, but also by specifying the proportion of subjects in a group who used that form.

Table 1 shows the number of event components of Picture 3 that were referred to by the children and adults, including the average number of components and the proportion of children's average number to adults', sorted by age. An overview of the data reveals that the number of components mentioned increased clearly with age. The adult's accounts of the contents of this scene reveal four or five component parts.

Table 1: Number of Event Component Referred on Picture 3

Relevant Number of Mentions	Age (N = 10 per group)					
	3	4	5	9	11	Adult
Components:						
zero	4^a	1	-	-	-	-
1	3	2	-	-	-	-
2	2	-	2	-	-	-
3	-	6	4	4	1	-
4	1	1	3	5	4	5
5	-	-	1	1	5	5
Average No.	1.1	2.4	3.3	3.7	4.4	4.5
Average/Adult(%)	24	53	73	82	98	100

a. Figures in bold are favored number of components for that age group.

The 3-year-olds most often mentioned none or only one of the relevant components. The average number of components mentioned by them is quite low (1.1), achieving only 24% of the adult level (4.5). This suggests that these children are not yet capable of perceiving the contents of a picture as different components required to make up a single event.

The 4-year-olds most often encoded three components. The average of the 4-year-olds (2.4) was more than twice that of the 3-year-olds, showing rapid development at this age. This suggests that they are able to encode some contents of a picture as event components making up a single event.

Most of the 5-year-olds (eight out of ten) encoded more than three components. Their average reached to 3.3, which is 73% of the adult level of mention. These results indicate that most of the 5-year-olds can relate at least three components required for organizing this scene as an event. Note that the increase in percentage (average) is largest between 3- to 5-year-olds. This remarkable increase suggests that the ability to conceive of events in the local-level structure largely develops in these pre-school years.

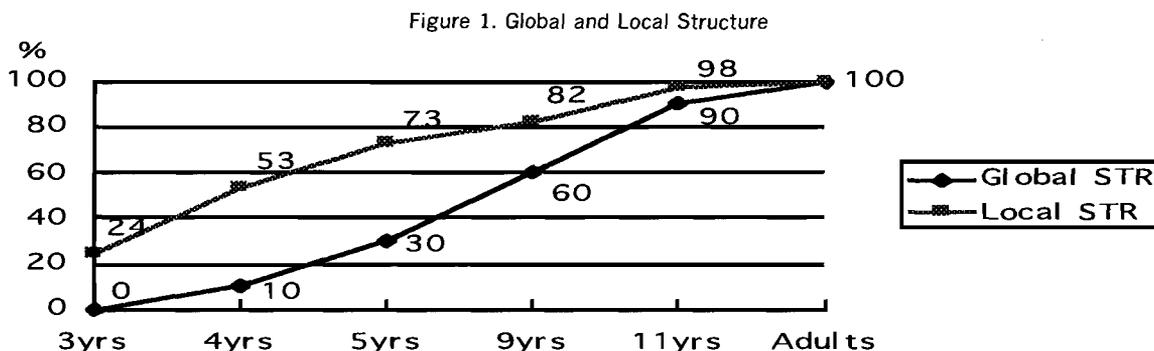
The 9-year-olds most often mentioned four components. This level is close to the adults' in the respect that including four of these five components is good enough (sufficient) for relating this event, since most of the adults typically mention four or five components. The 9-year-olds' average (3.7), however, is still lower than the adults'. Thus, there is still some way to go before reaching a fully mature narrative. The 11-year-olds most often mentioned five components. Their average (4.4) approximates that of the adult level of mention (4.5). In other words, by 11 years old, children have fully developed this ability in the sense that they can encode as many components as adults.

In sum, the ability to relate necessary event components in local level structure, at least for this scene, emerges around the age of 3. A notable increase in ability occurs between ages 3 and 5, while a mature level (sufficient for the task) is attained around age 9. Most of the 11-year-olds had an ability as fully-developed as adults. It should be noted here that similar results are reported by Berman and Slobin (1994) in a study concerning English-speaking children and Hebrew-speaking children.

