English Natives' Interpretation of Pronominals in Japanese:
Evidence from a Pilot Study

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英語話者による日本語代名詞の解釈：
予備実験とその考察

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Abstract

A pioneering study of acquisition of pronouns in discourse, Pérez-Leroux and Glass (1999) assume that adult English learners of L2 Spanish can acquire pronoun use in discourse (i.e. topic and focus) though they need time to learn it. However, Sorace (2006) reports near-native Italian speakers overuse overt pronouns in subject positions in topic context, which is non-native like. Japanese is a language which allows null subjects like Italian and Spanish (though the licensing systems are different), but it also allows null objects. I follow the study of Pérez-Leroux and Glass (1999), and investigate whether the advanced English speakers' pronoun use is native-like or not.

Key words : second language acquisition, syntax, interface, overproduction of overt pronouns, acquisition of Japanese

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　ディスコースにおける代名詞習得研究の先駆けである Pérez-Leroux and Glass（1999）では、英語母語話者がスペイン語の代名詞を最終的には習得し、その習得には学ぶ時間が必要であると結論づけられている。しかし Sorace（2005）では、イタリア語母語話者が必ずゼロ代名詞を使用する主題の文脈において、イタリア語上級レベルの第二言語話者であっても、ゼロ代名詞と音形を持った代名詞の両方を使用してしまうことが報告されている。日本語は、主語落ちを許す条件は異なるが、イタリア語やスペイン語のように主語を落とすことが可能であり、さらに目的語も落とせる言語である。本稿では、Pérez-Leroux and Glass（1999）の実験手法に基づいた、英語母語話者による日本語の代名詞習得の予備実験結果を報告する。

キーワード： 第二言語習得、統語、インターフェイス、顕在的代名詞の誤用、日本語習得

1. Introduction

In a pioneering study of acquisition of pronouns in discourse, Pérez-Leroux and Glass (1999) assume that English learners of L2 Spanish (i.e. learning Spanish as a second language) can acquire the use of the pronoun in discourse (i.e. topic and focus), though they need time to learn it.

(1) Focus context

      a. ¿Quién cree Juan$_i$ que _____ ganará el premio?

        'Who does Juan believe will win the prize?'

      b. Juan$_i$ cree que él$_i$/*pro_i ganará el premio.

        'Juan believes that he will win the prize.'

(2) Topic context

      a. ¿Quié cree Juan$_i$ que obtendrá _____ en el concurso?

        'What does Juan believe he will get in the contest?'

      b. Juan$_i$ cree que *él$_i$/pro_i ganará el premio.

        'Juan believes that he will win the prize.'

                                 (example from Pérez-Leroux and Glass, 1999, p.226)

However, it has been reported that even near-native Italian speakers (i.e. very advanced Italian learners) showed optional use of overt/null pronominal subjects in topic context, which is a non-native like behaviour (Sorace, 2005)[1].

I extended the study of Pérez-Leroux and Glass (1999), and examined whether English advanced speakers of L2 Japanese show optionality in their use of pronouns in topic context. Japanese is a language which allows null subjects like Italian and Spanish （though the licensing systems are different), but it also allows null objects. Is the advanced English speakers' use of Japanese pronouns native-like? In this paper, acquisition of pronominals in discourse is the focus. This would be a good testing ground to examine L2 grammar since features relevant to discourse like focus feature are presented both in syntax and the level of syntax-discourse interface, which might give us some clue in examining the mental representation of advanced L2 speakers.

First, errors produced by advanced L2 speakers are shown, considering several possible explanations for the reason why they made those sentences. Then theoretical aspects of syntax that are relevant to the present study are reviewed. Next, a pioneering study is introduced where acquisition of pronouns in discourse by English learners of L2 Spanish is reviewed. Finally, the results of this pilot study concerning the acquisition of pronouns in

discourse by English speakers of L2 Japanese are reported.

2. Non-native-like Selection of Pronouns by Advanced (or Near-native) L2 Learners

One of the non-native-like behaviors which has been observed recently is overproduction/overuse of overt subject pronouns in the matrix clause subject position in topic context or in the forward anaphora sentences in null subject language (Belletti et al., 2005; Filiaci, 2003; Sorace and Filiaci, 2006; among others).

(3) Italian: discourse continuity (topic)

  a. Perchè Maria non ha parlato con nessuno?

   Why Maria not has talked to anyone?

