THE ACQUISITION OF REFLEXIVE PRONOUNS AMONG ADULT LEARNERS OF ENGLISH

By

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ABSTRACT

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This study investigated the acquisition of reflexive pronouns by second language learners of English. The study proposed that when individual grammars are analyzed, the interlanguage systems of learners would reflect the acquisition stages identified in Franks and Connell (1996) for English speaking child language acquirers.

The three acquisition stages identified in this study did not, as predicted, reflect the acquisition stages of child language learners. One group of learners recognized only the referential dependency of the reflexive, by allowing any pragmatically reasonable noun phrase serve as an acceptable antecedent. A second group of learners required a local antecedent only in a non-finite context. It is argued that these learners are respecting the structural constraints on acceptable antecedents for the reflexive, yet have misanalyzed the English reflexive as morphologically simplex. The third, and largest, group of learners exhibited target-like behavior showing that ultimate attainment is possible for English reflexives.

The possible influences of the types of reflexives in a learner's first language as well as the number of prior languages are considered as possible factors slowing down the acquisition of English reflexives.

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1.1 Introduction

This dissertation study investigates the second language acquisition of reflexive pronouns. Reflexive pronouns have been studies extensively by linguists specializing in a diverse range of academic disciplines including syntax, semantics, child and second language acquisition (SLA). Thus, not only does this dissertation address the specific issues surrounding the study of the SLA of reflexives, but it is discussed within the contexts of child language acquisition research as well as current work in the theoretical description of the relationship between reflexives and their antecedents.

The first chapter of this dissertation, then, provides explanations of the current theoretical descriptions of reflexive/antecedent relationships across languages. The chapter begins with a discussion of the assumption that human language acquisition is an innate process, how reflexive pronouns relate to this assumption, and why studying this particular linguistic structure (reflexive pronouns) is important in helping SLA researchers better understand the acquisition of a second language. This is followed by descriptions of the theoretical models developed to account for the variation across human languages in how different noun phrases may and may not function as an antecedent for a given reflexive. The models I

discuss are the models which many second language acquisition researchers appeal to in the discussion/explanation of their data on the SLA of reflexive pronouns.

Chapter Two is a literature review of the SLA studies of reflexive pronouns. The goal of this chapter is two-fold. The first part of the chapter discusses the specific findings of research on the SLA of reflexives. It tells what we know to be true about the behavior of second language learners regarding English reflexives. From there, I discuss possible explanations for these findings. In this section I provide the explanations that have come from the researchers themselves as well as my own thoughts on a possible explanation for the data. I raise the possibility that my explanation for the data accounts for what we currently know to be true about the behavior of learners acquiring English reflexives in a second language.

Chapter Three begins with a discussion of methodological issues which have a direct bearing on the research design of the dissertation study. Factors addressed in this chapter include the use of proficiency measurements (as a factor to control for in studies, as a "benchmark" against which changes in learner grammars can be "pegged", and as a grouping factor which obscures systematic differences in individual learner grammars), the importance of working with experimental subjects who have been living in the L2 environment, and the issue of the first language background of second language learners and how that may affect how a second language learner acquires English reflexives.

The second part of the chapter provides the research questions and background information about the methods and materials for the study as well as the subjects (control and experimental) who participated.

Chapter Four outlines the results of the study. Included in this

chapter is a discussion of the exclusion criteria which were adopted for the study as well as an explanation of the results and response patterns for both the control and experimental groups.

Chapter Five discusses the results that were reported in Chapter Four. The various response patterns identified in the learners are grouped and evaluated. In addition to identifying three distinct acquisition stages, I provide argumentation to suggest why the learners are operating with the grammars they are as well as how they may proceed from one acquisition stage to another. Finally, I give some final conclusions regarding this research study and its place in the context of SLA research as well as suggestions for future work on the second language acquisition of English reflexives.

1.2 Research context

Linguists and language acquisition specialists have long assumed that, barring severe mental or physical impairment or injury, all children acquire the language of their environment to native-like competence. This universal competence in a first language is one of several pieces of evidence that linguists point to in supporting the argument that language acquisition is an innate ability that human beings are born with. Another key piece of evidence that language acquisition is an innate skill, is the observation that the input the child receives underdetermines the grammar the child builds based on that data. White (1989) uses the distribution of reflexive pronouns as an example. In English, the reflexive pronoun and its antecedent typically occur in the same sentence, but there are many apparent exceptions to this rule. Despite the many different possible interpretations of reflexive pronouns that are present in the linguistic input, children learn to follow

"the rules" of reflexive pronoun use. White illustrates the incredible complexity of the input regarding reflexive pronouns in the following example. The co-reference relationships are shown in italics (White 1989: 9).

(1) a. *John* saw *himself.*

b. **Himself* saw *John.*

c. Looking after *himself* bores *John.*

d. **John* said that Fred liked *himself.*

e. John said that *Fred* liked *himself.*

f. John told *Bill* to wash *himself.*

g. *John* promised Bill to wash *himself.*

h. **John* believes that *himself* is intelligent.

i. *John* believes *himself* to be intelligent.

j. *John* showed *Bill* a picture of *himself.*

White goes on to point out:

> Children have to discover that the reflexive pronoun usually must follow the antecedent (1a and 1b) but that this is not always so (1c); that the reflexive usually must be in the same clause as the antecedent (1a, d, e) but not always so (1f); that the reflexive can be in subject position of a non-finite embedded clause (1i), but not a finite one (1h); that the closest NP is usually the antecedent (1d, e, f), but not always so (1g); that in some cases, there is more than one possible antecedent (1j) , but not always so (1d, e, f, g). It would seem impossible to work out the distribution of anaphoric pronouns on a trial and error basis without a great many mistakes (White 1989: 9-10).

Given this example from the acquisition of reflexives, as well as many other examples of cases where children quickly and easily come to create a grammar which accounts for all of these "rules," researchers have

long assumed that human beings are born with an innate capability for language acquisition which helps them quickly and easily create this complex system we call human language.

The challenge, then, is to define and provide the characteristics of what exactly the language universals are. What, exactly, constitutes the expectations the child is born with and what, exactly, is the "system" the child acquires and uses in speaking and understanding his/her native language?

Second Language Acquisition (SLA) researchers are also greatly interested in this search for a description of linguistic universals as well as descriptions of the language specific system children ultimately acquire. This, of course, is because SLA researchers concern themselves with trying to understand the process by which people learn a second language. SLA researchers rely on the work of first language acquisition researchers and linguists in order to compare how language acquisition by an adult is similar to or different from language acquisition by a child.

One way to explore the possible similarities and differences between L1 and L2 acquisition is to investigate the process of acquisition of reflexive pronouns. As shown in (1), the various usage patterns of this structure are extremely complex, yet children eventually learn to master this structure (Franks and Connell, 1996; Bloom and Conway, 1994). Because the input, in ways already discussed, underdetermines the system children ultimately acquire, it has been assumed that an innate language acquisition component in some way helps human beings acquire the reflexive pronoun system. If children rely on their innate capacity for language acquisition to guide them in acquiring the correct use of reflexive pronouns, how do adults acquire reflexive pronouns? Do they have access to this innate system relied upon

by children or do they acquire reflexive pronouns by relying on what they know about reflexive pronouns in their first language? These questions are the focus of this dissertation.

First, however, this chapter describes some of the theoretical models developed to account for the various binding patterns across human languages. These are the models which many second language acquisition researchers appeal to in the discussion/explanation of reflexive data.