3.2 Global vs. Local Structures

The next analysis compares the development of the ability to construct a local structure with that of a global structure. Figure 1 illustrates the increase of these two abilities. The figures for global structure, which were adopted from Inaba (1999) and reproduced as a graph for the present study, indicate the percentage of the children (the same subject groups as the present study) who made explicit reference to the three “plot components” for constructing the global structure of the same narrative story². The figures for the local structure indicate the rates of achievement relative to adults’ performance for the number of components mentioned for this scene (taken from Table 1).

An overview of the data indicates that a larger number of children of a given age construct local structure than global structure. It also manifests that the ability to construct a global structure emerges rather late, from around age 5 (30%), and increases gradually after that. Children’s level of mention approximates that of adults by late school age, around age 11. These results contrast with the fact that the ability to organize a local structure emerges early, at around age 3, and increases greatly at pre-school ages (between 3- and 5- years olds). Note that the rates at which 3- and 4-year-olds succeed in constructing global structure are quite low, and only 30% of the 5-year-olds succeeded in constructing the global structure. These results support the claim by Berman and Slobin (1994) that the ability to construct a local level of linking emerges from a rather early age, and that of a global structure develops later, in older school-aged children.

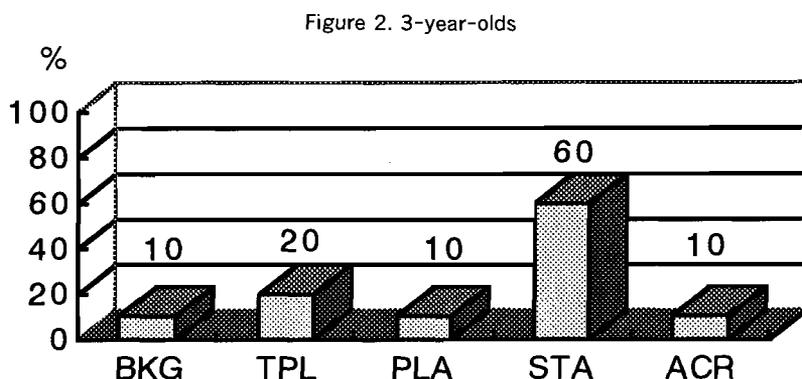


4. ANALYSIS II: EVENT PACKAGING

4.1 The 3-Year-Olds

This section turns to the developmental profiles of children’s ability to interrelate the five event components for Picture 3, making up a single event. Here we analyze 1) which of five components were accessible at each age, 2) how the components they mentioned were connected to each other by means of syntactic and rhetorical devices for the purpose of narrating, 3) how the ability to construct a local structure of this event increases with age. The results of this study are discussed using the four developmental phases proposed by Berman and Slobin (1994), mentioned in the PURPOSE AND BACKGROUND.

Figure 2 shows the percentage of 3-year-old children who made explicit reference to each of five event



components. The overview of the data reveals that the 3-year-olds show quite a low level of mention of four of these components. Among them, however, the reference to STA is outstanding, reaching 60%. This suggests that the ability to produce STA emerges earliest among the five components.

The ability to produce STA provides evidence that the children at this age are capable of making inferences about situations that are not directly shown in the pictures (e. g. between the jar being empty and the frog leaving it). The 3-year-olds also demonstrated the ability to relate this situation in dynamic terms of what happened to the frog, shown in Ex. 1 and Ex. 2, rather than making static descriptions of objects or states, such as "*Bin ga aru* (there is a jar)". This suggests that the children are able to conceive of the content of a picture as an event component, taking a dynamically motivated perspective on it.

Ex. 1 *Kaeru-kun ga inakunacchatta.*
 "The froggie has gone away" <STA> ³ [J3c-3; 3] ⁴

Ex. 2 *Kaeru-san ga detetta.*
 "The froggie has gone out". <STA> [J3f-3; 8]

It should be noted here that components other than STA are rarely mentioned alone. They are only referred to by a children who also mentioned STA. Ex. 3 is an example of an utterance including TPL and STA, and Ex. 4, PLA and STA.