   'Why hasn't Maria talked to anyone?'

  b. Perchè **lei** è troppo timida. (L2ers)

   because she is too shy   (Sorace, 2005, p.8)

(4) Italian: forward anaphora

  a. Mentre attraversa la strada, Maria saluta la sua amica

   While **ø** is crossing the street, Maria greets her friend

  b. Mentre **lei** attraversa la strada, Maria saluta la sua amica

   While she is crossing the street, Maria greets her friend (Sorace, 2005, p.10)

Italian native speakers do not use *lei* (= *she*) in this topic context (3b) and in forward anaphora sentences as in (4b), but they drop it. According to Sorace (2005), however, near-native Italian speakers of English do not extend null subjects to inappropriate contexts. That is, they never use null subjects but use overt pronoun subjects in focused contexts like (5b) when the subject is contrastive, or when there is a shift of topic, as in (6b).

(5)

  a. Maria ha ditto che andava da Paolo?

   Maria has said that was going to Paolo's?

  b. *No, **ø** (=Paolo) ha ditto che andava da lei

   No, **ø** has said that (he) was going to her.   (Sorace, 2005, p.9)

(6)

  a. Perchè Maria non ha parlato con nessuno?

  b. ***ø** (=Gianni) non l'ha neanche guardata

   ø (=Gianni) didn't even look at her   (Sorace, 2005, p.8)

From the appropriate overt pronoun use of L2 speakers above, Sorace (2005) claims that they surely acquired null subject grammar. Near-native L2 speakers showed variability/optionality in overt/null pronouns in topic context and in forward anaphora sentences, which does not necessarily mean that they have not acquired the relevant syntactic knowledge. However, for some reason, their production is not native-like. Sorace claims that it is not syntax but the level of syntax-discourse interface that is responsible for their error; interpretable features like topic-shift feature and focus feature, which relate to discourse, are problematic at the level of interface. Since those features do not regulate overt subjects, near-native L2 speakers produced sentences as in (3b) and (4b) above. If this is the case, in their grammar, null subjects are licensed properly and identified in syntactic configuration, so their syntactic knowledge is intact. Their problem exists in their discourse-pragmatic condition.

  Another example of non-native-like pronoun use is observed in Yuan (1997). The informants in his study were Mandarin Chinese speakers of L2 English and they were divided into seven proficiency groups. The method used in the experiment was a grammaticality judgment task. The results showed that the learners in the advanced level group were significantly worse at rejecting null objects than the English native speaker group. The advanced L2 learners allowed sentences containing null objects in topic context as in (7b).

(7)
    a. Have you read this magazine?'
    b. I have read **ø**. (L2ers)
    c. I have read it. (Native)

Why is the null form allowed to appear after the verb 'read' in (7b)? There are two possible suggestions. One is 'one overt topic hypothesis' proposed by Hawkins (2001, p.220). He assumes that the L2 learners transferred properties from the L1 Chinese where both null subjects and objects appear, since they are licensed by a 'topic chain' (see p.6). Thus, the advanced L2 grammar might have adopted a more restricted use of topic chain than Chinese: "…at least one topic must be overt and it must bind the closest available trace" (Hawkins, p.220). Following this hypothesis, overt topics bind only subjects, and this makes the object position null as in (8).

(8) c'. [ø$_j$ I$_i$ [t$_i$ have read t$_j$]]

Another possible explanation for such object dropping phenomena comes from Park (2004)

where he investigated acquisition of pronouns by children. Park found that L1 Korean L2 English children continued to drop objects, while they did not drop subjects. He concluded that the strength of theta-features is involved in null objects licensing that decides whether the position is filled with overt forms or null.

Table 1:   The relation of theta features and null objects between three languages

Language type	Theta features	Null objects
English & Spanish	Strong	Not allowed
Korean	Weak	Allowed

Theta-features in English and Spanish are strong, which require overt pronouns in the object position while those features of Korean are weak. Accordingly, Korean learners have to learn the different value of English theta-features.
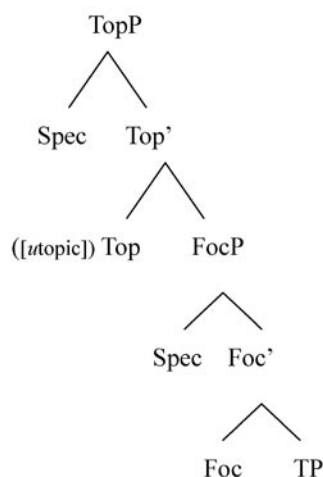
The two accounts above are discussed within syntax. Their claim is that L2 learners lack syntactic knowledge, which is different from the view of Sorace (2005) where a deficit discourse-pragmatic condition is the cause of the error in pronominal use in reference/ discourse contexts.