1.3 The binding of antecedent and reflexive

In order to be interpreted correctly, nouns must convey several pieces of information. To illustrate this point, consider the noun phrase (NP) *Mick Jaggar* in sentence (2) below:

(2) Mick Jaggar sang the song.

From this sentence, we can interpret *Mick Jaggar* as being the actor or agent of the sentence. We also know that the *Mick Jaggar* NP carries the features [+male] and [+singular]. Furthermore, when we hear the name *Mick Jaggar*, many of us can conjure up a mental picture of the real world person to whom the NP *Mick Jaggar* refers.

In this short sentence, then, the NP *Mick Jaggar* is assigned a theta-role (of agent) by the predicate, and, simultaneously, marked as the grammatical subject. The NP is also marked for certain features necessary for agreement, those being [+male] and [+singular]. Finally, the noun phrase refers to a person in the real world (the referent), the singer and rock-star Mick Jaggar.

Reflexive pronouns contain much of the same important

information as regular NPs. Consider sentence (3) below:

(3) Mick Jagger$_i$ hurt himself$_i$.

In sentence (3) the reflexive pronoun *himself* is assigned a theta-role (patient), a grammatical role (direct object), and the nominal features of gender and number [+male] [singular]. Additionally, know who *himself* is. *Himself* is linked with the NP *Mick Jaggar* which, in turn, refers to the real-world rock star. In this way, reflexive pronouns are linked up with (are bound by) another noun or pronoun (the antecedent). In sentence (3) the NP *Mick Jaggar* binds with the reflexive pronoun *himself.* The result of this binding process is that the two noun phrases now share the same referent, the real-world rock-star Mick Jaggar. This relationship is indicated by subscripts on the co-referential nouns.

In sentence (4) we see that the reflexive pronoun agrees in gender and number with its antecedent. The reflexive, *herself,* refers to a single female person. Given that the reflexive and the antecedent both share the same referent, both NPs must have the same nominal features for gender and number.

(4) Mary$_i$ gave Billj some information about herself*$_i$, $_j$.

Reflexive pronouns bear a theta-role and grammatical function and are marked with nominal features of gender and number. However, they fail to independently assign reference. Because of this, reflexive pronouns bind with a noun phrase (an overt NP or pronoun) in order to obtain a referent. Furthermore, the reflexive and antecedent must agree in gender

and number.

Another elementary notion of reflexive-antecedent relations is c-command. That is, in order to function as the antecedent for the reflexive, a given NP must c-command the reflexive pronoun. C-command is defined as follows (Haegeman 1991: 122):

(5) a node A c-commands a node B iff
(i) A does not dominate B;
(ii) B does not dominate A;
(iii) the first branching node dominating A also dominates B

In other words, a node A c-commands its sisters (the neighboring nodes) and all of its sisters' descendants. The antecedent must therefore be "higher on the tree" than the reflexive. Sentence (6a) is unacceptable because, as Figure 1 shows, the NP *Mick Jaggar* does not c-command the reflexive.

(6a) Mick Jaggar's$_i$' mother loves himself*$_i$
(6b) Mick Jaggar's mother$_i$' loves herself.$_i$

If we change the reflexive pronoun to *herself,* the sentence becomes acceptable. This is because while the NP *Mick Jaggar* fails to c-command the reflexive pronoun, the full NP *Mick Jaggar's mother* , as in (6b) and illustrated in Figure 2, does c-command the reflexive.