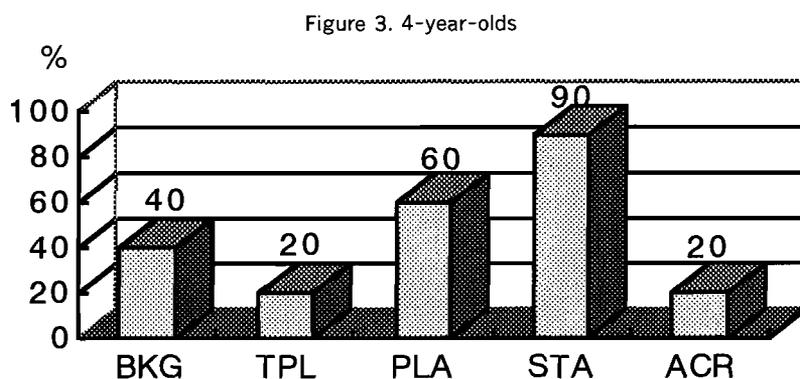
Ex. 3 *Soushite asa ni natte kaeru ga inai.*
 "And the morning came, and there is no frog." <TPL+STA> [J3e-3; 08]

Ex. 4 *Kaeru ga inu to onii-chan ga mitara saa, bin no naka kara saa, kaeru ga inai.*
 "The dog and onii-chan (the boy) looked and, from inside the jar, the frog is not there."
 <PLA+STA> [J3h-3; 10]

In sum, most of the 3-year-old children had the ability to conceive of the state of affairs described in a picture or inferred from it as component parts of an event. However, their ability to produce event components is very limited.

4.2 The 4-Year-Olds

The 4-year-olds show great development in various respects. Figure 3 shows the percentage of 4-year-old children making explicit reference to each of five event components. It reveals that most of them (90%) mentioned STA, showing a further increase from 60% at age 3 (in Figure 2). The proportion who made reference to PLA increased significantly at this age, achieving 60%. The percentage of children who encoded BKG has also increased. All these results indicate that the ability to produce these event components largely develops at this age.



Further analysis concerning how children combined references to these five components reveals that all children (six) who related PLA also referred to STA, and that BKG was only referred to by children who mentioned both STA and PLA. This leads us to the hypothesis that the ability to mention STA is a necessary,

but not sufficient, condition for mentioning PLA; and STA and PLA, for mentioning BKG. In other words, there appears to be a developmental sequence for these three components in constructing a hierarchical organization of the event. That is, the ability to encode STA emerges first, then the ability to relate PLA increases, and facilitating the ability to make explicit reference to BKG.

The children who mentioned these components connected them mostly in chronological sequence, using temporal/coordinate conjunctive expressions such as “to”, “-te”, or “-tara” (all meaning “and then”), as shown in Ex 5 and Ex. 6⁵.

Ex. 5 *Soide nee okiru to inai na to omotte nee, konnaka nimo inakatta n da yo.*
 “And (the boy) woke up and found that the frog had gone, it was not in this [jar] .”
 <BKG+PLA+STA> [J4e-4; 6]

Ex. 6 *Soide nee, Shin-chan tachi ga okitara nee, Kaeru ga bin no naka ni inakatta.*
 “And, Shin-chan-tachi (the boy and his dog) woke up, and (they found that) the frog was not in the jar.” <STA+PLA+BKG> [J4i-4; 10]

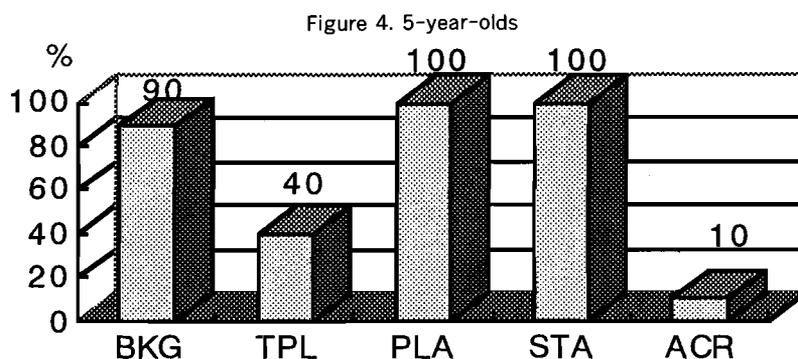
Even the children who mentioned four of these components, STA, PLA, BGR, ACR, connected them in a similar way, as seen in Ex. 7. However, the event components were not syntactically packaged in this speech; they were just connected in chronological order. This corresponds to the second phase on the developmental continuum. The linguistic devices this child used was far from that of the older children who explicitly mentioned four of the relevant components in this scene.

