THE ACQUISITION OF ENGLISH REFLEXIVES BY SPEAKERS OF MANDARIN CHINESE

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ABSTRACT: *This study offers a perspective on the interpretation of reflexive pronouns in English by Mandarin Chinese native speakers. It assumes that English reflexives are locally bound and based on structural processing in accordance with Principle A of Chomsky's (1981) Binding Theory. However, Mandarin also long-distance binding of subjects is licit when there is no conflict with the centre of perspective within the sentence. The Test involves native speakers of Mandarin Chinese to see if their intuitions about English reflexive pronouns are in accordance with UG and if their grammars show logophoric features.*

KEYWORDS: syntax, semantics, reflexives, logophors, second language acquisition

INTRODUCTION

The ability to interpret English reflexives by English native speaking children has been demonstrated by 5 years (Chien & Wexler, 1990). In their study, a yes/no judgment task was used. Children were presented with pictures that showed characters performing an action. For example, a picture of Mama Bear and Goldilocks with Mama Bear touching herself. They were then asked, "Is Mama Bear touching herself?" and they almost invariably responded "yes." Likewise, when shown a picture of Mama Bear touching Goldilocks and asked the same question their response was "no." This would seem to be entirely consistent with the idea that young children are operating with grammars consistent with Principle A of Binding Theory (Chomsky 1981) which states, "an anaphor must be bound in it's local domain." Thus, if the reflexive pronominal *himself* is only felicitous when it is bound within a clause as shown in (1).

(1) Alan$_i$ thinks Bill$_j$ knows Colin$_k$ likes himself$_{*i/*j/k}$

However, when we look at other languages this is not necessarily the case. As has been noted the Mandarin Chinese reflexive *ziji,* for example, can have an antecedent outside or inside the clause. In (2) the antecedent could also be the matrix subject or the intermediate subject.

(2) Zhangsan$_i$ renwei Lisi$_j$ zhidao Wangwu$_k$ xihuan ziji$_{i/j/k}$
   Zhangsan think Lisi know Wangwu like self
   'Zhangsan$_i$ thinks Lisi$_j$ knows Wangwu$_k$ likes self$_{i/j/k}$

(Cole et al. 1990:1)

The presence of long-distance reflexives has been demonstrated in a number of languages. For example, the reflexive pronominal *zibun* in Japanese. The limited evidence suggests that

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correct interpretation of long-distance reflexives is a also available at a young age. Sugiaki and Otsu (2011: 309) note that 'children as young as three have already acquired the major properties of *zibun*, such as subject orientation, long-distance binding, and the c-command requirement.'

LITERATURE REVIEW

As long-distance reflexives do not seem to fit within a purely syntactic approach, exemplified by Chomsky's (1981) Binding Theory a dual approach has been proposed. Cole, Hermon and Lee (2001) posited Mandarin reflexives have both logophoric and syntactic requirements. Only if both the syntactic and logophoric requirements were met would a candidate antecedent be judged as felicitous. This was also Huang and Liu 2001 position where they analyse *ziji* as an anaphor while locally bound, but as a logophor while bound long-distance. Thus, they posited that the felicity of antecedents for a reflexive in a sentenced was dependent on the attitude or mental state of a protagonist within a sentence. Furthermore, following Sells (1987) the source of a speech act or idea was also pertinent. This interpretation of Mandarin reflexives as being logophoric was supported by Liu's (2012) study. Chou (2012) also demonstrated that intermediate subjects with protagonists who have different points of view blocked long-distance binding to matrix subjects in syntactic structures which would have otherwise allowed long distance binding to the matrix subject.

The long-distance reflexive *ziji* has the property of being blocked from taking certain antecedents. A first or second person pronoun occurring between a higher NP and *ziji* blocks long-distance binding. This is shown in (3) where the first person pronoun wo blocks the higher subject, Zhangsan from being felicitous.

(3) Zhangshan$_i$ renwei wo$_j$ xihuan ziji$_{*i/j}$.
     Zhangshan think I like self
     'Zhangshan thinks I like him/ myself.'

(4) Zhangshan$_i$ renwei wo$_j$ xihuan wo$_{*i/j}$.
     Zhangshan think I like self
     'Zhangshan thinks I like him/ myself.'

The interpretation of (3) involves wo referring to an external speaker and in such cases *ziji* can be viewed as synonymous with the first person pronoun *wo*. Hence, in (4) Zhangsan cannot be an antecedent because there is a conflict in perspective between wo referring to the external speaker and also Zhangsan as the internal speaker in reported speech. Thus, long-distance binding in of *ziji* in (3) is not permitted as a logophoric reading is blocked.

However, in direct discourse, as in (6), the reported internal speaker is Zhangsan and as such there can be co-reference between Zhangsan and wo with no blocking intermediate NP. Thus in (5) if *ziji* is assumed to be synonymous with wo logophoric long-diatance binding is permitted with Zhongsan as there is no obligatory exyernal source. The local binding of Lisi to ziji is also acceptable as it is consistent with Principle A of Binding Theory.