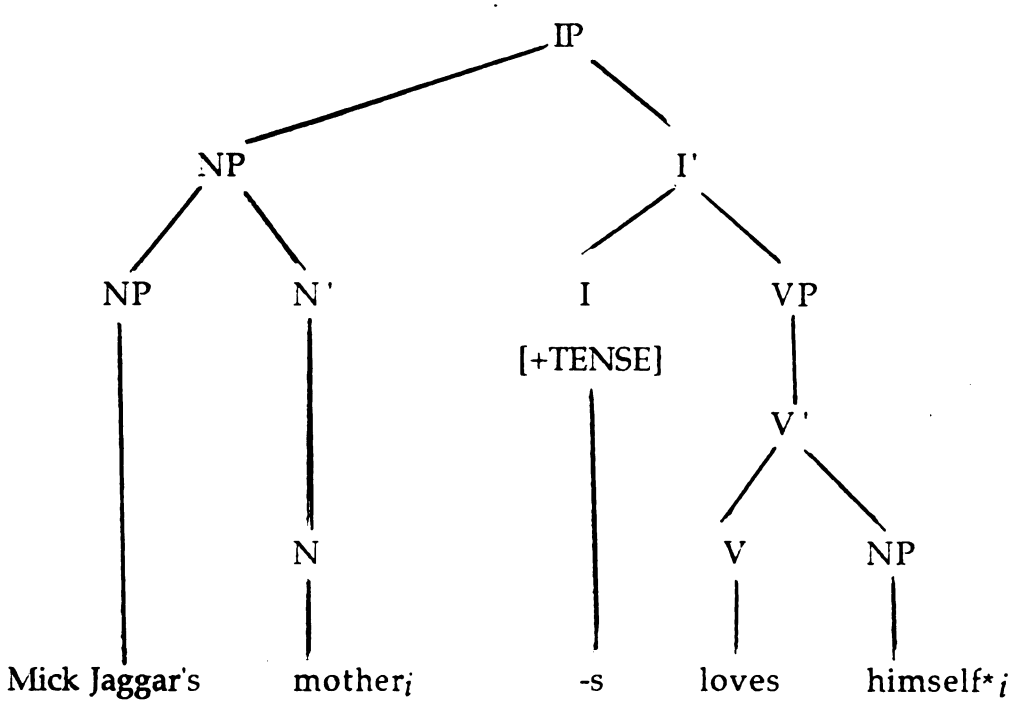

Figure 1: C-command domain of the NP *Mick Jaggar*

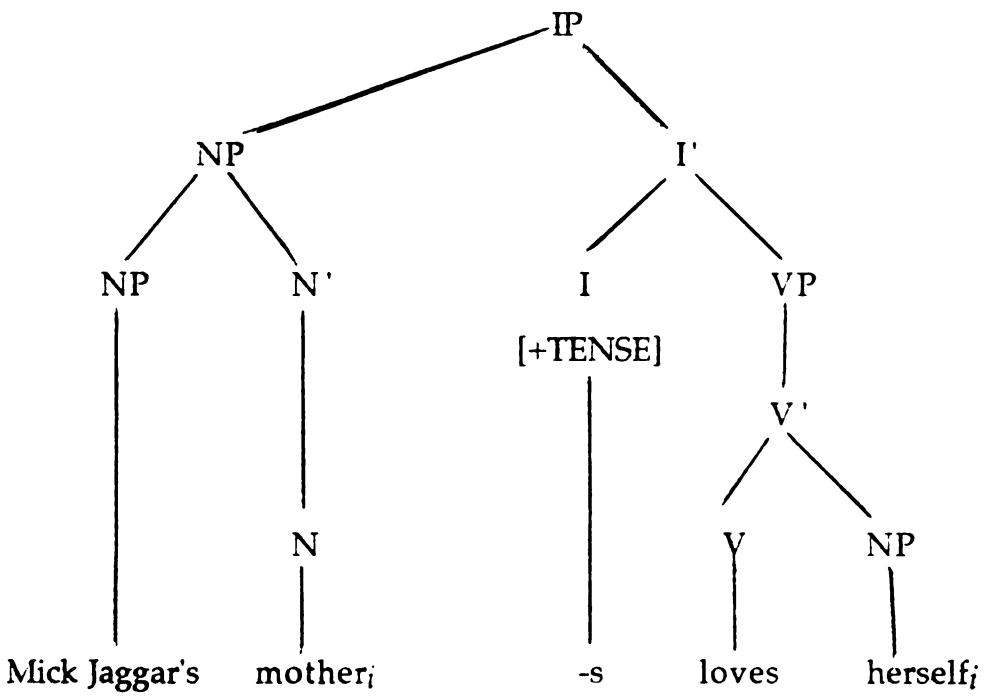

Figure 2: C-command domain of the NP *Mick Jaggar's mother*

1.4 Parameterized approach to reflexive binding

1.4.1 The Governing Category and the Binding Domain of English. Given the basic assumptions that a reflexive pronoun must bind with another NP that agrees in gender and number with it, and that the reflexive and the antecedent must respect the c-command requirement, linguistic theory must also provide a description of the domain in which reflexive pronouns may bind with an antecedent.

Chomsky (1981) argues that anaphoric reflexives and their antecedents are base-generated and co-indexed within their governing category. Chomsky (1981) uses the concept of governing category to characterize all referential expressions (reflexive pronouns, regular pronouns, and full NPs (called *R-expressions* in (7)) in the following manner:

(7) Binding Principles

a. An anaphor must be bound in its governing category.

b. A pronoun must be free in its governing category.

c. An R-expression must be free.

The governing category is the minimal domain in which the reflexive and its antecedent must be contained. Conversely, pronouns, another type of anaphor, must look outside of the governing category in order to find an antecedent. The governing category is defined as the minimal domain which contains the pronoun, its governor (usually the verb which subcategorizes for the pronoun), and an accessible subject/SUBJECT.

The governing category makes a distinction between two types of

subjects; *subject*, or "little" subject, and SUBJECT, or "big" subject. Little subject(*subject*) is characterized as the noun phrase subject of a clause or sentence. In (8) the subject of the sentence and the higher clause is *Mick Jaggar*, while the subject of the lower clause is *Keith Richards*. The governing category for the reflexive, therefore, is the lower clause because this clause contains the reflexive (*himself*), a governor (*hurt*) and a subject (*Keith Richards*). Because a reflexive must bind with an NP inside the governing category, *Keith Richards* is the only possible antecedent for the reflexive in this sentence.

(8) Mick Jaggar realized [that Keith Richards$_i$ hurt himself$_i$]

A subject can also be an NP subject of a containing NP. For example, in (9), *Jane* is the subject of the complex NP, *Jane's description of herself*. Because the noun *description* assigns a theta role to the noun *Jane*, (making it the governor) and because the noun *Jane* is in the specifier position of the complex NP, NP subjects such as *Jane* in (10) also serve as subjects which define the constraints of the governing category.

(9) George appreciated [Jane's$_i$ description of herself$_i$]

As defined above, the governing category is the minimal domain which contains the pronoun, its governor , and an accessible subject/SUBJECT. *Subject* is defined as the NP subject of clauses and the subject of NPs. SUBJECT also serves as a necessary component of the governing category. Consider (10a-b).

(10a) Yo hablo español.
I speak Spanish.

(10b) Hablo español.
(I) speak Spanish.

Both of these sentences are grammatical in Spanish. However, (10b), instantiates a null subject. The subject pronoun *yo* is allowed to drop in Spanish because, in part, Spanish has a rich morphological agreement system. The agreement morphology on the verb provides the information that would normally be conveyed by an overt subject pronoun. The agreement features (abstractly represented as AGR) therefore assume the nominal features of the subject. Chomsky has proposed that AGR is therefore like a subject. English does not have such a rich inflectional system and so requires the presence of an overt subject pronoun. However, it is assumed that AGR is nonetheless abstractly represented in English. This means that AGR, identified as SUBJECT, functions like a subject in defining the governing category. By including SUBJECT as well as subject in the definition of governing category, the following sentences are accounted for:

(11a) *Mick Jaggar$_i$ believes that [himself*$_i$ is famous.]

(11b) Mick Jaggar$_i$ believes [himself$_i$ to be famous.]

In (11a) the lower clause is the governing category because this clause contains the reflexive (*himself*), a governor (*is*), and a subject (AGR, expressed as [+AGR] when the clause is finite). In (11b), however, the lower clause, because it is non-finite, is marked [-AGR] so the governing category

must be enlarged to include a subject or SUBJECT. In this case the subject, *Mick Jaggar*, as well as the [+AGR] or *-es* of the finite verb *believes*, fulfills this requirement.

Reflexive pronouns thus have certain restrictions on which NPs are available as potential antecedents and which are not. A reflexive pronoun binds with an NP antecedent in order to identify its referent. The reflexive and its antecedent agrees in gender and number and the antecedent c-commands the reflexive. Furthermore, a reflexive finds its antecedent within its governing category. The governing category is defined as the minimal domain which contains the pronoun, its governor and a subject/SUBJECT.

1.4.2 The Governing Category and Proper Antecedent Parameters. In assuming that reflexives and their antecedents are base-generated and co-indexed with respect to binding principle (a) and the governing category as defined above, the theory inadequately accounts for binding phenomena in languages such as Japanese Korean, Chinese, and Turkish. These languages have reflexive pronouns which bind non-locally (long distance reflexives, hereafter referred to as LDRs). Consider (12) from Glew et al. (1993).

(12) Ichiroo-wa$_j$ Kenji-ga$_i$ *zibun*-no$_{i,j}$ kuruma-o tsukau to kiita.
Ichiroo-TOP Kenji-SUB self-GEN car-ACC use that heard.
Ichiroo$_j$ heard [that Kenji$_i$ will use self's$_{i,j}$ car.]

In (12) the reflexive pronoun *zibun* can identify either *Ichiroo* or *Kenji* as its antecedent. Assuming that the governing category only includes the reflexive *zibun* and the subject NP *Kenji*, the theory as stated above is

not strong enough, in that it needs to account for the grammaticality of *Ichiroo* as another possible antecedent for *zibun* , despite the fact that it lies outside the governing category as defined above.

Much research has focused on accounting for long-distance binding in Japanese and other languages. One approach, which has been extensively relied upon by SLA researchers (Thomas,1989, 1991; Finer and Broselow, 1986; Finer, 1991; Lakshmanan and Teranishi, 1994; Hirakawa, 1990) is the parameterization approach. The parameterization approach treats both local and long-distance anaphors within the standard binding theory. The definition of governing category is assumed to vary parametrically. For English, the governing category is defined as the minimal category which contains the anaphor and a subject, represented as value (a) in (13). For speakers of languages with reflexives set at value (b) of the parameter (e.g. Italian *sé*) the governing category is the minimal domain which contains the anaphor and INFL (the node of the phrase structure which carries inflection). For speakers of Russian, whose language contains reflexive pronouns set at value (c), the governing category is defined as the minimal domain containing the anaphor and a tense. Value (d) defines the governing category as the minimal domain containing the anaphor and a "referential" tense (as exhibited by Icelandic *sig*). And finally, certain reflexive pronouns in languages such as Japanese and Korean instantiate setting (e) which defines the governing category as the root sentence.

