영어어문교육 제4호 1998

Parameter Resetting in Reflexive Binding of Second Language Acquisition

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Kim, Hak-Soo. (1998). Parameter resetting in reflexive binding of second language Acquisition. *English Language and Literature Teaching, 4*, 207~228.

This study investigated how Korean learners of English acquired the English reflexives. There is emphasis on the effects of the GCP and PAP(Wexler and Manzini, 1987). The purpose is to examine the major hypothesis that L2 learners are still constrained by Universal Grammar (UG), despite the influence of the parameter setting of their native language as well as the non-operation of the Subset Principle. The experimental group consisted of 30 middle school students (age 14-15), 30 high school students (age 16-17), and 30 unversity students (age 18-19) as well as 20 ESL students (age 16) studying English in the USA. Twenty native speakers of English served as a control group. The subjects responded to a test on reflexives that used a multiple-choice grammaticality judgement task. Findings show that L2 learners transfer their L1 parameter setting and ,as a result, make errors in the choice of antecedents for reflexives. Therefore, I argue that the L2 learner is still constrained by UG.

Ⅰ. Introduction

This paper reports the experimental data about the acquisition of the reflexive binding of Korean learners of English (KLE). Korean and English

differ with respect to how far the antecedent can be from the reflexive. These differences can be explained by Wexler and Manzini (1987) in terms of the Governing Category Parameter (GCP) and the Proper Antecedent Parameter (PAP). Both of these parameters relate to the Binding Theory (Chomsky, 1981).

In a situation where there is a parametric variation between English and Korean which occupies opposite ends of the hierarchy of the GCP and PAP values, it is very useful to examine how the learners set the value of the parameters in explaining the process of second language (L2) acquisition.

The goal of this paper is to support the hypotheses that second languge (L2) learners are still constrained by Universal Grammar (UG), despite the influence of the parameter setting of their native language as well as the non-operation of the Subset Principle.

This paper is structured in two parts. The first part presents the background information including : 1) the role of Universal Grammar (UG), Binding Principle, and Subset Principle, 2) results from the previous research on the GCP and PAP. The second part focuses on the experiment of the hypotheses.

II. Theoretical Background

1. Universal Grammar and First Language Acquisiton

Chomsky (1981) proposed Universal Grammar (UG) as a partial answer to the question of how children ultimately attain competence in first languge acquisition. The linguistic input to which children are exposed in learning their native language obviously underdetermines the complex linguistic competence they eventually attain. The gap between insufficient input and attained competence is widely referred to as "the logical problem" of first language acquisition (Lightfoot,1981). Given the fact that

children possess a subtle knowledge of grammaticality, ungrammaticality, and ambiguity of sentence structures that are not obvious in the input nor explicitly taught, and that children seem to acquire such linguistic competence regardless of their intelligence, motivation, attitude, etc., it is suggested that all human beings are genetically endowed with an innate Universal Grammar, a domain-specific language acquisition device, consisting of universal principle and parameters as well as a set of learning procedures (Chomsky, 1981, 1986).

UG consists of principles that form the basis for all languages. Some of the principles are claimed to be equipped with certain parameters. Parameters are assigned certain values that vary by language. When a human being is exposed to a langauge, the values of the parameter are claimed to be set in accordance with the language he/she is exposed to. Once parameters are fixed, the grammar of a language is claimed to be formed. These concepts are called the theory of principles and parameters.

The principles and parameters of UG constrain the range of possibilities of language structures in human languages. They explain how children can go beyond the impoverished syntactical input data and arrive at an adult grammar. Let us give an example of the principles of UG that is common to the syntax of all languges: binding principle.

(1) a) John thinks that Bill likes him.

* b) John thinks that Bill likes herself.

The child who internalizes the unconscious knowledge of linguistic rules judges the sentence (b) ungrammatically. According to the framework of generative grammar, children initially make few mistakes within the binding domain of reflexives because they have access to an innate Universal Grammar that constrain their internal knowledge of grammar.