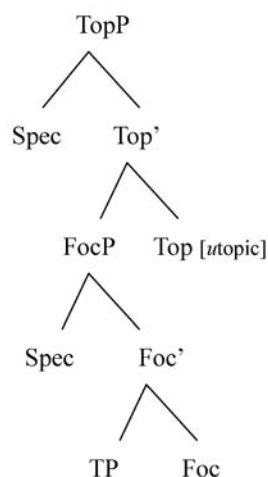Next we review theoretical aspects of syntactic configurations of "topic".

3.   Topicalized Constructions: Licensing and Identification

Two conditions are required when null elements are to be allowed in syntax: licensing and identification. Universally, topics are located in either the Complimentizer Phrase (= CP) or the Topic Phrase (=TopP) (Puskás, 1997; Rizzi, 1997). The mechanism whereby a topic feature is specified is as follows. The head position of CP (= C^0) or the head position of TopP (=Top^0) has a topic feature that is unspecified (= [$u$topic]). Through a specifier and head agreement relation, a constituent appears in the specifier position of CP/TopP. Then, [$u$topic] in the head position is specified or valued, and becomes a topic feature (= [topic]). Simplified structures are shown in (9).

(9) a English　　　　　　　　　　　　　　　　b. Japanese

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          TopP                              TopP
         /    \                            /    \
      Spec    Top'                      Spec    Top'
             /    \                            /    \
   ([utopic]) Top  FocP                     FocP    Top [utopic]
                  /    \                    /    \
               Spec    Foc'             Spec    Foc'
                      /    \                    /    \
                   Foc     TP                TP      Foc
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Spanish is a null-subject language in which subjects become null if there is a relationship of topic continuity with the previous sentence. Because of the obligatory presence of [*u*topic] in C^0/ Top^0, C^0/ Top^0 licenses a null specifier that is identified by the agreement morphology of the verb (person and number agreement inflections). Japanese is a *pro*-drop language where null pronoun can appear in subject position if context allows it[2]. In addition, Japanese allows null objects if the meaning is recoverable from the context. In this respect, Tonoike (2003) calls Japanese a full *pro*-drop language. Because of the obligatory presence of [topic] in C^0/ Top^0, C^0/ Top^0 licenses a null specifier that is identified by the discourse or context of utterance　('topic chain'). English is different from Spanish and Japanese in that it is neither a subject-drop nor a *pro*-drop language, and [*u*topic] is an 'optional' component of every matrix clause[3]. In topic contexts, an overt pronoun is used.

When we consider the distribution of referential pronouns, we keep in mind that the grammar must allow the possibility of null/overt pronominals before any question of their pragmatic appropriateness arises.

In the next section, one SLA study is reviewed. The test items in the study are developed in the present study.

4.　Acquisition of Pronouns in Discourse in SLA Research & Questions

A pioneering work, Pérez-Leroux and Glass (1999) examined whether L1 English- L2 Spanish learners can acquire null pronoun use in topic contexts. They tested three levels of informants: elementary (n=30), intermediate (n=31), advanced (n=21). As a control group, 20 native speakers joined their study. The experiment design contains a writing and elicitation

task with 8 stories, each of them about an individual thinking or saying something about himself / herself.   For example, a short story (context) is given as in (10) with a picture.

(10)   A short story: Hace calor y la familia va al jardín.

'It is hot and the family goes out to the garden.'

Figure 2 Illustration for focus story

The informants are asked questions in the following two contexts.

(11)   Focus context[4]

¿Quién piensa la abuela que regará las plantas?

'Who does the grandmother think will water the plants?'

Target focus sentence: La abuela piensa que **ella** regará las plantas.

'She thinks that **SHE** will water the plants.'

(12)   Topic context

¿Qué piensa la abuela que hará en el jardín?

'What does the grandmother think that she will do in the garden?'

Target topic sentence: La abuela piensa que **ø** regará las plantas.

'She thinks that (**she**) will water the plants.'