(13) Governing Categories (Manzini and Wexler, 1987: 419)
γ is a governing category for α iff γ is the minimal category which contains α and has:
a. a subject, or

b. an INFL, or

c. a tense, or

d. a "referential" tense

e. a "root" tense

Under this approach, reflexive pronouns also exhibit systematic structural restrictions on which NPs within a given clause can serve as an antecedent for the reflexive. To address this, Manzini and Wexler (1987) and Wexler and Manzini (1987: 431) introduced the Proper Antecedent Parameter, shown in (14).

(14) Proper Antecedent Parameter:
a proper antecedent for α is

a. a subject β; or

b. any element β

This parameter has two values. The unmarked value requires that only subject NPs may serve as an antecedent for the reflexive. The second, or marked value of the Proper Antecedent Parameter, allows NPs of any grammatical role to serve as an antecedent for the reflexive pronoun.

Manzini and Wexler point out that reflexive pronouns which instantiate a marked value of the Governing Category Parameter (GCP) typically instantiate the unmarked value of the Proper Antecedent Parameter (PAP). While noting this correlation, Manzini and Wexler maintain that the GCP and PAP are separate parameters.

A second point made by Wexler and Manzini is that the parameter settings can vary within languages. For example, Japanese has two reflexive

pronouns with two different parametric values.[1] Reflexive pronouns such as *karé-zisin,* which take a local antecedent, instantiate value (a) while the reflexive pronoun *zibun* instantiate value (e).

1.4.3 The acquisition of reflexive pronouns: the subset principle. Berwick (1985) outlines the Subset Principle as a model of language acquisition. The Subset Principle stipulates that where one language is a proper subset of another, the learner assumes the smallest language compatible with the input received so far. In this way, the learner can enlarge the linguistic system when the positive evidence presents itself. By moving from a smaller grammar to a larger one, a learner can acquire a particular linguistic element by using positive evidence alone. The Subset Principle, then, is a learning principle which guarantees that a child rely on positive evidence alone in acquiring a linguistic element.

Manzini and Wexler (1987) interpret the Subset Principle as a model of language acquisition which guides the learner in finding the correct value of a particular parameter. In this case, the Governing Category and Proper Antecedent Parameters are used as examples. Manzini and Wexler state that the values of the Governing Category and Proper Antecedent Parameters are subsets of one another. Figures 3 and 4 show the subset relationships for reflexive pronouns as interpreted by Manzini and Wexler (1987).

Given this relationship, Manzini and Wexler (1987) suggest that learners follow the Subset Principle in acquiring the correct value of the GCP and PAP. Early on in the acquisition process, the learner assumes the

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1 For an extensive discussion of the different types of Japanese reflexives from a different perspective, see Katada (1993)

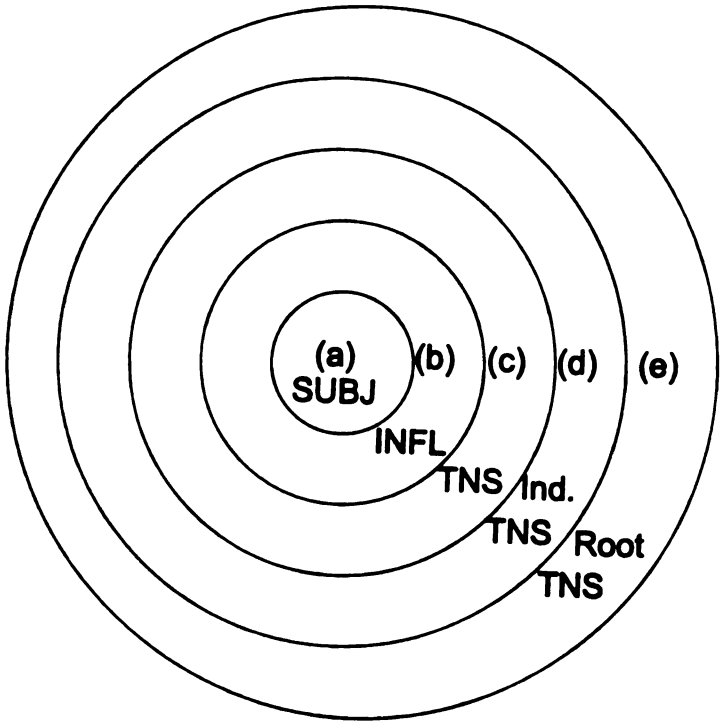


Figure 3: Subset relationships for the governing category parameter

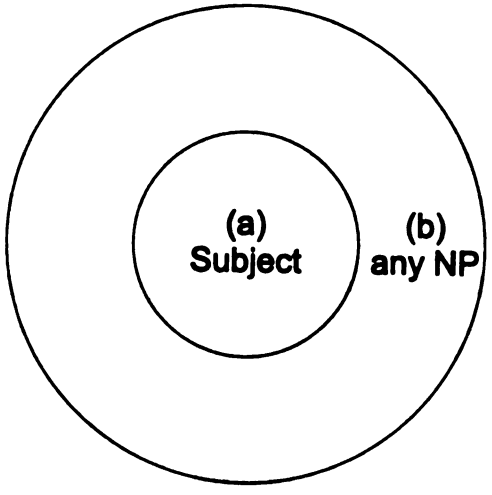


Figure 4: Subset relationships for the proper antecedent parameter

unmarked, (a) value of the GCP and PAP. As the learner begins to make sense of the input, the grammar is enlarged to value b and then to value c, and so on until the grammar reflects the parametric value of the target language.

1.4.4 Criticisms of the GCP and PAP. Recently, the GCP and PAP have fallen out of favor among both syntax and Second Language Acquisition researchers. Thomas (1995) points out that researchers have criticized the parameterization approach for basing the parametric variation on lexical items. For example, Japanese has several types of reflexive pronouns. Onesuch pronoun, the morphologically simplex reflexive, *zibun*, would have value *e* of the GCP and value *a* of the PAP. On the other hand, the morphologically comples reflexive pronoun *karé-zisin* would have value *a* of the GCP and value *b* of the PAP and the reflexive pronoun *zibun-zisin* would have value *e* of the GCP and value *a* of the PAP. Thus, three different reflexive pronouns within the same language (in this case, Japanese) instantiate three different parametric values. By tying parametric variation to lexical items within each given language, this approach allows for many different parameter values within one language. Consequently, the parameter merely describes the state of affairs in a given language rather than predicting systematic, cross linguistic variation. This is a problem for a parameter-based model.

Thomas (1995) also points out that the parametric values of the GCP are arbitrary. There is no principled, theoretical motivation for the distinctions. Because the parametric values lack theoretical motivation, there is no constraint on the limits of parametric variation. Subsequently, this portion of the model is also merely a description rather than a predictor

of cross linguistic variation.

The Subset Principle as a guiding model of language acquisition has also been challenged (Kapur et al., 1993). The most striking problem with the model is that child language acquisition studies show that children do not, in fact, assume the (a) value of the GCP and subsequently enlarge their grammars. On the contrary, studies by Read & Hare (1979), Mathei (1981), Wexler & Chien (1987), Chien & Wexler (1990), Hyams & Sigurjónsdóttir (1988, 1990), Sigurjónsdóttir & Hyams (1991, 1992), and McDaniel, Cairns &Hsu (1990) provide both direct and indirect evidence that children of various first languages initially go through a phase of long-distance binding before discovering the local nature of complex, XP reflexives. This suggests that learners initially assume the larger grammar and then later adopt the smaller. Additionally, Franks and Connell (1996) argue that the acquisition models for the GCP and PAP assume that the learner is capable of parsing complex sentences in order to set the parameter values. Lightfoot (1989, 1991) makes the important point that children do not rely on complex sentences to set parameter values.