2. Universal Grammar and Second Language Acquisition

The view of first languge acquisition discussed above raises the interesting question of whether second language learners can also access

the principles and parameters of UG and attain the same linguistic competence as native speakers (White, 1989).

Findings of previous studies show much inconsistency, making the issue highly controversal. Three major competing hypotheses have been proposed to answer the question : (a) UG is fully accessible to adult second language learners (direct access). (b) UG is accessible to L2 learners via the mediation of L1 (indirect access), or (c) UG is no longer accesssbile to L2 learners (no access) (White,1989).

The first position claims that L2 acquisition is fully analogous to L1 acquisition. The rationale is that second language learners face the same logical problem as first language learners; therefore, UG must mediate the acquisition of L2 linguistic properties as it does in L1 acquisition. Namely, L1 and L2 acquisition are identical with respect to the operation of UG. L1 knowledge is consequently irrelevant to the realization of the L2 grammar.

The second position suggests that UG is accessible to L2 learners via L1 knowledge. L2 learners tend to transfer from principles and parameters of UG instansiated in L1. Therefore, L2 learners will have great difficulty in accessing to L2 principles and/or parameters that are inconsistent with L1. However, "Parameter resetting to the L2 value is possible, given appropriate L2 input interacting with a still active UG" (White, 1989). Learners may construct an interlanguage grammar which is neither L1 nor L2 but somewhere in between, showing a process of approximation. However, their grammar will still be sanctioned by principles and parameters manifested in UG.

The third position assumes that adult L2 learners are no longer constrained by UG in second language acquisition. The Fundamental Difference Hypothesis (FDH) (Bley-Vroman, 1989) distinguishes second language acquisition from first language acquisition based on ten essential differences. Similiar to the UG-indirect position, FDH also agrees that

learners' initial hypothesis of L2 will be a surrogate of L1 principle and parameter settings. Though L1 together with the input data will keep things pretty much in line, learners' realization of L2 grammar is no longer constrained by values prescribed by UG.

1) The Governing Category Parameter and the Proper Antecedent Parameter

Given that UG is composed of universal principles and parameterized principles, two conditions must be met to observe the operation of UG in second language acquisition : (i) the input underdetermines the L2 grammar, (ii) either some principles operate in the L2 but not the L1, or L1 and L2 have different values for a particular parameter (White, 1989).

The binding behavior of reflexive pronouns is subject to two types of parametric variations: the Governing Category Parameter and the Proper Antecedent Parameter. They are associated with the Binding Theory (Chomsky,1986). Principle A of the Binding Theory states that reflexives must be bound in its governing category. Wexler and Manzini (1987) postulate five values for Governing Category Parameter (GCP) which reflects this variation, of which English is to set to value (a) which is the most unmarked, while Korean and Japanese are set to value (e) which is marked as shown in (2)

(2) Governing Category Parameter (GCP)

XP is a governing category for @ iff

XP is the minimal category that contains @ and has

a. a Subject; or

b. an Infl; or

c. a Tense; or

d. a indicative Tense; or

e. a root Tense

(Wexler and Manzini, 1987 : 53)

According to this parameter, languages differ with respect to how far

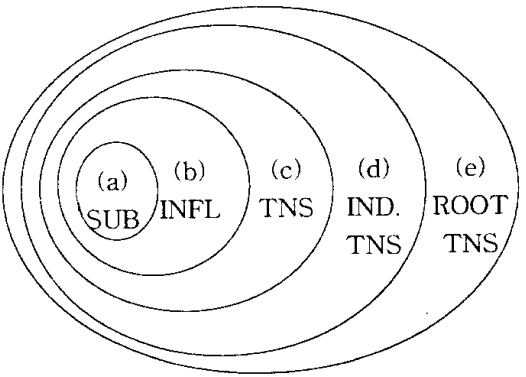
away the antecedent can be from the reflexive. Take an example such as a sentence (3) below :

(3) [Susan knows that [Ann wants [Mary to introudce herself]]]

A type (a) language allows only the NP closest to the reflexive, Mary, to be its antecedent, since the mininal clause including the reflexive and the subject is the governing category in this type of langauge. A type (c) language such as Russian allows either Mary or Ann to be the antecedent as the governing category for this type of language is a clause containing a finite verb and the reflexive. A type (e) language such as Korean or Japanese allows all three NPs (either Mary, Ann, or Susan) to be the antecedent since the whole sentence is the governing category for the reflexive.