Their results showed that all groups used more null subjects than overt subjects when the pronoun was a topic. L2 learners used fewer null subjects in focus context than in topic context. In the two contexts (topic/focus), the native control group and the advanced L2 group behaved similarly. Finally, only 7.1% of overt subject use in topic contexts was found: no overt/null optionality.   P'erez-Leroux and Glass(1999) concluded that "…knowledge of the making of the topic/focus distinction is acquired over time and experience" (p.242).

As we have seen in section 3 above, Spanish and Japanese are similar in that they are null subject languages. Spanish is a *pro*-drop language while Japanese is a discourse-drop language. One difference is that Japanese allows null objects, but Spanish does not. In the

present study, we observe acquisition of pronouns by English speakers of advanced L2 Japanese, considering three questions below:

・Can English advanced L2 speakers of Japanese correctly use null forms in topic context?
・Is any phenomena like the overproduction of overt forms (or optionality in overt/null forms) observed in topic context in L2 grammar?
・Is there any difference in pronominal use between subject position and object position in topic context?

5.　The Present Study (a Pilot Study)

5. 1.　*Informants*

The informants are English native speakers whose Japanese proficiency level is advanced[5] (n=6, mean age =39 years). All were tested in Japan. The first exposure to Japanese is age 17 to 29. As a control group, monolingual native speakers of Japanese were included (n=5, mean age = 62 years); all of them were tested in Japan.

5. 2.　*Test Items*

In this pilot study, the distribution of referential pronouns is examined[6]. Following the experiment of Pérez-Leroux and Glass (1999), an elicitation task was conducted, but it included interpretation at object position. Interpretation of pronoun was controlled by the use of questions such as we have seen in section 5. When a question is asking about an embedded subject, an overt pronoun is required in that position, whereas when a question is asking about an embedded object, a null pronoun is required in the embedded subject position. The task involved a set of 21 stories illustrated by pictures (to fix the interpretation of the embedded subject as referring to the matrix subject), followed by the questions. Seven of the 21 stories were asking about the object (i.e. the embedded subject is 'topic'), seven stories were asking about the subject (i.e. the embedded subject is 'focus'); the last seven stories, which were not tested in Pérez-Leroux and Glass (1999), were asking about what the subject did to a person, which is shown in pictures: interpretation of pronouns in object position (i.e. the embedded object is 'topic'). An illustrative example of the types involving pronominals in focus context (subject) is given in (10a), pronominals in topic context (subject) are given in (10b), and pronominals in topic context (object) are given in (10c).

(13) Test sentences and pictures[7]

a. Focus context (subject)

<u>Short story:</u> みんなでかくれんぼをしようとしています。 "They are playing hide-and-seek."

<u>Question:</u>

その男の子は、誰がクローゼットの後ろにかくれると

Sono otokonoko-wa dare-ga kuroozetto-no ushiro-ni kakureru to

考えているでしょうか？

kangae-teiru deshou ka

"Who does the boy think will hide behind the closet?"

<u>Target focus sentence:</u>

自分／彼／その男の子（が かくれる）（と 考えている）

zibun/kare/sono otokonoko (ga kakureru) (to kangae-teiru)

"(He thinks that) self/he/the boy (will hide behind the closet)."

b. Topic context (subject)

<u>Short story:</u> おやつの時間です。でもクッキーが１枚しかありません。みんなお腹をすかせています。

"It's a snack time. But there is only one cookie on the plate. They all are hungry"

<u>Question:</u>

クッキーモンスターは、おやつの時間に何をしようと考えているでしょうか。

kukkii monsutaa wa oyatsu no jikan ni nani o shiyou to kangae-teiru deshou ka

"What does Cookie monster think he will do at a snack time?"

<u>Target topic sentence:</u>

$\emptyset_i$　　$\emptyset_j$　　クッキーを食べよう（と考えている）。

$\emptyset$　　$\emptyset$　　kukkii o tabeyou (to kangae-teiru)

"(He$_i$ thinks he$_j$) will eat the cookie."

c. Topic context (object)[8]

<u>Short story:</u> **その兄妹は仲が悪く、またケンカをしています。**

"They don't get along with each other and are fighting again."

<u>Question:</u>
お母さんは、息子をどうしようと考えているでしょうか？

Okaasan wa musuko o dou shiyou to kangae-teiru deshou ka

"What does the mother think she will do to her son?"

<u>Target topic sentence:</u>

$\emptyset_i$ $\emptyset_j$ **$\emptyset_k$**   **叱ろうと考えている。**

$\emptyset$ $\emptyset$ **$\emptyset$**   shikarou to kangae-teiru

(She$_i$ thinks she$_j$ will scold (**him$_k$**).