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(5) Zhongshan$_i$ juede Lisi$_j$ zai piping ziji$_{i/j}$

   Zhangsan think Lisi at criticize self

  'Zhangsan$_i$ thinks that Lisi$_j$ is criticizing him$_i$/himself$_j$.'

  (6)Zhangsan3juede, "Lisi5zai piping wo3.

    "Zhangsan think Lisi   at criticize me

    'Zhangsan3thinks, "Lisi is criticizing me."'

                       (Huang and Liu 2001:161-2)

This account would also explain why third person antecedents do not show blocking effects in (7) where local binding makes Lisi an acceptable antecedent. Moreover, Lisi does not block as there is no obligatory external source.

  (7) wo$_i$ juede Lisi$_j$ zai piping ziji$_{i/j}$

    I   think Lisi at criticize self

    'I think that Lisi is criticizing himself/ me.

                       (Huang and Liu 2001:162)

Thus, English can be said to allow local binding of reflexives and is consistent with Binding Theory. However, Mandarin Chinese reflexives can be bound outside the local domain where no blocking effect is present.

If a sentence is both syntactically and semantically then its interpretation is straightforward. However, if a potential antecedent is not syntactically permitted but is logophorically prominent then it could be acceptable in a non UG constrained grammar. The semantic prominence of a long-distance antecedent could be seen as varying depending upon the structure of the sentence. For sentences containing an embedded sentence with two arguments of the matrix verb we would expect long-distance binding to be less acceptable as the local sentential subject is the centre of perspective. Furthermore, for sentences not containing an embedded sentence, but a non-tensed subordinate clause, the centre of perspective would be more likely to be the matrix verb. Finally, for sentences with a possessor contained within an NP. the possessor is not a direct argument of the verb and is, therefore, less prominent allowing the semantic possibility of long-distance antecedents.

METHODOLOGY

In this study, 27 students aged 19-22 were tested. The subjects are all students at a university in Taiwan, majoring in English. Since age and level are essential considerations, the students were upper-intermediate level and non-native speakers of English. Informants who had spent any substantive period outside of Taiwan were excluded from the study. Gender was not a variable in this study.

The test utilized in this study was a True-False Task (TFT) comprised of 60 sentences containing a reflexive pronoun or a referring pronoun. Informants were then asked to judge whether accompanying statements were an accurate paraphrase of the sentence. This was presented on a screen as a PowerPoint presentation with numbered slides. Thus, for example, the sentence, "Ann thinks Betty blames herself" was shown for 6 seconds. Then the statement "Herself refers to Ann" was shown for 3 seconds. On a provided answer sheet informants were asked whether the statement was true or false. Immediately before the test there was a pre-training session designed to ensure all informants were familiar with the test instrument. Vocabulary used on the test was simple, clear, and unambiguous. In this session no reflexives or pronouns were employed Informants were shown a sentence onto a screen for 6 seconds. They were then presented with a statement for 3 seconds and asked to judge whether it was true or false. The training statements comprised of grammatically correct paraphrases which should be recorded as true, statements which did not accurately paraphrase the sentence which were false and sentences which were grammatically wrong which should be marked as false. Thus, informants were being asked to judge both whether the English was correct and whether the sentence and statement matched It was explained that this was a test of their intuition about language and, therefore, there was a limited time (3 seconds) to read the statement and record whether the sentences were true or false. The sentence and statement on the slide were then replaced with the next slide in the test. Therefore, informants did not have the opportunity to refer to previous test stimuli when they were completing the test.

The test included five different sentence types.

Type 1: multi-clausal sentences with the reflexive in a subordinate tensed clause

(8)   Ann knew Becky painted her/ herself.

The only grammatically licit antecedent for the reflexive herself is the local NP, Becky. Acceptance of the other NP, Sally would indicate an acceptance of long-distance binding.

Type 2: multi-clausal sentences with a non-tensed subordinate clause containing a reflexive or pronoun.

(9)   John wanted Tom to drive him/ himself to school.

Only the local NP, Tom is an acceptable antecedent for the reflexive. However, as many researchers have noted long-distance binding out of clauses, where the verb does not carry tense, is often more readily accepted.

Type 3: uni-clausal sentences with subject and non-subject NPs

(10)   Betty asked Sally about her/ herself.

As well as the subject NP (Becky), the non-subject NP (Sally) is a possible antecedent for the reflexive.

Type 4: bi-clausal sentences containing a relative clause and a reflexive or pronoun in the main clause.

(11)   The man who John saw watched him/ himself on TV.

Only the man, who is the subject of the relative clause, is within the governing category of the reflexive. Therefore, if a strategy of interpreting reflexives as being bound to the nearest potential antecedent based upon linear order is adopted then the subject of the relative clause (John) would be selected.