Thus, due to the fundamental theoretical problems with the GCP and PAP, as well as the above mentioned problems with the Subset Principle, the parameterized approach to reflexive pronoun acquisition has fallen out of favor among both first and second language linguists.

1.5 Raising approaches

Yet another approach, which had been developing independently, suggests that linguistic variation in anaphoric binding relates to the movement of anaphors at the level of Logical Form (LF) (Lebeaux, 1983; Pica, 1987; Batistella, 1987; Cole et al., 1990; Katada, 1993). This approach

assumes that reflexive pronouns raise at the level of LF. Logical Form is the level of the language in which syntax and interpretation come together. It is the place where meaning is structurally represented. It therefore makes sense that the reflexive pronoun would go looking for its antecedent and, ultimately, its referent, at the interpretive, LF, level of the language.

Lebeaux (1983) was the first to suggest the possibility that anaphors raised at the level of Logical Form. He observed that English reflexive pronouns, but not reciprocals, could only occur in positions that could be properly governed; that is, in positions which are either theta-governed or could be antecedent-governed. This observation led Lebeaux to posit that English reflexives raise at LF and leave behind a trace which must be properly governed.

Pica (1987) and Batistella (1989) and, later, Cole et al. (1990) and Katada (1993) developed this idea into an explanation of long-distance vs. local-only binding across languages. Local vs. long-distance binding, these researchers argue, hinges on the morphological nature of the reflexive pronoun. Morphologically complex reflexive pronouns, such as the English *himself*, are considered maximal projections (X^{max}) with the following structure: [NP[spec *him*][N' *self*]]. Because maximal projections such as the NP reflexive pronoun can only adjoin to other maximal projections, the reflexive pronoun is only able to raise as far as the lower VP. If the reflexive pronoun does not raise at all, it is within the C-command domain of both the subject and object NPs. Once the XP reflexive has adjoined to the lower VP, however, it is within the C-command domain of the subject NP only. In this way, complex reflexives can take either a subject or non-subject NP as a possible antecedent.

Morphologically simple reflexive pronouns such as the Chinese *ziji*,

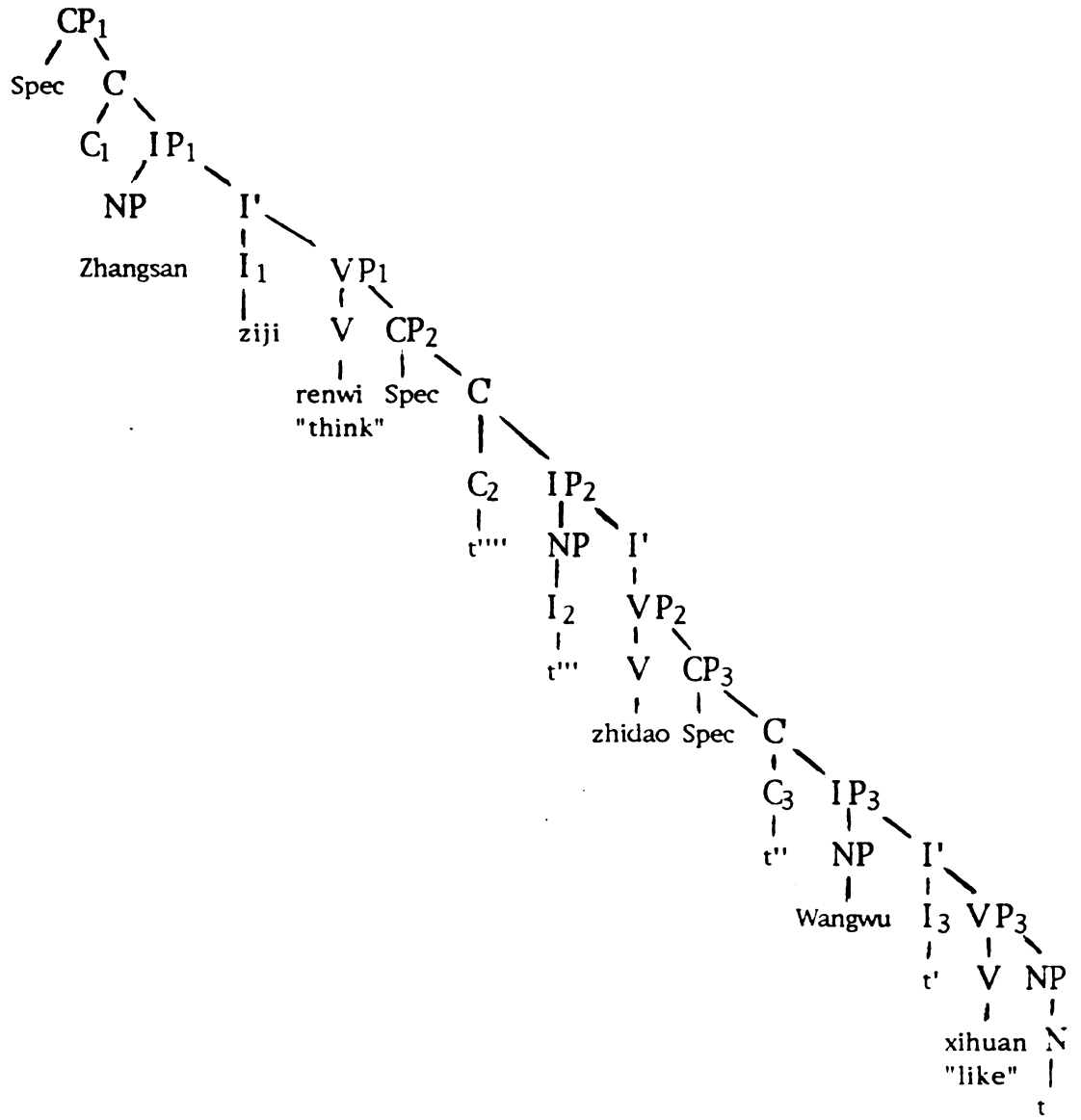
however, are minimal projections, referred to as X^0 pronouns. Because X^0 reflexives are heads, they must go through head-to-head movement into the INFL node of the phrase structure. This movement iterates, and so the reflexive pronoun can move successively from the lower INFL to the higher INFL and therefore identify any of a number of potential NP antecedents. This ability of the X^0 reflexive pronoun to successively raise to higher clauses is what allows the pronoun to find a non-local antecedent. Once the X^0 reflexive pronoun has raised, however, only the subject NPs C-command the reflexive pronoun. It follows that once the reflexive pronoun has raised out of its surface level site, the reflexive pronoun can only have a subject orientation. This movement pattern is shown in Cole et al. (1991: 6) and repeated in Figure 5.

1.6 Relatavized SUBJECT analysis

The relatavized SUBJECT analysis, proposed by Progovac and Franks (1992) and Progovac (1992) also rests on the assumption that the morphological complexity of the reflexive pronoun determines the nature of its binding patterns.