Thus, a type (a) language is the most restrictive language in that it allows only the closest NP to the reflexive to be its antecedent; on the other hand, a type (e) language is the least restrictive languge in that any NP in a sentence can be the antecedent of the reflexive. The values for this parameter setting shows an "entailment" relationship as illustrated below.(Fig.1)

Figure 1
The Governing Category Parameter



The data which motivates the smallest grammar is also compatible with any of the other grammar.

Another parameter concerning reflexive is suggested by W&M. Some reflexives refer to any NPs in the local domain, while others only refer to subject NPs. W&M formalized this variation as Proper Antecedent Parameter (PAP).

(4) Proper Antecedent Parameter (W&M:64)

A proper antecedent for @ is

a. subject

b. an(y) element whatsoever

In terms of PAP, English "himself" assumes setting (4)-b, hence it can refer to any NPs in the local domain. In (5), herself can refer to both Jane and Mary:

(5) [Jane$_i$ showed Mary$_j$ a photograph of herself$_{i/j}$]

A Korean anaphor "casin" has a parameter (a) of PAP, hence it can only refer to Jane but not to Mary, since Mary is not a subject.

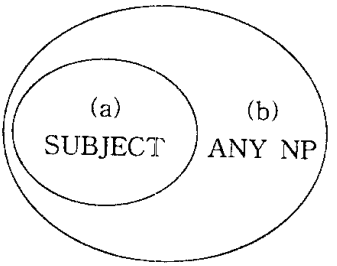
(6) Jane-nun$_i$ Mary$_j$-ege sasin$_{i/*j}$-uy sajin-lul boyojua-ss-da.

Jane$_i$-SUB Mary$_j$-IO self$_{i/*j}$-GEN photograph-DO showed.

Jane$_i$ showed Mary$_j$ a photograph of self.$_{i/*j}$

This relationship between the parameter values of PAP is inclusive, and exhibits a subset relationship. This relation is illustrated in Figure 2.

Figure 2
The Proper Antecedent Parameter



Wexler and Manzini (1987) show that both the Governing Category Parameter and Proper Antecedent Parameters are subset parameters. For the Governing Category Parameter, value (a) is the subset value and value (e) is the most inclusive superset value. For the Proper Antecedent Parameter, value (a) is the subset value and value (b) is the superset value. They defined markedness hierarchies on the basis of the subset relations among the languages generated by a parameter's values. The subset relationships for anaphors are summarized as markedness hierarchies in (7).

(7) Markedness Hierarchies for the Binding Parameters

	Unmarked				Marked				
GCP :	a	<	b	<	c	<	d	<	e
PAP :	a				<				b

2) The Subset Principle

The Subset Principle is a learning principle which has been proposed to guarantee L1 acquisition with positive evidence only (Berwick,1985). The idea is that the child starts by hypothesizing the smallest languge compatible with the data. When the data appears not to be compatible with the child's hypotheses, the child then goes to the next smallest language compatible with the data. The Subset Principle "protects" the child from arriving at an overtly general grammar(Yip, 1989).

Alternatively, if the child starts with a hypothesis generating an overgeneral grammar, he/she would be unable to get back to a correct hypothesis without negative evidence. That is, because his/her hypothesis would always be compatible with well-formed constructions in the input, there is no evidence available to inform the child of the incorrect hypothesis.

Wexler and Manzini (1987) claim that for the Subset Principle to

work, one condition must be met : It is necessary that two values of a parameter in fact yield languages which are in a subset relation to each other (i.e., one is a subset of the other). This requirement we call this "Subset Condition". It is necessary for the Subset Condition to hold in order for the Subset Principle to apply(p.45). That is, the Subset Principle is only subject to those cases where a proper inclusion of possible parametric values is obtained.