Ex. 7 *Soshite nee okitara nee kaeru ga inakute nee bikkurishita.*
 “And (the boy) woke up and the frog was not there, and [he was] surprised.”
 <STA+PLA+BGR+ACR> [J4a-4; 3]

In sum, the 4-year-olds showed a rapid increase in the ability to represent the event components. They connected these components in chronological order. The analysis concerning the combination of components referred to suggests that developmental progression would occur in the order of STA, PLG and BKG.

4.3 The 5-Year-Olds

Figure 4 shows the percentage of 5-year-old children who made explicit reference to each of five event components. The frequency of mention of three components (STA, PLA, and BKG) out of five approximates to the adult level (more than 90%) at this age. Of the three, reference to BKG doubled at this age, rising from 40% at age 4 up to 90% at age 5. The frequency of reference to TPL shows only a small increase. These increases in the proportions measuring how frequently children made mention of these components indicate that their narrative ability expanded notably at this age.



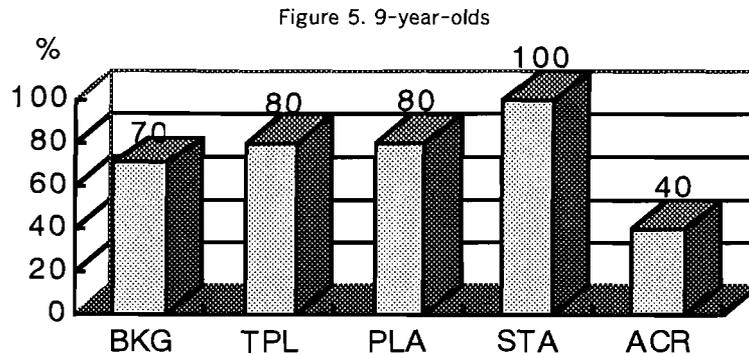
In terms of combining the components, all the children who referred to BKG also mentioned STA and PLA, the tendency that was first observed at age 4. Moreover, all of the children who mentioned TPL also

included STA, PLA, and BKG. This fact provides further evidence that there is a developmental sequence for the development of these event components. Concerning event organization, they showed the ability to make more elaborated temporal organization than the 4-year-olds at the local level of interclausal sequential chaining of events; the 4-year-olds just mentioned event components chronologically, as shown in Ex. 8.

- Ex. 8 *Soide Shin-chan to Wan-chan wa okite kaeru o mitara, kaeru wa imasendeshita.*
 “And Shin-chan (the boy) and the doggy got up and saw the frog [sic] , the frog was not there.”
 <BKG+PLA+STA> [J5b-5; 1]

4.4 The 9-Year-Olds

Figure 5 shows the percentage of 9-year-old children making explicit reference to each of five event components. Four out of five components reached higher rates than those recorded at age 5. The component which most notably increased in proportion is TPL, which went from 40% at age 5 up to 80% at this age. The children who were scored for TPL made overt temporal reference to the “next morning”, inferred from the facts that there is no moon and the boy is awake; *e. g.* *Asa* (in the morning), *Tsugino asa* (the next morning), *Asa ni natte* (When morning comes).



In terms of the combination of components, four out of eight children who included TPL also made explicit mention of STA, PLA, and BKG. Two more mentioned STA and PLA, failing to mention BKG, but they used TPL with an expressive device implying BKG, such as “*Asani nattemiruto* (When morning came around)”. Another mentioned STA and BKG, failing to mention PLA, but he also implied the boy’s discovery of the empty jar rhetorically, as shown in Ex. 9.

- Ex. 9 *Sono tsugi no asa, Mayer wa meosamashite kara bikkurishimashita. Nanto kaeru ga inai no desu.*
 “The next morning, after Mayer woke up, he was surprised. To his amazement, there was no frog!” <TPL+BKG+STA+ACR> [J9e-9; 2]

Only one of the eight did not explicitly mention STA, PLA, and BKG. He related this scene focusing on the internal state of the protagonists (ACR), and implying STA, PLA, and BKG, as illustrated in Ex. 10.

