

“On the Acquisitional Strategies of Complex Sentence Formation : Examples from Japanese and English Speaking Children”*

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Introduction

Since the pioneering works of Clark (1970, 1973) and Limber (1973), much attention has been paid to the acquisition of complex sentences.

Considerable research has been conducted concerning child comprehension of complex sentences (Emerson, 1979 ; Abrahamsen, 1984), but not much, relating to children's production abilities, especially in natural settings. One of the few comprehensive pieces of research on the acquisition of complex sentences is that of Bloom and others (1980). What is noteworthy in their investigation is their insight into the semantic relations between connected clauses. However, they did not discuss the strategies children employ in acquiring complex sentence structures.

This paper is an attempt to delve into this area of the acquisitional strategies of adverbial subordinate constructions and to look at some of the characteristics of the acquisition of subordinate conjunctions by Japanese children. Neurological, cognitive and pragmatic viewpoints will be taken into consideration.

Sources of Data

The data for this study is from a longitudinal analysis of the communicative behaviors of three Japanese sisters, collected in the form of diaries and tapes. Additional data comes from the diary records of children's speech behaviors published in various books (Fujiwara, 1977 ; Noji, 1974—1977 ; Okubo, 1976).

Four Developmental Stages

Stage 1. Two semantically related sentences are placed in parallel.

1. S (23) : Obenkyo yatte ne. Ato sampo ikoo ne.
 study do S.P. later walk let's go S.P.

(Do your study first. Let's go for a walk later.)

2. S (23) : Akachan naku. kaachan ombu che.
 baby cry mommy carry on the back do

(The baby is crying. Mommy, you carry him on your back.)

*(23)=23 months old. S.P.=sentence particle.

The children uttered these sentences in succession but had not yet acquired any connectives which would allow them to combine simple sentences into complex sentences.

Stage 2. Word (s) or clause+connectives.

Children utter a subordinate clause only, mainly in response to a question, request or command.

3. Mother : Hai kore agemashoo.
 here this give you
 (I will give you this.)

M. (23) : Sunde kara.
 finish after
 (After I have finished.)

Children are said to be sensitive to situational contexts and so their utterances are context-dependent. It was Brown (1973) who pointed out the importance of what he called 'rich interpretation' in the investigation of children's acquisition of grammatical competence, especially in the early stage. We must extend Brown's assertion and say that children are also sensitive to 'discourse contexts'.

In this connection, Bates and Macwhinney's functional approach to the acquisition of grammar is most attractive:

"Grammatical structure cannot be understood outside a semantic-pragmatic framework. To investigate the process by which children acquire grammar, we need much more information about speech act patterns, discourse structure, lexical semantics, case roles, and

sentence processing strategies." (Bates & Macwhinney, 1979)

It was Greenfield (1979) who applied this functional and pragmatic approach to the acquisition of single-word utterances. Answering the adult's question,

"What do you want?"

an 18 month old boy said.

"Show(v)el."

Greenfield claimed that the working principle here is

"Express the single most informative element,"

I would claim that this same principle can be extended to the child's use of single clauses in an adult-child dialogue. Bloom and others (1980) pointed out this strategy when they said,

"When the two parts of the semantic relation before and after the connective occurred across two or more different speaker turns, the cohesion was either Adult-Child or Adult-Child-Adult,

3. e. g. Adult : Maybe he'll ride the horse.

Child : Yeah, when he comes in," (Bloom et al., 1980)

The strategy of using a single clause in the initial stage is further noted by Clancy (1985) with regard to Japanese. She states,

"'kara' typically appears in single clauses before being acquired as a conjunction between clauses."

The example she gave was a sentence produced by a 25 month old boy who accidentally tore a page in his sister's book,

4. Hatte age-ru kara, mama.
paste give NONPAST because mama
(Because I'll paste it for her, mama.)

According to Clancy, Aksu (1985) has found that causal connectives in Turkish emerged in response to adult's questions before appearing in conjoined sentences. I agree with Clancy when she maintains,

"——the course of acquisition of 'kara' in Japanese suggests that it is easiest for the child to link a proposition to the nonverbal context, somewhat harder to conjoin a proposition to a prior

utterance, and most difficult to produce both clauses of a conjoined sentence without contextual support.”