The GCP meets the subset condition and thus the Subset Principle is expected to function for L1 acquisition of reflexive; that is, the child will first assume that a reflexive is locally bound, unless he/she hears sentences in which reflexives are non-locally bound. Let us imagine a Korean child learning his/her native language in the following English equivalent:

(8) [John said that [Tom threw away [Scott's picture of himself]]].

Under the assumption of the Subset Principle at work, the child would initially choose "Scott" as the antecedent of "himself" since the NP is the most restrictive domain of binding. However, when the child hears a sentence in which "himself" refers to "John" or "Tom" as well as "Scott," he /she would select a larger languge in which "root TNS" is taken as the value for the governing category. Lee (1992) and Wexler (1987) report that Korean-speaking children select the narrowest binding domain in their acquisition of Korean reflexives.

Some SLA research has revealed an entirely different pattern for adult L2 learners. It has shown that adult L2 learners initially adopt the L1 superset value (Finer and Broselow, 1986 ; White, 1989). This may be because SLA involves many factors including previous L1 knowledge and differential accessibility to UG. Given this, it is questionable whether or not the Subset Principle is applicable to SLA. Studies have been conducted to examine this issue using parameters with two values, and suggest that the answer is negative where the L1 setting is marked

while the L2 setting is unmarked (White, 1989 ; Zobl, 1988). L2 learners seem to transfer their superset L1 value in the acquisition of the L2.

3) The Previous L2 Studies on GCP

In the following section, I will review previous studies on the acquisition of the English reflexive by various L2 learners.

Finer and Broselow (1986) conducted a pilot study to investigate the acquisition of English pronouns and anaphors by six adult Korean ESL learners using a picture identification task. The parametric value of Korean is assured to be setting (a) based on the anaphor caki ("self"). The task includes both tensed and infinitive embedded clauses. Two examples are shown below :

(9) a. Mr. Fat thinks that Mr.Thin will paint himself.

b. Mr. Fat told Mr.Thin to paint himself.

Their results showed that the subjects seemed to distinguish tensed from infinitive clauses. They bound 91.7% of the reflexives to the local antecedents in sentences with a tensed embedded clause like (9a), but only 58% in sentences like (9b). One of their interpretations was that the subjects have "split the difference" between the parameter settings of English and Korean (Finer & Broselow,1986:61) and adopted an intermediate value of GCP which is neither L1 nor L2, but somewhere around setting (2c) or (2d). The results seemed to show that the subjects are in the process of parameter resetting and support the second version of the second position of UG. This interpretation violated the prediction of SP (Subset Principle) in that the subjects have set a parametric value wider than the target value. On the other hand, they offer an alternative interpretation which is in full support of SP. That is, the subjects had successfully selected the most unmarked value both for GCP (local antecedents) and PAP (subject antecedents only). Therefore, in sentences like (9b) "Mr. Fat told Mr. Thin to paint himself", the subjects may

analyze Mr.Thin as a direct object of the matrix verb and therefore choose the matrix subject as the antecedent instead. In this sense, SP could be fully activated.

There is another possibility, which seems intuitively more plausible. That is, the learners transfer their L1 values to the grammar of the target language. In a situation where the L1 has a marked value and the L2 has an unmarked value, it has been claimed that the L1 value is likely to be adopted (White, 1987, 1989 ; Zobl, 1988). If Korean learners of English transfer their L1 value of the GCP, we may expect that they allow the nonlocal antecedent, John, as the antecedent of himself in (10).

(10) John says that Mr. Thin to paint himself.

We investigated the acquisition of reflexive binding when the respective governing categories of the anaphors of the native language and the target language occupied different positions on the markedness hierarchy. If the transfer is the dominant factor in second language acquisition, one might expect language learners to simply transfer their native language setting to the target language. Thus, speakers of Korean and Japanese, whose L1 employs the most marked settings, would therefore make mistakes such as taking any of the NPs in (9) as possible antecedents of the reflexive. Alternatively, however, one might assume that the acquisition of the binding principles of a second language proceeds as acquisition of the binding principles of the first language is claimed to: learners start with the unmarked value (that is, the English value, in which the reflexive and its antecedent must be clausemates and stay at that unmarked value until positive evidence forces them to change the parameter setting. Here, one would expect few mistakes from Korean and Japanese speakers learning English, since these learners would presumably ignore the parameter setting of their native language, and start afresh, as it were, with the least marked parameter setting. Our results suggest that subjects had arrived at a parameter setting midway between that of the native language and the target langauge.