Where in the raising approach the constraints on the binding domain and orientation are the structural consequence of movement patterns, the relatavized SUBJECT analysis suggests that anaphor raising is not necessary. The different binding patterns exhibited by complex (XP) and simplex (X^0) reflexives are due to binding domains of different sizes.

As discussed earlier, Chomsky (1981) argues that reflexives and their antecedents must both be contained in the minimal category containing the reflexive and a SUBJECT. Progovac argues that only certain elements of SUBJECT, as defined by Chomsky, are relevant for each reflexive-type.



Zhangsan ziji renwei Lisi zhiado Wangwu xihuan.

Zhangsan self thinks Lisi knows Wangwu likes.

Zhangsan thinks that Lisi knows him.

Figure 5: Phrase structure tree of LF raising of Chinese anaphor, *ziji* (Adapted from Cole et al. (1991: 6))

As stated previously, SUBJECT (hereafter taken to mean subject/SUBJECT) includes NP subjects of clauses/sentences and complex NPs as well as finite AGR. In terms of X-bar levels, there are two types of subjects included in this definition. NP subjects of clauses and complex noun phrases are XP subjects, whereas finite AGR is an X^0 category. Progovac argues that NP subjects are the only relevant SUBJECT for XP reflexives. The binding domain for an XP reflexive, then, is the minimal category containing the reflexive and an XP subject (subject of a clause or complex NP).

For X^0 reflexives, the only relevant SUBJECT is the X^0 category AGR. This being the case, the binding domain for the X^0 reflexive can vary, depending on whether or not AGR is overt or null in the various clauses of the sentence.

Russian, for example, is like English in that it has overt AGR in finite clauses but null-AGR in non-finite complement clauses. Unlike English, however, Russian has X^0 reflexives. Progovac argues that null-Agr is automatically coindexed with the next higher AGR, so when an X^0 reflexive is used in an embedded, non-finite clause, the X^0 reflexive is bound by AGR which, because it is null, is coindexed with the higher, overt AGR. The result of this is that the binding domain is expanded to include the clause containing the X^0 reflexive as well as the higher, overt AGR containing clause.

Languages such as Chinese, Japanese, and Korean do not have overt AGR; therefore, the binding domain for X^0 reflexives in these languages is relatively free.

1.7 The argument structure perspective

1.7.1 SE-Anaphors. Reinhart and Reuland (1991) suggest that the different ranges of possible antecedents for reflexive pronouns are reducible to certain important differences in the syntactic and argument structure of the pronouns.

Simplex expressions, or SE-anaphors (thus far referred to as X^0 or monomorphemic reflexive pronouns), they point out, are similar to XP reflexives (referred to as SELF-anaphors) in that they are both "referentially defective." That is, reflexive pronouns do not in and of themselves carrylexical meaning. The lexical content is picked up when the reflexive links

with an NP. The range of possible antecedents, however, differs between an SE-anaphor and a SELF-anaphor.

The reason for this difference in possible antecedents relates to the different structures of the two anaphors. The SE-anaphor has a structure identical to pronouns. That is, SE-anaphors and pronouns occur in determiner position as shown in (15) (Reinhart and Reuland, 1991: 286).

(15) $[NP/DP\ Det_i\ [N' \ldots N(x_i) \ldots]]$

SE-anaphors, Reinhart and Reuland suggest, are different from pronouns in that they lack ϕ-features. The SE-anaphor must get ϕ-features from a position which is a head (X^0 category) like itself, which c-commands the anaphor, and carries ϕ-features. The only category to satisfy these requirements is AGR. Reinhart and Reuland argue that both finite and non-finite INFL are associated with AGR, but only when finite INFL is associated with AGR is AGR anaphoric. Thus, SE-anaphors associate with

anaphoric AGR and, because AGR is coindexed with the subject, SE-anaphors have a subject orientation.

The domain of the SE-anaphor is the distance in which the SE-marked verb-INFL complex can raise at LF. Reinhart and Reuland point out that, among other language specific constraints, tensed INFL is the opacity factor, blocking such movement. So the constraints on the movement of SE-anaphors is what limits the domain. The predictions of this model are roughly equivalent to those predicted in the Relatavized Subject analysis, as the Relatavized Subject Analysis relies on "overt AGR" as the opacity factor.

1.7.2 Self-Anaphors. SELF-anaphors, on the other hand, have a different structure and so behave in a different manner. As we know already, SELF-anaphors are considered full noun phrases where SELF occurs in N' position and a pronoun determiner (such as *him, her, them,* etc.) occupies the specifier position. Reinhart and Reuland argue that SELF operates like a relational noun. That is, SELF subcategorizes for two arguments, one of which is satisfied by the pronominal determiner. The process is shown in (16).

(16) [NP him [N ' SELF <y, x>]

The SELF-anaphor, therefore, is defective in that it is missing one of its arguments. One way in which the second argument is assigned, is via a reflexive predicate. A reflexive predicate, according to Reinhart and Reuland, is a predicate in which two of its arguments are identical. In English, these two identical arguments are the reflexive and its antecedent. The SELF noun, when it occurs in a subcategorized position of the predicate,

reflexivizes, or reflexive marks, the predicate. The result of this, then, is that the SELF-anaphor and its co-argument of the predicate are the two identical arguments on the reflexive predicate's ϕ-grid. A SELF-anaphor, when used to reflexive mark a predicate, is in complementary distribution with pronouns and SE-anaphors. Furthermore, because the SELF-anaphor reflexivizes the predicate, it can only share its identity with a co-argument of the predicate, thus giving rise to the local domain of SELF-anaphors.

1.7.3 Logophoricity. Up to this point, the discussion of SE and SELF-anaphors has related specifically to structural binding. Reinhart and Reuland (1991) suggest that SE and SELF-pronouns can also function as logophors, or "discourse bound" reflexives.

Logophoric binding is a process in which the logophoric pronoun finds its antecedent via discoursal cues. According to Clements (1975: 141), the logophor assigns as its antecedent the noun "whose speech, thoughts, feelings, or general state of consciousness are reported." Because logophoric binding is an establishment of coreference rather than structural binding, it is not subject to the binding conditions.

Reinhart and Reuland point out that although logophoric binding is not subject to the binding conditions, there are certain constraints placed on the context in which logophoric binding can take place. That is, SELF-anaphors can only be bound logophorically when they do not occupy an argument position of a predicate. The following examples from Reinhart and Reuland (1991: 312) show the effects of this constraint.

(17) a. Lucie$_i$ boasted that the chairman invited her husband and herself$_i$ for a drink.

b. * Lucie$_i$ boasted that the chairman invited herself$_i$ for a drink.

In (17a) the non-local NP is an acceptable antecedent, whereas in 14b the non-local NP is unacceptable. This is because in order for a SELF-anaphor to find a non-local antecedent, it cannot do so through structural binding, but must bind logophorically. As mentioned previously, in order to be bound logophorically the SELF-anaphor must occupy a non-argument position. For if the SELF-anaphor occupies an argument position, the predicate is reflexivized and the anaphor must identify another argument of the predicate.

The examples in (17) bear out these predictions. In (17a) the SELF-anaphor is in a non-argument position and so is free to bind logophorically with the non-local antecedent. In (17b), however, the SELF-anaphor is in a subcategorized position of the verb *invite*. Because of this, the SELF-anaphor reflexive marks the predicate thus requiring that the external argument *the chairman* be the other identical argument (i.e. the antecedent).