5. 3. *Experimental Design*

The independent variables consisted of group and pronominal form (Table 2), while the context type (topic and focus) and the position (subject and object) remained constant (Table 3).

Table 2: Independent variables

Variable name	Variable type	Variable levels
Group	Between subjects	[1] English advanced [2] Japanese natives
Pronominal form	Within subjects	[1] Null form [2] Overt form

Table 3: Constants

Constant name	Constant type
Context	Topic Focused
Position	Subject Object

Before conducting any statistical analysis, we need to check whether the data has a normal distribution or not. A suggested way of doing this is the Kolmogorov-Smirnov test (a parametric test), or Kruskal-Wallis test (a non-parametric). Then it is tested to see whether the main effect of pronominals, or the main effect of group, or the cross effect of pronominals and group has a statistical significance. Considering that there are two factors here (group and pronominals), the two-way ANOVA would be a suitable way for the statistic analysis. A *t*-test is also conducted when we observe the use of pronouns within L2 data, and between the L2

group and the native control group. However, since this is a pilot study which is really just too small to do any valid statistical analyses, any strong inference about it is not made at this time. Such statistical analysis will be conducted for the next main study with a larger number of informants than that of the present study. In this study, however, the data is described using percentages.

5. 4. *Results*
5. 4. 1. *Subject position*

Table 4: Subject positions-percentage of responses for each pronominal type

	Topic context		Focus context	
	L2 speakers (n=6)	Native control (n=5)	L2 speakers (n=6)	Native control (n=5)
Null	83.3% (35/42)	97.1% (34/35)	0%　(0/42)	0%　(0/35)
Overt	16.7%　(7/42)	0%　(0/35)	100%　(42/42)	51.4%　(18/35)
Other	0%　(0/42)	2.9%　(1/35)	0%　(0/42)	48.6%　(17/35)

In a topic context, the native speakers group (= NS) produced null forms 97.1 % of the time, non-native speakers (= NNS) 83.3%. NS never used overt forms while NNS used them 16.7% of the time. Two NNS produced overt forms, all of which are full NPs (e.g. sono otokonoko = *the boy*). NNS discriminated null/overt pronoun use. In a focus context, NNS' response is more native-like than that of the native control. NNS categorically produced overt forms (NS produced "other" answers 48.6%, which was not expected)[9]. The overt forms used by the groups are presented in Table 5.

Table 5: A breakdown of overt forms

	kare/kanojo	*zibun*	full NP
Native (n=5)	0%　(0/35)	45.7% (16/35)	5.7% (2/35)
L2er (n=6)	7.1%　(3/42)	88.1% (37/42)	4.8% (2/42)

NS never produced *kare/kanojo (=he/she)* whereas *zibun (=self)* is the most used option here. Only one L2 speaker produced all forms: *kare/kanojo, zibun* and full NPs. The other L2 speakers categorically used *zibun*.

5. 4. 2. *Object position*

Table 6:   Object positions-percentage of responses for each pronominal type

	Topic context	
	L2 group (n=6)	Native control (n=5)
Null	57.1% (24/42)	68.6% (24/35)
Overt	42.9% (18/42)	5.7% (2/35)
Other	0% (0/42)	25.7% (9/35)

NS largely used null forms if we rule out "other" option. In NNS, an optionality-like response is observed: null forms 57.1% vs. overt forms 42.9%. Overt forms used by NNS were all full NPs (i.e., they repeated antecedent NPs). Four L2 speakers produced null forms at least twice out of seven. Compared to the subject position in topic context, L2 speakers responded differently.

6.   Discussion

In subject position, the advanced Japanese L2 speakers behaved similarly to the native speakers. In object position, however, they responded differently. While the native speakers hardly used overt forms in topic contexts, the L2 speakers overproduced overt objects; all as full NPs. In the two contexts, sub-topic and sub-focus, the advanced learners discriminated against null pronoun use.

Consider now that pattern of responses of the L2 speakers in the light of these claims.

(a)   Null forms are correctly used in subject position: null forms appear in topic context but never in focus contexts. No optionality was observed. At least, in subject position, null form use is not problematic. This is consistent with the results in Pérez-Leroux and Glass (1999), but not Sorace (2005). The L2 speakers seem to have acquired pronoun use in topic context. The null pronoun subject is licensed and identified in L2 grammar, and [*u*topic] is specified within syntax and becomes readable at the syntax-discourse interface.