- Ex. 10 *Kaeru wa bin kara sotto nukedashite (for Pic. 2), asa kodomo-tachi o bikkuri saseteshimaimashita.*
 “The frog quietly escaped from the jar, and in the morning, this made the child and dog very surprised.” <TPL+ACR> [J9f-9; 6] .

These facts indicate that the ability to conceptualize TPL appears to build on the base of the ability to conceptualize the other three components. It also suggests that children at this age have the ability to use some rhetorical devices for relating this scene without relying on explicit use of the event components. In terms of event organization, the 9-year-olds demonstrated the ability to make an explicit reference to causal connections between these components. This corresponds to the third phase on the developmental continuum. Causal linking (*node*) as well as temporal linking (*megasametemiru to*) are evident in Ex. 11.

- Ex. 11 *Asa megasametemiru to bin no naka ni Kaeru-kun ga inakatta node shinpaisoo ni miteimashita.*
 “When (the boy) woke up in the morning, he looked as though he were worried because the froggie had disappeared from the jar.” <BKG+TPL+PLA+STA+ACR> [J9b-9; 1]

In terms of event packaging, some of the children described this scene using tightly packaged syntactic means of expression, particular making use of syntactic linking of adjacent clauses, as shown in Ex. 12.

- Ex. 12 *Asa ni natte Kohei-kun ga Kaeru-kun ga inai no ni kigatsuita.*
 “In the morning, Kohei-kun (the boy) noticed that the frog had disappeared.”
 <BKG+PLA+STA> [J9c-9; 02]

In order to make a connection between the jar being empty and the boy’s cognizance of that fact, this child used an noun complement clause - “*Kaeru ga inai (no)* ((that) the frog is not there)” - and a lexically specific verb for “discovery”, “*kigatsuita* (noticed)”. That kind of usage was rarely found among the younger children’s accounts. In this example, the components were constructed more hierarchically than in the speech of the younger children.

Another notable development is the increasing ability to mention ACR. Four children included inferences about boy’s internal responses to his discovery that the frog was gone, in terms such as amazement, surprise, curiosity, or worry, as shown in Ex. 13. and Ex. 14.

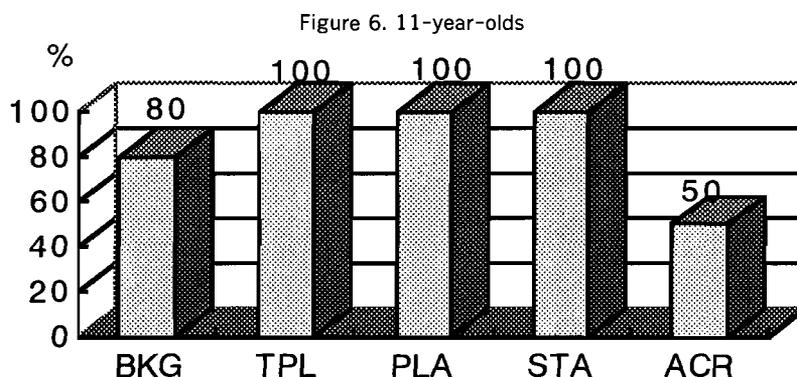
- Ex. 13 *Kaeru wa bin kara sotto nukedashite, (for Pic. 2) asa Kodomo-tachi o bikkuri saseteshimaimashita.*
 “The frog quietly escaped from the jar and in the morning, this surprised the boy and his dog.”
 <TPL+ACR> [J9f-9; 6]

- Ex. 14 *Asa ni nattemiru to Tom-kun ga aree Kaeru-kun ga inai! Jack to Tom de issho ni sagasu koto ni shimashita.*
 “When morning came, Tom [thought] Aiye! The frog isn’t there! Jack and Tom decided to look for the frog together.” <TPL+STA+ACR> [J9h-9; 8]

In sum, the 9-year-olds demonstrated the ability to link the event components causally. With the development of the ability to produce TPL and ACR, they were better able to make more cohesive and syntactically dense packaging of the event than younger children were.