This approach also bears on distributional issues. As (18) demonstrates, when a SELF-anaphor is used to reflexivize a predicate, it is in complementary distribution with pronouns.

(18) Mick Jagger$_i$ hurt him*$_i$/himself$_i$.

When a SELF-anaphor is used logophorically, however, complementary distribution does not obtain, as demonstrated in (19).

(19) Lucie$_i$ boasted that the chairman invited her husband and her$_i$/herself$_i$ for a drink.

The purpose of the Governing Category and Proper Antecedent Parameters, the raising approach, the relatavized SUBJECT analysis and the argument structure perspective is, among other things, to account for the binding and co-reference patterns of both short distance reflexives (SDRs), and long distance reflexives (LDRs). These approaches provide descriptions of the structural details of languages which allow a reflexive pronoun embedded in a subordinate clause to refer to any of several possible antecedents in the local or higher clauses.

1.8 Chapter summary

This chapter discussed the current models which have attempted to account for reflexive/antecedent relations across languages. After an initial discussion of universal characteristics of the reflexive/antecedent relationship such as the structural and semantic linking of reflexive with antecedent and, ultimately, referent as well as the c-command requirement, the chapter outlines different models which have attempted to describe the behavior of reflexive pronouns. The parameterized approach, with its governing category and proper antecedent parameters was summarized first, followed by discussions of the raising approach, relatavized SUBJECT analysis, and argument structure perspective.

Second Language Acquisition (SLA) researchers, in their search to explain how adults come to understand the rules and usage patterns of reflexive pronouns, have appealed to each of these models at various points in time. Thus, having outlined the major components of these analyses,

Chapter Two will address the results and specific explanations proposed for the second language acquisition of reflexive pronouns. While the studies discussed in the next chapter have not been designed to test the primacy of one linguistic analysis or another, each study frames its discussion of the results in terms of one current analysis. Therefore, the analyses outlined in this chapter will provide a frame of reference from which the SLA studies can be evaluated.

Chapter 2

THE SECOND LANGUAGE ACQUISITION OF ENGLISH REFLEXIVES

2.1 Introduction

This Chapter considers recent work on the SLA of English reflexives. First of all, I consider the question of ultimate attainment. Do adult learners acquire English reflexive pronouns? The studies I review suggest that learners do, ultimately, acquire the target-like structure for English reflexives. From there, however, opinions diverge and several explanations have been provided as to the process by which learners eventually acquire English reflexives. As I summarize and evaluate each study I suggest that despite certain limitations of much of the research (e.g., reliance on tasks which may tap preferred intuitions on possible reflexive/antecedent relationships rather than a complete range of learner intuitions), certain important observations have been made on the interlanguage grammars of English reflexives.

Several studies have shown that learners of various first language backgrounds (e.g., French, Spanish, Japanese, Korean) allow both local and non-local antecedents for the reflexive. Additionally, there is evidence that some learners appear to differentiate between tensed and non-tensed embedded clauses in their grammars for reflexives. These learners allow local or non-local antecedents for the reflexive when it is embedded in a non-finite clause, but when the reflexive is embedded in a

finite clause, these learners reject long-distance antecedents and only allow local antecedents.

Researchers have provided several possible explanations for this behavior by L2 learners of English, most of which assume that the first language background of the learner somehow plays a role in the acquisition process, either by way of structural transfer of either the simplex or complex anaphor from the first language or through transfer of a pragmatic strategy from the first language. I argue that these explanations, while sufficiently accounting for the data in the particular study under discussion, inadequately account for the behavior/intuitions expressed by learners in other studies.

One account of the acquisition process which is compatible with the results of SL studies of reflexives comes from the child language acquisition literature. I raise the possibility that second language learners of English do not necessarily transfer reflexive structures from their first languages; but rather, these learners may progress along a path of acquisition similar to that described in the child language acquisition study by Franks and Connell (1996).

2.2 Ultimate attainment: Do adult learners acquire English reflexive pronouns?

2.2.1 Learners From Various L1 Backgrounds Acquire English Reflexive Pronouns.

Several studies of the acquisition of reflexive pronouns have produced data that suggest that learners ultimately succeed in learning the clausemate condition of English reflexives.

Thomas (1991) investigates intuitions regarding reflexive pronouns for 132 learners of English and 41 learners of Japanese. For this study, Thomas relies on two tasks. The first is an elicitation task where

learners repeat sentences which contain anaphors and pronouns. The second task is an acceptability task where learners are asked about the possible interpretations of reflexive pronouns. About this task, Thomas states,

> Subjects read a battery of sentences and responded to a question following each one by identifying the referent of the pronoun or anaphor. For example, they indicated whether the reflexive in (20) refers to Mary, Sue, some other person not mentioned in the sentence, or any combination of Mary, Sue, or some other person (Thomas, 1991: 227).
>
> (20) Mary heard that Sue told the doctor about herself (Thomas, 1991: 227).

The various test sentences evaluate learners' intuitions regarding domain (local/non-local NPs as possible antecedents), orientation (+/- subject as possible antecedents) and C-command. The results show that 70-90.5% of learners across groups consistently select the local NP as the antecedent for the English reflexive pronoun. These results suggest that learners acquire target-like intuitions for English reflexive pronouns quickly and easily.

Matsumura (1994) in a study of 110 Japanese native speakers learning English, likewise reports that the English reflexive pronoun is acquired quickly and easily. This study is a replication of Hirakawa (1990) which will be discussed later in this chapter. After administering a cloze test to break the subjects into proficiency levels and a pre-test to check that the subjects' English proficiency was high enough, Matsumura administered an acceptability task to evaluate judgments on binding patterns. This task involved presenting subjects with sentences

containing a reflexive and a list of possible interpretations from which to choose. An example is given in (21) below (Matsumura, 1994: 20).

(21) Bob told Steve not to blame *himself.*

1. Bob
2. Steve
3. Either Bob or Steve
4. someone else
5. don't know

The results show that English native speakers chose the local NP as the antecedent almost 100% of the time. The mean score for the high proficiency group was slightly lower than for the native English speakers, yet higher than the mean score for the low proficiency group, suggesting a pattern where learners approach native-like intuitions as proficiency levels increase.

Eckman (1994) focused on the binding patterns of individual learners and found that many learners acquire the target-like form for English reflexive pronouns. This study relied on a picture identification task where subjects examined two pictures with a sentence containing a reflexive underneath. The subjects were required to identify which picture (or both pictures, or neither picture) the sentence accurately described. The results for this study, reported in terms of individual grammars, revealed that out of the 25 learners of English (mixed L1s and proficiency levels) who participated in the study, 16 of them consistently bound the reflexive to a local NP. The patterns exhibited by these 16 learners reflect those expressed by the majority of the ENS control group.

2.2.2 Methodological Problems: Tapping Preferences Rather than Complete Intuitions. The results of the studies thus far presented suggest that L2 learners of various first language backgrounds acquire the local constraints of English binding fairly quickly and easily. In this section I discuss the possibility that the experimental tasks used in these studies failed to tap the complete intuitions of the subjects. It is only by examining later work which takes steps to encourage learners to consider all possible antecedents for the reflexive, does it become apparent that the acquisition of reflexives is more complicated than first thought.