(b)   In sub-topic context, the L2 speakers discriminated null form use from overt form. In sub-focus context, overt form *zibun* is the most used option, though *kare/kanojo* were not used. Thus, the L2 speakers seem to have no difficulty in pronoun use in subject position in both topic and focus contexts. The [*u*topic] feature is specified in the syntactic domain and the feature becomes readable at the level of syntax-discourse. Again, the

assumption by Pérez-Leroux and Glass (1999) is supported. The L2 speakers seem to have acquired pronoun use in focus context as well.

(c) However, in obj-topic context, both null forms and antecedent NPs were produced, which looks like 'optional' use as reported in Sorace (2005). In fact, it is acceptable to use antecedent NPs in topic/referential context in Japanese (Kanzaki, 1994), and we can say that the L2 speakers' behavior here is still native-like; they might not feel any difficulty when they interpret the position of an object. However, it should be noted that the Japanese native speakers largely dropped objects. They did not produce any antecedent NPs. Then why is an antecedent NP the most preferable option for the L2 speakers? Accordingly it is unclear that they used antecedent NPs because null object is not allowed in syntax, or it is licensed and identified, but the next interface level, operation of features like [focus] or [topic-shift] which are responsible for distribution of overt pronouns [topic], does not work properly. If we consider the former reason, the topic feature in object position is unspecified. As a result, the feature could not be read at the interface level. If we take the latter possibility, following Sorace (2005), the discourse-pragmatic condition which decides distribution of pronouns is partially at a deficit.

Considering (a) to (c) above, it might be that a mechanism not to allow null objects is involved in L2 grammar. However, this seems contrary to the findings of Yuan (1997) on the overuse of null forms by L1 Chinese-L2 English learners, as we saw in section 2. The common pattern in L2 grammar shared in both Yuan (1997) and the present study is that L2 learners/speakers have already acquired pronoun use in subject position correctly. In addition, L1 Korean-L2 English children in Park (2004) acquired the fact that null subjects are not normally allowed in English in the relatively early stage of their acquisition, while they took time to realize correct pronoun use in object position. The error observed in object position seems to be rather persistent. What causes such selective errors?

    Two possible accounts for non-native-like overt objects' (i.e. antecedent NP) production in the present study could be offered as follows.

1. Based on the 'one overt topic hypothesis' (Hawkins, 2001), English speakers of L2 Japanese acquired the topic chain but it is more restricted. Null objects are blocked by something.

2. Based on Park (2004), English speakers of L2 Japanese have to learn the different value of theta-features, since theta-features in English are strong, while those features in Japanese are weak.

As a third possibility, a recent study by Sorace and Filiaci (2006) claims that interface processing strategies are at a deficit in L2 grammar. If we apply their assumption to our findings, we can explain as follows. In a sentence with a subordinate clause, like the target sentence of topic context (object) in our study, the object position in the embedded clause is far from the topic position in front of the sentence, so a pronoun in the object position is needed to track to the topic position. The target sentence (Topic context (object)) in (13c) is repeated here as (14) with the question.

(14) Question:

お母さんは、息子をどうしようと考えているでしょうか？

Okaasan wa musuko o dou shiyou to kangae-teiru deshou ka

"What does the mother think she will do to her son?"

Target topic sentence:

$\emptyset_i$ $\emptyset_j$ **$\emptyset_k$**   **叱ろうと考えている。**

$\emptyset$ $\emptyset$ **$\emptyset$**   shikarou to kangae-teiru

(She$_i$ thinks she$_j$) will scold (*him$_k$*).

It is supposed that, in the target sentence, the object topic exists in front of the whole sentence in syntax. When the null pronominal $\emptyset_k$ in object position in the embedded clause recovers its meaning, it has to go back to the front of the sentence. This would be a demanding task for L2 speakers.

7. Further Issues

Do L1 Korean advanced L2 Japanese speakers produce null forms in obj-topic context? According to the assumption of Park (2004), Korean speakers of L2 Japanese would not have any difficulty in dropping objects in their L2 grammar. If this is the case, the topic chain is intact and there is no kind of blocking effect as proposed by Hawkins (2001). To test the assumption by Sorace (2006), we need to create a new test sentence where an adverbial phrase is inserted after the subject position. It might be that L2 speakers produce more overt objects because the distance between the topic position and the object position becomes farther because of the insertion. Then we could see whether L2 speakers' interpretation of pronouns in the object position varies or not. Besides, the object-focus contexts should be included in the next study to compare the interpretation in the place and that in object-topic context, and test items and pictures should be made more carefully. To test and explore the issues above awaits the results of the main study.