4.5 The 11-Year-Olds

Figure 6 lists the percentage of 11-year-old children who made explicit reference to each of five event components. It reveals that the children attain exactly the same level of mention as adults for four out of five components, suggesting they had arrived at a fully-mature ability. Reference to ACR, which emerges at around age 9, reached to 50%, approximating the adult level of mention (70% in Figure 7 in 4.6).



The ability to include ACR is notably increased at this age. Some of the 9-year-olds already manifested the ability to make explicit reference to the boy's internal state, however, the 11-year-olds differed considerably from the younger children in the extent to which they attributed inner states and affective responses to the protagonists. This confirms the claim by Berman and Slobin (1994) that young children will focus mainly on a description of events and activities, whereas older narrators would provide more background information relating to the attendant circumstances in which the unfolding plotline events are embedded. Excerpts from the narration of the oldest child in our sample (Ex. 15) exemplifies this. She provided evaluative commentary concerning the mental states and emotional reactions of the boy-protagonist, in relation to his discovery that the frog ran away.

- Ex. 15 *Ken wa asa okite May ga inai koto ni kigatsuki totemo bikkurishimashita. Soshite totemo kanashikatta node, May o sagashini iku kotoni shimashita.*
 "Ken (the boy) got up in the morning, and was surprised to find that the frog was gone. He felt so sad that he decided to go looking for the frog". <TPL+BKG+PLA+STA+ACR> [J11j-11; 11]

At this age the children were much like the adults in the sense that they could package these components into a single event, involving a change in the protagonist's inner cognitive state. Many of them related this scene in a syntactically packaged way. In Ex. 16, a child packaged all five components into a single event skillfully.

- Ex. 16 *Rock-kun to Inu-kun ga asa okite miru to Kaeru-kun wa bin no naka ni imasendeshita.*
 "When Rock and his dog got up in the morning, (to his surprise) the frog was not in the jar."
 <TPL+BKG+PLA+STA+ACR> [J11g-11; 5] .

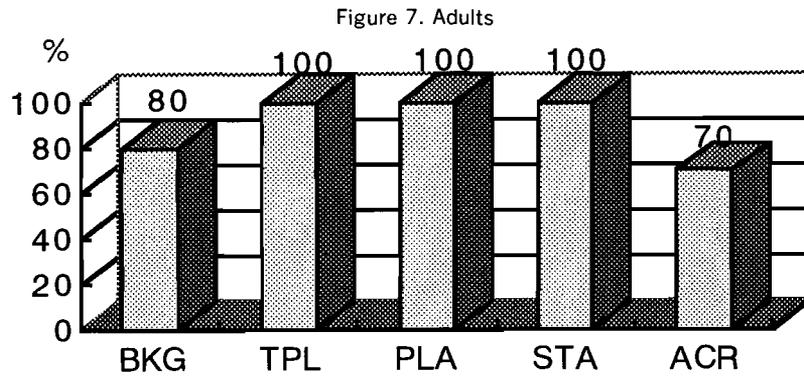
Some children made use of more rhetorical devices, rather than relying on syntactic means of representation. The child who produced Ex. 17 exaggerated the boy's amazement rhetorically.

- Ex. 17 *Sono yokuasa Mitsuru-kun to James wa bin o mitara, bikkurigyouten. Kaeru-kun ga bin no naka kara kieteshimaimashita.*
 "The next morning, when Mitsuru-ku (the boy) and James (his dog) looked at the jar, they were. The frog had vanished from inside the jar." <TPL+BKG+PLA+STA+ACR> [J11h-11; 6]

In sum, the 11-year-olds demonstrated a fully-developed narrative ability, like adults. They organized a cohesive and hierarchically organized event by means of rhetorical devices as well as syntactically packaged representations. With the development of the ability to produce ACR, they provided more background information relating to the attendant circumstances in which the unfolding plotline events are embedded.

4.6 The Adult Narratives

Figure 7 shows the percentage of adult narrators making explicit reference to each of five event components. It reveals that most of them explicitly mentioned these event components, demonstrating a fully-mature ability to narrate this scene.