I have discovered the use of other adverbial conjunctions in single clauses, such as ‘noni’ meaning ‘(even) though’ or ‘toki’ meaning ‘when’. I suspect that the use of a single clause subordinate structure is a general strategy children use in the acquisition of complex sentences with adverbial subordinate clauses.

5. Y (30) : Omiokuri shiyoo to omotta noni.
 see off be going to COMP thought even though
 (Even though I was thinking of seing you off.)
6. S (29) : Naita toki?
 cried when
 (When I cried?)

Stage 3. One of the clauses is grammatically incomplete.

Before the formation of a full two clause structure, there seems to be an intermediate stage where one clause is fully developed, while the other remains incomplete. This may result from ‘memory limitation’ or what Bellugi (1971) calls ‘performance limit’ on the part of children.

7. *Gohan toki taberu yo. *——ungrammatical
 meal when eat S.P.
 (You eat it when you have a meal.)

‘Toki’ literally means ‘time’ and is used as a noun before being used as a conjunction. In full form, ‘no’ should be added after nominal expressions, which are placed before ‘toki’, to make temporal adverbial phrases like.

8. Gohan no toki
 outing of time
 (at the time of outing)

The next example uttered by a 37month old boy is an example of over-extension.

10. *Yuuchan America no toki baby-chan datta ne.
Yurichan America of time baby was S. P.
(While in America, Yurichan was still a baby.)

In the above sentence, 'no' should be changed to the verb phrase 'ni ita' (was staying in), because 'toki' can be used only as an adverbial conjunction.

Now, look at the following sentence :

11. N (23) : *Tsumetai da kara, surippa.
cold is because slipper
(Give me slippers because it is cold.)

The copula 'da' should be deleted to make the above sentence grammatical.

By the way, Fletcher (1985) also noted children's tendency to fail to completely learn complex sentences and cited the following example sentence :

12. Sophie (4) : *He didn't go to school, cos his half term.

In reference to the above sentence, Fletcher said as follows,

"Sophie omits the subject and verb from the *cos* sequence, so strictly speaking this is not a complex sentence, but both the connective and the reason proffered for Sammy's absence from school suggest that we should consider the construction as a possible causal adverbial."

Fletcher gives an additional example of misuse,

13. Sophie (41) : *When her at school, I can buy some sweets.
*While

Stage 4 .In the initial stage of complex sentence formation, the order 'Main Clause+Subordinate Clause' is predominant.

In this stage which overlaps in part with the third, the ordering of the two clauses becomes a problem. Though the favorite Japanese pattern is a subordinate clause in the initial position, children tend to put a main clause in the initial position at the beginning stage of acquisition of adverbial conjunctions like 'toki', 'kara' and 'kedo'

(though). In the case of one boy, age 28 months, main clause first order was 45%, while subordinate first order was 55%. One month later, however, the ratio was 25% for main clause first order and 75% for subordinate clause first order.

Why is it that the subordinate in the second position is so unstable at an early age? Clark (1978) said that the conjunctions 'when' and 'because' first appeared introducing subordinate clauses in second position, which is gradually shifted to the front. Extending Gruber's 'topic-comment' structure, Clark characterizes the basic structure of a sentence as consisting of a 'theme' and 'rheme'. She goes on to say,

“—the children recognize the initial position as the theme of the utterance and that the choice of the theme basically makes the speaker use one structure rather than the other.”

This pragmatic principle seems to apply to the case of Japanese children taking subordinate clause-second-position construction in many cases before taking the subordinate clause-first-position construction. This phenomenon can be compared to Gruber's hypothesis that children first take a universal topic-comment construction before taking a language specific subject-predicate construction.

14. Father : Oshiri pin?

buttock hit

(You want a spank?)

M (35) : Iyayo, moo yameru kara.

no now stop because

(No, because I'll stop now.)

It is to be noted, incidentally, that the negative morpheme 'iya' which expresses 'rejection' and 'kara' have a high probability of co-occurrence, possibly because 'iya' which appears at the initial stage of negation is emotional in nature (Ito,1981) and so is 'kara' in this context which expresses the child's egocentricity and self-assertion.