Appendix

Test sentences (actual test sentences are in Japanese)

(a) Focus context (subject)

1. Short story: It's snack time, but there is only one cookie there. Everyone feel hungry.
   Question: Who does Cookie Monster think will eat the cookie?

2. Short story: The family will go on a trip to the sea this weekend.
   Question: Who does the boy think will fish at the seashore?

3. Short story: The brothers and the sister think that they want to go back to their home and play.
   Question: Who does the girl think will play with the animals?

4. Short story: Today is a sports day. A 100-meter *race* will start soon.
   Question: Who does Hiroshi think will win at the 100-meter *race*?

5. Short story: There is only one bottle of cola remaining in the fridge. But everyone feel thirsty.
   Question: Who does the boy think will drink the cola?

6. Short story: There is only one sheet of paper. But everyone wants to draw a picture.
   Question: Who does the painter think will draw a picture on the sheet of paper?

7. Short story: They are playing hide-and-seek.
   Question: Who does the boy think will hide behind the closet?

(b) Topic context (subject)[10]

1. Short story: The brothers and the sister think that they want to go back to their home and play.
   Question: What does the girl think she will do after school?

2. Short story: It's snack time, but there is only one cookie there. Everyone feel hungry.
   Question: What does the cookie monster think he will do at the snack time?

3. Short story: They are playing hide-and-seek.
   Question: What does the boy think he will do?

4. Short story: The family will go on a trip to the sea this weekend.
   Question: What does the boy think he will fish at the seashore?

5. Short story: There is only one bottle of cola remaining in the fridge. But everyone feel thirsty.
   Question: What does the boy think he will drink?

6. Short story: There is only one sheet of paper. But everyone wants to draw a picture.

Question: What does the painter think he will draw?

7. Short story: Today is a sports day. A 100-meter *race* will start soon.

Question: What does Hiroshi think he will get at the 100-meter race?

(c) Topic context (object)

1. Short story: Taro comes to his brother's house.

Question: What does Taro think he will do to the baby?

2. Short story: Unfortunately, it is found by his teacher that Taro left his textbook in his house.

Question: What does the teacher think he will do to the student?

3. Short story: The brother and sister do not get along with each other and they are fighting again.

Question: What does their mother think she will do to her son?

4. Short story: Taro has 2 cookies and he wants to give one of them to Hanako.

Question: What does Taro think he will do to Hanako?

5. Short story: An exam is conducted in the classroom and a student who gets the best score can get a prize.

Question: What does the teacher think she will do to Hanako?

6. Short story: They are playing hide-and-seek. Hanako is it.

Question: What does Hanako think she will do to the person behind the tree?

7. Short story: Tomorrow is Sunday and the family will go on a picnic.

Question: What does the mother think she will do to Keiko at 6 o'clock?

Note

[1]   An example sentence is introduced in (2) in section 2.

[2]   Li and Thompson (1976) propose a typological classification of language. Based on the notion of subject and topic in sentence structure, they classify languages in four types: subject-prominent language, topic-prominent language, subject-prominent and topic-prominent language, and neither subject-prominent nor topic-prominent language. Italian, Spanish and English belong to subject-prominent language while Japanese belongs to subject-prominent and topic-prominent language. However, it is more commonly accepted that Japanese is a topic prominent language (Shibatani, 1990, Masuoka, 2004).

[3]   As an example of the topic configuration in English, a cleft sentence is introduced in Radford (2004): 'It's syntax that I hate.'

[4]   The type of focus examined in their study is a "contrastive" focus. Although the question sentence used in their study is an out-of-the-blue question (i.e. the answer is all new information), two people are identified in the picture, which would indicate that the focus type is not "presentational".

[5]   Advanced speakers here are defined as speakers who passed the 1st grade of the Japanese-Language Proficiency Test, got a score 46~38 in MJK (a Japanese proficiency test developed in Gifu University), or got over 60% correct responses in a shortened version of the grammar test where the questions are cited from a collection of the Japanese-Language Proficiency Test.

[6]   In studies of both Pérez-Leroux and Glass (1990) and Sorace and Filiaci (2006), the target pronoun is one having a singular feature. Since the aim of the current study is to see whether or not English native

speakers of Japanese have acquired Japanese referential pronouns in topic context, for comparison with the results of the two studies above, interpretation of pronouns with a plural feature is not within the scope of the present study.