Ⅲ. Experiment

The main concern of the study is to investigate how learners set the value of the governing category parameter where the L1 (Korean) and the L2 (English) occupy polarities in the the hierarchy of GCP and PAP. Three hypotheses to be considered are as follows:

[1]. The Subset Principle operates in L2 acquisition exactly as it does in L1 acquisition. This predicts that Korean learners start with correct English grammar and that there is no misinterpretation of English reflexives.

[2] Transfer of the L1 parameter value occurs so that the Korean learners will assume the inappropriate setting for the L2 grammar. This predicts that they will bind refexives to NPs which are not allowed by the English grammar.

[3] The Subset Principle is not available to L2 learners, and the transfer of the L1 value is not in operation in L2 acquisition, either. This predicts that L2 learners pick up an intermediate value which is not predicted either by the subset principle or the tranfer hypothesis. .

We will choose the second possibility mentioned above as the hypothesis in the present paper.

1. Subjects

In order to test the above hypothesis, an experimental study on the acquisition of English reflexives was conducted with three levels of subjects.: Group 1 consisted of 30 three-year middle school students (age 14-15), Group 2, of 30 second-year high school students (age 16-17). Group 3, of 30 first-year college students (age 18-19). Subjects in Group 1-3 were students studying English as a foreign language in Korea. Except for the level difference, each subject was considered to have a similar background with respect to the age at which they had started

English lessons and the amount of exposure to English. None of the subjects had ever been to foreign countries; in other words, they had not been exposed to English out of class. I shall call these groups the EFL groups.

There was another experimental group, that is, 30 subjects in this group had been living in Michigan, USA for more than two years. They are under 16 years old. Some of them learned English attending school in Korea. but most of them didn't know the prior knowledge of pedagogical English grammar. Now they are attending middle or high school in the USA. I shall call this group the ESL group. The control group consists of 20 English native speakers who were attending high school in the USA.

2. Materials

The experimental test was a multiple-choice grammaticality judgement test. It consisted of three types of sentences which were shown in (11):

(11) Sentence Types:

Type 1 : TNS Clause

Tom thinks that John hates himself.

Type 2 : INFL Clause

Mary told Jane not to look at herself

Type 3 : NPs with the subject and nonsubject

Tom showed Sam a drawing of himself.

Sentence type 1 and Type 2 coincides with the governing category of English reflexives (i.e., value of GCP). Type 1 sentences are those in which a "TNS clause" is the governing category (2c). Type 2 sentences are those in which an "INFL clause" is the governing category (2b). Type 3 sentences contain those which have both a subject NP and a nonsubject NP in the same governing category. Type 1-Type 2 are the sentences to examine GCP and Type 3 is to examine PAP.

3. Procedures

The instrument of this study was the mutiple choice grammaticality judgement task (GJT). Subjects were asked to indicate who "himself" or "herself" referred to in each sentence by circling one of a set of given choices.

(12) Example :

Tom thinks that John hates himself.

NP1 NP2

a. Tom b. John

c. either Tom or John d. someone else

e. don't know

If they considered the sentence to be ambiguous, they were to choose an either NP1 or NP2 type of response as (c): If they could not find an antecedent in the choices, they were to circle "someone else" and to write down who it referred to in the underlined space. The reason that the "someone else" choice was included was that the corresponding Korean reflexive, "sasin" can be interpreted as having the speaker as its antecedent. It was considered that the subjects might make this interpretation in English. When they did not understand the sentence, they were to circle "don't know". Each type was tested with four sentences so that a total of 15 sentences were included in the test. Test sentences were randomly ordered. Subjects were encouraged not to spend too much time on each item.