The above example shows that children chose 'rejection' as the 'theme', hence the subordinate clause which is the 'rheme' comes in

the second position.

Characteristics and acquisitional orders of subordinate constructions

First, let us take up 'kara' and 'noni'. 'Kara' was first used at 23 months, while 'noni' first appeared at 26 months. Though the time of their appearance is different, they seem to share some similarities.

These two conjunctions occur most frequently in single clauses. Of all the 'noni' sentences children aged 29 to 51 months uttered, 85% were in single clause sentences. As was pointed out above, most children used 'kara' in single clause sentences before the age of 29 months. One possible reason for this is that parents frequently use these conjunctions to scold or admonish their children.

For example,

15. Yuu koto kika nain da kara.
say what listen no be because
(Because you don't listen to what I say.)

Children know by hearing this single clause utterance that the clause 'you are a bad boy or girl.' is understood. Clancy (1985) characterizes Japanese language as a language of extensive ellipsis and says as follows,

"The missing constituent is presumably one which the speaker thinks the listener will be able to supply on the basis of background knowledge, the nonlinguistic context, or the preceding conversation, that is, it constitutes "old information"."

Children easily assimilate the directive use of the conjunctions 'kara' and 'noni' possibly because they are emotional in nature.

16. T (36) : Abunai kara!
dangerous because
(because it's dangerous!)
17. S (40) : Tabeyoo to omotta noni!
eat COMP thought though
(Though I was just going to eat!)

These kinds of single clause utterances are fondly used by children to

show their 'unwillingness' or 'protest'.

Interestingly enough, children mistakingly use 'noni' and 'kara' in the same utterances to make their protest stronger.

18. S (37): Sekkaku basu ga kita noni kara!
 long-awaited bus subj. came

(Though because the long-awaited bus has come!)

The use of the two conjunctions in the same sentence seems to suggest their functional similarity.

According to Tokizane (1962), it was the 19th century British neurologist J. H. Jackson who claimed that the emotional aspects of language emerge earlier than the rational or intellectual ones. Witelson (1977) hypothesizes that the right hemisphere which is responsible for emotional processes is more active in the early ages before five. If these hypotheses are correct, then the children's fond use of emotionally loaded single clause utterances with connectives 'noni' and 'kara' may possibly be related to the brain developmental sequence.

Next, let me point to some distinctions between the conjunctions 'kara' and 'tara'. A striking feature is the predominant use of 'tara' and 'kara' between ages 2 and 3 (Okubo, 1984).

This also coincides with Clark's finding that

"the first of the main subordinate conjunctions to appear in children's protocols were 'when' and 'because'" (Clark, 1970)

But why might 'tara' (when) and 'kara' (because) be used so frequently between these ages?

One of the main reasons may be that both are "general terms", covering wide ranges of meanings. 'kara' is not only used as a conjunction but also as a postpositional particle corresponding semantically to the English preposition 'from'.

'kara'	postpositional particle	locative	eg. doko <i>kara</i> — ?	16
		time	eg. ima <i>kara</i> now from	3
	conjunction	reason (because)		46
		after		1

Table 1. Frequency of 'kara' used by S from 29 to 30 months

'Tara' on the other hand has four semantic categories.

	29—30 months	40—41 months
at the same time as (simultaneity)	36	15
after the time at which	0	7
conditional	10	10
subjunctive	0	9

Table 2. Frequency of use of 'tara' by S at 20—30 and 40—41 months

At the age of 29 to 30 months, 'tara' was used most often in expressing 'simultaneity'. 'Conditional' comes next. No use of 'after the time at which' and 'subjunctive' was found at this stage. About a year later, i.e. at the age of 40 to 41 months, however, a significant change was noticed. This is most likely the result of cognitive development during this period.

It may safely be said that the subjunctive use of 'tara' emerges at around the the middle of age three. This is similar to the well-known fact that children at this age seem to enjoy asking questions like 'what is this?' or 'why is that?' Questions ending with subjunctive

'tara', thus, give children much joy.