The adults' accounts ranged from complexly elaborated narratives that provide fine details of background and attendant circumstances to short, concisely encapsulated, and closely packaged narratives. Ex. 18 is an utterance of an adult who preferred the paratactic, non-embedded option as a style, while Ex. 19 is a rendering by an adult who created more densely packaged clusters of clauses with complex syntactic subordination.

Ex. 18 *Tsugi no asa dokoni mo kaeru no sugata ga arimasen. Otokonoko mo inu mo bikkuri. Tada tada kara ni natta bin o miru bakari desu.*

"Next morning, the Frog was not to be seen anywhere. The boy as well as the dog were amazed. They could not do anything except look at the jar". [J20e]

Ex. 19 *Soshite tsugi no asa yoyaku me o samashita Kazuto-kun wa karappo no garasubin o mitukete gakkarishiteshimaimashita.*

"And Kazuto-kun (the boy), who woke up late the next morning, was disappointed to find the empty glass jar." [J20c]

The adults' narratives were quite diverse in rhetorical style, choice of perspective, stance selection, narrative mode and so on. They used certain kinds of linguistic forms and constructions which did not occur in any of the children's texts. Ex. 20 is one of those examples.

Ex. 20 *Asa ni narimashita. Otokonoko to inu ga kizuku to kaeru wa bin no naka kara dokoka e itteshimatta yodesu. Otokonoko wa tohonikurata yona kao o shite bin o nagameteimasu.*

"The morning came. When the boy and his dog woke up, the frog seemed to have gone somewhere. The boy was gazing at the jar, looking puzzled." [J20a]

The diversity is evidence that adults have available to them more options in several respects than children do. Once narrative ability has matured, adults are free to recruit their own individual stylistic and rhetorical devices suited to the stance they have selected. As a result, in contrast to the narratives of younger children, the adult narratives manifested considerable individual variation. Since this study focuses on the development of children's ability to construct local structure, further discussion of rhetorical styles and individual variation will be left to other research.

5. FINDINGS AND DISCUSSION

5.1 Development of Local Structure vs. Global Structure

The ability to construct a local structure emerges and evolves earlier than that of the global structure. The local narrative skill, particularly for this scene, emerges early, at around age 3, and evolves mainly in pre-school age (between 3- and 5-year olds), and fully-developed at age 9. On the other hand, the ability to organize a global structure emerges rather late, from around age 5, and it mainly increases up to age 9, and mature-skill is attained at late-school age, around age 11.

However, it is possible that the developmental ages of the local narrative skill would be largely influenced by the complexity of an event to be organized itself. Inaba (2001) investigated the development of local structure of the scene which imposes a more difficult task both conceptually and linguistically than this scene. In her study, the narrative ability required to produce this scene were defined as "backtracking" and "reorganization". The result of her study indicated that the abilities of backtracking and reorganization become manifest beginning at a late preschool age, and continue to evolve until the child is around 11. That is, the ability to construct this scene emerges and evolves much later than that of the present study. Although, it is no later than the development of the global structure, it is evident that the development of local ability largely relay on the degree of complexity of the event. Thus, further research is necessary to confirm the proposal by Berman and Slobin (1994) that the ability to construct local structure emerges earlier than the global structure.

5.2 Developmental Sequence of Event Components

The clear developmental sequence was found for the five event components of the present study. That is, these components are produced in the following order with age increase: STA, PLA, BKG, TPL, and ACR. This developmental order can possibly be explained by the degree of semantic importance of each component in the plot of this story. That is, STA, the component for which the children first attained a high level of mention, may be the most essential component for telling this story, and the one last produced, ACR, would be the most optional element. The developmental progression of the components can be seen in the way they cluster. That is, STA is a central element, and other elements are added around it. ACR forms the outermost, or most peripheral, domain. The hierarchical construction of the event is achieved by adding on components from the center to the periphery. Although the developmental sequence of event components presented here would apply only to this particular scene of the Frog Story, the sequencing implies that there is a developmental trend in the semantic domain of narrative discourse, as well as in the cognitive and linguistic domains.