Ⅳ. Results and Discussion

1. Results

Although the experimental groups were selected from different grade

levels in order to ensure that the experiment would be sensitive to the subjects' progress or changes over time. There turned out to be no statistically significant differences among the three grades (middle and high school and university).
(ANOVA shows no grade effect (F(9.181)=.56 p=.841)).
Therefore, the results of the three grades were collapsed into one experimental group.

The number and percentage of all the responses obtained at the multiple choice grammaticality judgement task from the three groups are given in Table 1 below.

Table 1
The Percentage and the Number of Responses in Each Sentence Type by Group.

T1<tensed>	EFL (n=90)	ESL (n=30)	NS (n=20)
long	31	5	1
local	64	93	95
either	6	2	4
T2 <infinitive>			
long	34	25	2
local	60	68	93
either	6	7	5
T3 <PAP>			
subject	54	80	67
object	39	14	21
either	7	5	12

For type 1 and type 2 sentences, subjects in the experimental group must frequently bound the English reflexive to the local antecedents. (64%>60%; 93%>68%). About 40 percent of the responses by the

experimental group of EFL students signified incorrect choice of antecedent, i.e., long distance. This showed that the EFL students set their GCP wider than it should be in the target language. (95%>93%). Similar to the findings of previous studies (Finer and Broselow, 1986 ; Hirakawa,1990), the percentage of local binding in Type 1 "tensed" sentences was higher than that of Type 2 "infinitive" sentences.

The results contradict those of Fine and Broselow(1986), who found that their Korean subjects consistently chose local antecedents in tensed clauses (Type 1), but often chose non-local antecedents in infinitival clauses (Type 2).

These findings led them to suggest that their subjects selected intermediate values which are neither the L1 nor the L2 value.

Table 2
Percentage of Local Binding of ESL learners in Finer and Broselow(1986), Hirakawa(1990), and the Present Study.

	F&B	Hirakawa	Present
Tensed Clause	92	87	64/93(EFL : ESL)
Infinitive Clause	58	56	60/68(EFL : ESL)

But the differences were too small to claim that the EFL subjects distinguished tensed clauses from infinitive clauses in the choice of antecedents and set their GCP somewhere in between L1 and L2 settings. For 1-2 type the English control group (NS) overwhelmingly chose the local antecedents. These results seem to suggest that the Subset pinciple does not operate in Korean learners' acquisition of English. If the subjects observed the Subset Principle, they would have initially chosen the English subset value, independently of their L1, and not made the mistake of taking non-local NPs as antecedents for English reflexives.

For Type 3 the most frequent response from the experimental group

was the subject antecedent. The EFL group, as experimental group, bound the reflexive to the subject NP in 54% of the sentences, to the object NP in 39% and to both NPs in 7%. The results are similar with the control group. The control group chose the antecedent as the subject in 67%, the object in 21% and both NPs in 12%. The EFL group, on the whole, behaved more like native speakers of English than like native speakers of Korean. The subjects chose subject antecedent (54%) more often than object antecedent (39%). There is no statistically significant difference between the English controls and the L2 learners. ($t= 5.096$ $p<.001$). The results suggest that L2 learners have already set the value of the PAP to the superset of English, although many preferred the subject over the object antecedent as native speakers did.

2. Discussion

As the above results show, we have obtained evidence that the Subset Principle does not operate in L2 acquisition. Our L2 learners fail to set the value of the Governing Category Parameter and Proper Antecedent Parameter correctly. I will explain the two major reasons about these results. First, the subjects in the experimental group set the GCP wider than it should be, if the EFL learners observe the SP, they should set the GCP in the most restrictive English setting. In other words, they should bind "himself" exclusively to a local antecedent in both Type 1 and Type 2 sentences. The results, on the contrary, indicate that learners responded incorrectly by choosing the long-distance or "either" at an average of 36/42% in type 1 (tensed) and type 2 (infinite) in EFL and 7%/44% in ESL. Such mistakes are readily explained by assuming that the learners initially transferred their L1 value for the GCP to English. However, the results from the advanced learners are not compatible with the transfer hypothesis by showing a performance which is more like that of the English control group.