Type 5: uni-clausal sentences with a reflexive inside a "picture NP" with a possessor

(12)   Betty liked Ann's photographs of herself.

The reflexive is bound to the possessor in the 'picture NP', i.e., Ann. However, as was pointed out by Reinhart and Reuland (1993) there appears to be some speaker variability and reflexives may not be restricted to taking the possessor as the antecedent. Empirical research by Asudeh and Keller (2001) and Runner et al. (2003) offer further evidence that many native speakers will accept reflexives bound to the subject of the sentence.

RESULTS

Figure 1 shows the results for Test 1, by sentence type, for sentences where there was a potential local antecedent with features that matched the features of the reflexive. These results are largely consistent with the informants having grammars which are not inconsistent with the grammar of English. Thus, the high rates of acceptance across sentence types suggest that the informants are largely binding reflexives to the correct local antecedent.

Sentence Type	Tokens	Correct	Incorrect	% Correct
Type 1	2	49	5	90.7
Type 2	1	23	4	85.2
Type 3				
Subject	1	25	2	92.6
Object	2	40	14	74.1
Type 4	1	24	3	88.9
Type 5	1	25	2	92.6
Total	8	186	30	86.1

Figure 1: showing % of sentences judged as true for stimuli containing a local antecedent.

Figure 2 shows the results for sentences where there was no candidate antecedent which could legitimately be bound to the reflexive. In these sentences all NPs whose features agreed with the reflexive were not in the local domain. Thus, these sentences were ungrammatical. This is consistent with informants instantiating a grammar consistent with English.

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Sentence Type	Tokens	Correct	Incorrect	% Correct
Type 1	3	76	5	93.8
Type 2	3	72	9	85.2
Type 4	1	25	2	92.6
Type 5	2	43	11	79.6
Total	9	216	27	88.9

*Figure 2: showing % of sentences judged as false
for stimuli not containing a grammatical local antecedent*

These results indicate that learners treat English reflexives as locally bound anaphors. The majority of respondents bind reflexives in tensed clauses to the local antecedent. Type 1 sentences, containing a valid local antecedent were judged acceptable in over 90% of the responses. Furthermore, long-distance antecedents were largely unacceptable in such sentences, with only 6.2 % of responses accepting them. The data from Type 4 sentences, containing a relative clause, indicate a similar pattern. This would also be consistent with informants having grammars consistent with the settings of English.

In Type 2 sentences, where the reflexive was contained in an untensed subordinate clause indicate that local binding is again judged acceptable, whereas long-distance binding is unacceptable. However, there was a significant increase in the number of responses which judged first or second person antecedents as acceptable.

The responses to Type 5 which contain a reflexive in a NP with a possessor are generally consistent with the data from the other sentence types with respect to the acceptance of a local subject. However, informants are far more likely to accept the non-local subject of the sentence. This is problematic for an account which is purely syntactic.

From the results it can be argued that the grammars of the informants were consistent with UG. The evidence from Type 4 showed no evidence that informants were using a non-linguistic strategy of using linear order in selecting antecedents. In general, long-distance binding for English reflexives was not accepted, especially in sentence Type 1 and Type 2. Thus, if we examine sentences with a tensed clause and the sentences containing relative clauses it would seem that reflexives are treated as being constrained by UG.

The results indicate that both native and non-native speakers readily interpret English reflexives as locally bound anaphors. Thus, the data support the idea that the behaviour of

reflexives are syntactically constrained. However, there is evidence from the data that long-distance antecedents are not totally precluded. However, there was little evidence that the long-distance binding for English reflexives is generally considered valid. This is particularly apparent from the native speaking informants in Type 1 and Type 2 sentences. However, albeit to a lesser extent, this was also shown by non-native speakers. It would seem that it is unlikely that this could be explained by general learning mechanisms due to its abstract nature. The responses of informants to Type 3 sentences which contain a reflexive in a NP with a possessor shows that informants are far more likely to accept such sentences, which would be hard to explain in a purely syntactic model. Therefore, the data supports the contention that binding is also influenced by semantic factors.

CONCLUSION

The data from this study indicates that the English learners are largely in accordance with the syntactic framework of the language. However, it can be argued that a purely syntactic model is inadequate in accounting for all the linguistic behaviour. The semantic prominence of some illicit antecedents seems to be permitted (at least to some extent) in the grammars of the learners. When an. NP is the perspective centre of a sentence there is a tendency for it to be accepted, even when it is syntactically invalid. If both the syntactic and semantic lead to the same interpretation, then the antecedent is readily accepted.

However, the acceptance of certain tokens with syntactically illicit long-distance antecedent suggests that a logophoricity is also involved in judgments. Therefore, a reflexive and its local antecedent can be viewed as syntactically bound. However, if a reflexive is bound to a long-distance antecedent, it is possibly interpreted logophorically. This could be seen as residual transfer of parameters present in the first language.

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