19. M (41) : Watashi ga Yurichan ni nat tara?
 I subj. marker to become if
 (Suppose I became as old as Yurichan?)

Acquisition of cognitively advanced conjunctions

My data indicates that the time for the proliferation of cognitively advanced conjunctions like subjunctive and adversatives is around the middle of age three. This finding is consistent with that of Bloom and others (1980). The subjunctive was first expressed by the general term 'tara', and then began to be expressed more specifically by other terms like 'ba' or 'to'.

20. M (40) : Kore mo zembu kae ba yokat ta jan.
 this also all buy if better past S. P.
 (It would be better if you had bought all including this.)
21. S (41) : Anmari se ga takai to abunai yo.
 too height subj. marker tall if dangerous S. P.
 (It would be dangerous if you were so tall.)

As to the acquisition of adversatives, Clancy (1985) in her study of the acquisition of Japanese up to age three could not find the use of adversatives. But in my data, the adversative connective 'kedo' appeared toward the end of the second year.

22. M (34) : Moo kobore sooku nai ne, sakki kobore
 no longer spill likely no S. P. a while ago spill
 soo dat ta kedo.
 likely be past though
 (It's no longer likely to spill, though it was a while ago.)

Another adversative conjunction 'noni', which is more colloquial or conversational in use, appeared earlier at 26 months in single clause sentences, as we have seen above.

Time adverbial conjunctions become more elaborate after age

three. 'Nagara' which is semantically equivalent to 'as' or 'while', and 'mae ni' meaning 'before', and 'ato' meaning 'after' began to be used at this period.

23. S (41) : Boku kaki nagara utaiyoru yo
I write as (while) singing S. P.
(I'm singing as I am writing.)

24. Y (48) : Naochan yoochien itta maeni warabi tot
kinderbarten went before bracken pick
ta.
past
(Naochan picked brakens before I went to the
kindergarten.)

In the example sentence (2), 'itta' before 'mae ni' is ungrammatical. It should be changed to the present tense form 'iku' (go). This tense adjustment has not been acquired. The following table shows the first appearance of adverbial conjunctions studied here.

kara ₁ (because)	23	kedo (though)	32
kara ₂ (after)	30	be (if)	40
tara ₁ (at the same time)	26	to (if)	41
tara ₂ (in case)	29	nagara (as, while)	41
tara ₃ (after)	39	ato (after)	46
tara ₄ (if)	40	maeni (before)	48
noni (even though)	26		

Table 3. List of Japanese adverbial conjunctions and their emergence (months)

Conclusion

In this paper I have discussed the psycholinguistic strategies children use to acquire complex sentences. I have hypothesized four stages children go through to arrive at the full structure of complex sentences. By making full use of their sensitivity to situational and discourse contexts, they first resort to the single clause strategy in

order to make up for their neuropsychological incompetency. Before acquiring full two clause structures, children go through an intermediate stage in which one clause is still incomplete, lacking verbs, particles or tense adjustment. As to the ordering of clauses, children tend to first employ pragmatic criteria, placing subordinate constructions in second position. Concerning the nature and characteristics of subordinate conjunctions, I appealed to the neurological development of affectivity for the early acquisition of 'kara' and 'noni'. The early development of the causal connective 'kara', compared to the acquisition of the English counterpart 'because', could be attributed to the relative shortness of Japanese utterances due to the extensive deletions of subjects, particles, etc. This imposes less psycholinguistic burden on the memory and, consequently, on the linguistic processing of children. Unlike the 'because' clause which has to occur as a response to a 'why' question or as part of a two clause sentence, 'kara' can occur in a single clause sentence standing alone as an independent utterance. In this regard, the following remark by Slobin is worthy of attention:

"The lag between the first attempt to express a meaning and the acquisition of the relevant linguistic forms should vary from language to language, determined by the psycholinguistic complexity of the formal means used by a particular language to express the intention under consideration." (Slobin, 1973)

We have probed how Japanese children acquire complex sentences, based mainly on developmental errors which reveal step-by-step progress to full structures. More longitudinal, cross-linguistic study of the developmental processes of complex sentence formation is needed to unravel the language particulars and universals of the acquisitional orders of conjunctions and the acquisitional strategies of complex sentence formation.

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