Secondly, the ESL students' response to the PAP was not significantly different from that of the EFL students. If the SP is true, EFL learners should set the PAP at the "subject only" setting initially. As proficiency increases, the initial setting should be progressively enlarged to accommodate either subject or non-subject antecedents. ESL students should show fewer "subject" responses than EFL students. But the above results contradict this hypothesis.

There are two reasons to deny the direct accessibility of UG to second language learners. First, if UG is fully accessible, learners should not have difficulties setting the correct English parameters of the GCP and PAP. Results showed that the interpretations of "himself" by the experimental group were significantly different from those of English native speakers throughout all three types of sentences. In addition, the frequencies of long-distance binding should be low if UG is a fully operative languge learning device and L1 influence is minimal. But the EFL experimental group chose non-local antecedents at the average of 30 percent of the time.

If UG is indirectly accessible, learners should demonstrate strong influence from L1 in the initial parameter settings. and should approximate the L2 setting as proficiency increases. We have observed that less-advanced learners (EFL) were affected by both UG and transfer at earlier stages of development. However, in later stages of development, there was an increase of the number of learners who correctly chose the English value of the GCP. They showed continuous progress toward the successful resetting of the parameter. It seems that advanced learners like the ESL subjects had already achieved the resetting of the parameter since they no longer inappropriately applied the incorrect Korean value of the GCP to English. Overall results support the L1 transfer hypothesis. Our L2 learners fail to set the value of the GCP correctly. They set the value wider than it should be, allowing nonlocal antecedents for the

reflexive even in tensed clauses.

Finer and Broselow suggest that learners set the GCP to an intermediate value, distinct from either their L1 or L2. As Finer and Broselow's subjects correctly judged Type 1 sentences in over 90% of the cases to have local antecedents but were much less accurate on Type 2 sentences, their explanation holds for their subjects. A study by Finer and Broselow(1989) replicated these results with many more subjects. However, our subjects made a considerably larger number of mistakes in Type 1 sentences, which amonted to 30% of the cases (which is the total number of nonlocal responses).

This result is inconsistent with the value Finer and Broselow assume since no nonlocal responses are predicted with tensed clauses. In order to account for the nonlocal responses of our subjects, it is necessary to assume that they have in fact adopted the widest value of the GCP, that is the value required by their L1. This accounts for the nonlocal responses in Type 1 and Type 2 sentences. However, what remains a mystery, if they have in fact retained the widest setting, is that the learners made significantly more errors in Type 2 than Type 1, that is, the [±tensed] clause distinction observed by Finer and Broselow has real effects, at least in two clause sentences. This difference cannot be attributed to their native language, Korean. At this moment, it is not at all clear why type 2 sentencs misled the subjects more often than type 1 sentences, assuming that Finer and Broselow's explanation is inappropriate for these subjects.

A final question still remains, namely the lack of improvement over the different grade levels that were tested. The subjects are probably relatively low-level English as they have received English instruction only in a formal classroom situation in Korea. Assuming that Finer and Broselow's subjects were more advanced it may be that learners move from the widest value to the narrowest value as they become more

proficient in English so that there are stages for the learners to acquire the correct grammar.

V. Conclusion

The purpose of the present study is to examine how the learners are still constrained by UG despite the influence of the parameter resetting of their native language as well as the non-operation of the subset principle. The results obtained here indicate that L2 learners transfer their L1 parameter setting and consequently make errors in the choice of reflexives, when English represents the narrowest (unmarked) value and Korean represents the widest (marked) one in GCP. Also, in PAP, the L2 learners showed a strong preference for subject antecedents. Therefore it can be concluded that the Subset Principle did not operate properly in L2 acquisition.

Most of the errors made by the learners reject the hypothesis that states the choice of the intermediate value which is distinct from both L1 and L2. Therefore, the results seem to support the indirect access of UG because L2 learner's responses indicated a wide range of mastery of the parameter settings and influence from L1. However, whether or not L2 learners are completely constrained by UG is very difficult to know, since their responses at the Grammaticality Judgmement Test may underrepresent their knowledge of syntax. More research in methodology is needed.

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