5.3 Developmental Phase of Event Packaging

The results of the present study reveal that the ability of children to package event components into a cohesive single event emerges and develops along the following developmental path. Initially, young children, around the age of 3, demonstrate the ability to make some inferences from the picture. They also have the ability to describe what is depicted in the picture or inferred from it as an event in a story. However, their ability to recount that event is very limited. They can only describe the state of affairs, as opposed to a progression or change of affairs, as depicted or inferred from the picture. The way they verbalize this relies heavily on the picture-description strategy. So it hardly needs to be said that in this phase, event packaging is far beyond their ability.

In the second phase, when children are able to produce more event components besides the state of affairs, they link them in a temporal/sequential organization with interclausal connectives. They also connect them in chronological/sequential order, which is considered to be the most basic pattern of narrative, a development which happens around age 5.

In the third phase, from around age 9, children develop the ability to express a causal relation of event components, with the emergence of the ability to provide more background information for, or evaluative comments on, the story. Causal organization is realized by means of a syntactic packaging of adjacent clauses.

In the fourth phase, children demonstrate a fully-developed skill for event packaging, both in terms of conceptual and syntactic organization. Event components are causally structured as well as temporally organized by means of elaborate syntactic packaging, abilities which children begin to demonstrate around age 11.

The density of hierarchical layering of circumstances and happenings in syntactically packaged constructions is found only in our adult narratives. However, the mature renderings of this event by adults make use of diverse rhetorical and linguistic devices. This diversity probably occurs because mature abilities in narrative discourse competence allow adults to recruit more options.

5.4 Discourse Process

The developmental sequences of narrative discourse skill demonstrated in this study are discussed in light of Karmiloff-Smith's (1985, 1986a, 1986b, 1992) Representational Redescription model. Karmiloff-Smith argued in her Representational Redescription model that first language development occurs in a bottom-up/data-driven process at first (Phase 1: procedural phase), next via top-down/representation-driven process (Phase 2: metaprocedural phase) in the middle period, and finally through integration (Phase 3: conceptual phase) of data and internal representation.

The characteristics found in the young children's utterances, such as simple description of the contents of a picture, locally juxtaposed linking of event components, or lack of narrative organization, suggest that children are in the first phase of development, that is, engaged in bottom-up processing. Developmental features demonstrated by older children's narratives, such as thematically motivated organization but linguistically premature narration, suggest they are in the second phase of development, and the features dovetail with the features of Karmiloff-Smith's Phase 2. The profiles identified in the oldest children's and adults' narratives, such as good thematic organization, more linguistic elaboration, and the addition of story details, dovetail with the third phase.

Inaba (2000) investigated the characteristics of second language (L2) narrative discourse processing, applying the same methodology as the current study. The L2 study revealed that second language learners manifest completely opposite trends to those of first language (L1) learners. That is, 1) they showed top-down processing of their narratives from the initial phase of development; and 2) structural knowledge itself did not suffice for L2 learners to produce a well-constructed narrative: rather, whether they could construct it depended largely on their L2 linguistic command itself.

5. CONCLUSION

This study investigated the developmental process of children's ability to construct linguistic cohesion on a micro-level of event organization (local structure), discussed from various aspects. The developmental phases found in the local level of event packaging confirms the four developmental phases proposed by Berman and Slobin (1994). The characteristics for children's discourse processing also support the three developmental phases of Karmiloff-Smith's Representational Redescription model. Since this study was limited to story narratives based on the frog story task, further study drawing on other genre narratives is called for. It should be noted that few of the studies referred to in this paper dealt with Japanese narrative, thus this study brings a broader perspective to cross-linguistic narrative studies. Lastly this study is part of a twin study (in preparation), which applies the same methodology, dealing with narrative discourse processing in second-language development. This study, thus, hopes to provide an important perspective on discourse development.

NOTES

- ¹ The ability to infer beyond what is overtly represented in the pictures themselves is a necessary but not sufficient condition for appropriate narrative construction.
- ² See Inaba (1999) for definition and detail.
- ³ Components referred to or scored are shown in angled brackets in the analysis when necessary.
- ⁴ The codes for a subject in the data base, along with age and months are indicated in brackets.
- ⁵ The *- tara/to* has the implicit meaning of "discover" as well as the function of connecting two clauses sequentially, and it is evaluated as an explicit mention of PLA in this analysis, since this expression was the most common way adult narrators encoded PLA in the present study.

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