[7] See the Appendix.

[8] This object sentence type would be suitable to test the assumption by Park (2004). Another suggestion of a test sentence type with an object topic is as below.

　　a. おばあさんは、太郎が　自分を どうしてくれると　考えていますか。

　　(What does the grandmother think Taro will do for her?)

In the sentence (a), *zibun* in the object position in embedded clause is referred by *grandmother*. Native Japanese speakers would answer the question as below.

　　b. Ø（自分を / おばあさんを / 彼女を）手伝ってくれると考えています。

　　(She thinks that he will help her)

To test the processing account claimed by Sorace (2006), the suggested sentence would be more appropriate.

[9] For some reason, several NS seem to have answered the questions not looking at the pictures given, but using their own imagination.

[10] Question sentences 4, 5, 6, 7 are different from other sentences in topic context (subject) as the underlined words show. Rather, they seem to belong to the type of focus context (object). However, in the target sentences of those questions, it is natural that the subject is dropped. In this view, those question sentences are treated equally as other question sentences. However, in the next main study, it should be considered more carefully to make question sentences.

References

Belletti, A, Sorace, A., & Bennati, E. (2005). Theoretical and developmental issues in the syntax of subjects: evidence from near-native Italian. Unpublished manuscript, University of Siena, Italy/ University of Edinburgh, UK.

Filiaci, F. (2003). The acquisition of null and overt subjects by English-near-native speakers of Italian. M.Sc dissertation, University of Edinburgh.

Hawkins, R. (2001). *Second Language Syntax: An Introduction*. Blackwell.

Huang, C. -T. (1984). On the distribution and reference of empty pronouns. *Linguistic Inquiry*, 15 (4), 531-74.

Kanzaki, T. (1994). *Nihongo daimeishi no kenkyu* [The study of Japanese pronouns]. Tokyo: Kenkyu sha.

Masuoka, T. (2004). *Shudai no taishou* [Compare and contrast of topic]. Tokyo: Kuroshio shuppan.

Noguchi, T. (1997). Two types of pronouns and variable binding. *Language*, 73, 770-797.

Panagiotidis, P. (2002). *Pronouns, Clitics and Empty Nouns: 'Pronominality' and licensing in syntax*. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Park, H. (2004). A Minimalist approach to null subjects and objects in second language acquisition. *Second Language Research* 20, 1-32.

Pérez-Leroux, A. T., & William, R. G. (1999). Null anaphora in Spanish second language acquisition:

probabilistic versus generative approaches. *Second Language Research*, 15 (2), 220-249.

Puskas, G. (1997). Focus and the CP domain. *The new comparative syntax*, 145-164.

Radford, A. (2004). *Minimalist Syntax: Exploring the structure of English*. Cambridge: CUP.

Rizzi, L. (1997). The structure of the left periphery, in L. Hargeman (Ed.), *Elements of Grammar* (pp. 281-337). Dordrecht : Kluwer.

Shibatani, M. (1990). *Language of Japan*. Cambridge: CUP.

Sorace, A. (2004) Native language attrition and developmental instability at the syntax-discourse interface: Data, interpretations and methods. *Bilingualism: Language and Cognition* 7 (2), 1-3.

Sorace, A. (2005). Syntactic optionality at interfaces. In L. Cornips & K. Corrigan (Eds). *Syntax and Variation: Reconciling the Biological and the Social* , 46-111. Amsterdam: John Benjamins.

Sorace, A. & Filiaci, F. (2006). Anaphora resolution in near-native speakers of Italian. *Second Language Research* 22,3. 339-368.

Tonoike, S. (2003). *Kanzen puro datsuraku gengo to shite no nihongo no bunseki* [the analysis of Japanese as a full pro-drop language], presented at The Linguistic society of Japan. Aoyama Gakuin University.

Tsimpli, I.M. & Sorace, A. (2006). Differentiating Interfaces: L2 performance in syntax-semantics and syntax-discourse phenomena. *BUCLD Proceedings 30*: 653-664.

Yamada, K. (2005). *The overt pronoun constraint and null objects in second language Japanese*. Unpublished doctoral dissertation. University of Essex.

Yuan, B. (1997). Asymmetry of null subjects and null objects in Chinese speakers' L2 English. *Studies in Second Language Acquisition 19*, 467-97.