As I have mentioned, some of the older studies tended to elicit preferred interpretations of the reflexive rather than a complete range of interpretations. Whether a picture task (Eckman, 1994) or a sentence interpretation task (Thomas, 1991; Matsumura, 1994), these studies asked subjects to come up with all possible readings of the sentence themselves. Eckman (1994) asked subjects to indicate one, both, or neither picture as showing the meaning of the sentence above. Thomas (1991) and Matsumura (1994) asked subjects to indicate if one NP or another, or both NPs could be the antecedent of the reflexive. By relying on such a task, the responsibility for carefully considering all possible interpretations of the sentence fell on the person completing the task. If a person had a strong preference for one particular interpretation of the sentence, it is quite possible (likely, even) that the person would never consider a second, less likely, but perfectly acceptable interpretation.

White et al. (1997) discuss this point at length, arguing that by relying on data collected through tasks which tap only preferred rather than complete intuitions, researchers have an incomplete picture of the learner's system. White et al. point out that these preferences can be quite strong, even for English native speakers when they consider sentences

where the reflexive can refer to either a subject or object NP. As I have discussed in Chapter One, it is perfectly acceptable for an English reflexive to refer to either the subject or object NP in a local domain. White et al. write,

> English NSs usually assume that the sentence's subject is the antecedent of the reflexive; they will recognize the object interpretation if it is pointed out to them or if the context favours it. In some cases, however, their preference may be so strong that it overrides perception of any other interpretation . . . Even so, the fact that they choose only one interpretation does not necessarily mean that the other is excluded from their grammar (White et al., 1997: 148).

The results of the studies we have been discussing indicate a potential problem with preferences. Thomas (1991) reports a strong preference among native English speakers for the subject NP. This study finds that only 41.3% of the responses by English native speakers are for either the subject or non-subject NP as an acceptable antecedent for the reflexive pronoun, whereas 54% of the responses were for the subject NP only.

The Eckman (1994) study also produces data suggesting a problem with preferences. Here too, while the ENS group consistently binds the reflexive in the local domain, 15 out of the 25 subjects bind the reflexive to the subject NP only. Only six subjects accept either the subject or the non-subject as possible antecedents, while four subjects were inconsistent in their response patterns.

White et al. (1997) discuss other studies which show evidence of a "subject strategy;" that is, in these studies, L2 learners also indicate the subject as the only possible antecedent. Studies by Finer (1991) Finer & Broselow (1986), and Hirakawa (1991), all report data indicating a subject

strategy and all rely on some form of a multiple choice or picture identification task where study participants are responsible for coming up with all possible interpretations for the antecedent.

If a particular task is obviously failing to tap the complete intuitions of native English speakers, it is equally likely, if not more so, that the task is failing to tap complete intuitions of the learners. The key element, according to White et al. (1997) is pragmatic context. In the absence of pragmatic context, both native speakers and ESL learners will rely on the preferred interpretation. Pragmatic context, however, can help encourage speakers to consider other, non-preferred possible antecedents. By manipulating pragmatic cues so they point to a particular reading, speakers can consider one possibility at a time and also give due consideration to each possible interpretation of the sentence containing the reflexive pronoun.

2.2.3 Learners from Various L1 Backgrounds Bind English Reflexives Long-Distance. Given this methodological problem of preferences, it is not surprising that other studies which use pragmatic or semantic context to help subjects consider all possible interpretations of the reflexive, find that ESL learners of various L1 backgrounds do not acquire English reflexives as quickly and easily as the previously discussed studies indicate. Studies by Thomas, (1989), Christie (1992) Demirci (1997), and White et al. (1997) show that learners of English frequently accept long distance antecedents for reflexive pronouns.

Thomas (1989), examines the binding patterns of Spanish and Chinese native speakers who were learning English as a second language. This study relies on a multiple choice task which is susceptible to tapping preferred rather than complete intuitions. However, this study includes

sentences which provide pragmatic context to help the learner consider other, possibly less preferred, possible interpretations. Interestingly, in the neutral, bi-clausal sentences, the rate of local binding patterns for Spanish speaking learners of English is about 60% and for Chinese speaking learners of English, 69%. When pragmatic bias is directed toward the non-local NP, these numbers drop to 38% and 34%, respectively.

The "subject strategy" (preference for the subject NP over object NP in the local domain) is also reduced with contextual cues. In neutral sentences, close to 60% of subjects' responses (Spanish and Chinese speaking learners of English) were for the subject NP as the only possible antecedent for the reflexive. When pragmatic context is added to help the learners consider the object NP, the percentage of "subject-only" type responses drops to around 19% for Spanish learners of English and 29% for Chinese learners of English. These results suggest strongly that a lack of pragmatic context contributes to the problem of preferences overriding complete syntactic judgments.

Christie (1992) studies reflexive interpretations by Spanish and Chinese native speakers learning English as well as two groups of English native speakers who were learning Spanish or Chinese. Learners are presented with a picture task in which one picture and a sentence with a reflexive are contained on a page. The study participant is then asked to indicate whether or not the sentence reflects the message of the picture. The results of this study indicate that both Spanish and Chinese speakers learning English accept considerable long-distance binding.

Demirci (1997) also reports extensive LD binding among Turkish speaking learners of English. Using an acceptability task in which subjects are asked to read a sentence and indicate who the reflexive *cannot* refer

to, Demirci presents subjects with both neutral and pragmatically biased test sentences. The results show that Turkish speakers learning English will accept a non-local antecedent more readily than English native speaker controls when pragmatic bias is directed toward the non-local NP.

White et al. (1997) investigate the issue of methodology directly by comparing the judgments expressed by Japanese and French speaking learners of English who complete a picture task and a story task. The story task involves asking subjects to read a short story, then read a sentence underneath the story and indicate whether or not the sentence is true given the story. An example is given below in (22) (White et al. 1997: 153):

(22) Susan wanted a job in a hospital. A nurse interviewed Susan for the job. The nurse asked Susan about her experience, her education and whether she got on well with people.
The nurse asked Susan about herself. True/False

For the picture task, each subject is given a booklet where one picture with a sentence underneath it fills each page. The subject is asked to identify whether or not the sentence matches the picture.

The results of this study show that the story task better elicits acceptance of the object NP as a possible antecedent for the reflexive. Both the ENS group and ESL learner groups are more likely to accept the non-subject NP as a possible antecedent for the story task than for the picture task. For the bi-clausal sentences, both the ESL groups accept significantly more long-distance antecedents than the ENS control groups.

It appears, then, that studies which better tap complete grammatical intuitions suggest that L2 learners of English (whose L1s are of either type

- LDR/SDR or SDR only) show a preference for the local NP in neutral sentences, but will consider long distance antecedents when the pragmatic context suggests it. Adult English native speakers, on the other hand, have a much stronger allegiance to the local NP.

2.2.4 Learners accept more long-distance binding into non-finite subordinate clauses than into finite subordinate clauses. Regardless of methodology, many studies have found that some learners are more likely to accept long-distance antecedents when the reflexive is embedded in a non-finite subordinate clause than when the reflexive is embedded in a finite subordinate clause (Finer and Broselow, 1986; Hirakawa, 1990; Broselow and Finer, 1991; Progovac and Connell, 1991; Bennett and Progovac, 1993; Bennett, 1994; Matsumura, 1994; Demirci, 1997; White et al., 1997).

The first study to discover this pattern was a pilot study conducted by Finer and Broselow (1986). Six Korean speaking learners of English were given a picture identification task in which they examined two pictures with a sentence underneath them. The learners were to indicate whether the sentence described the first picture, the second picture or both pictures. The sentences tested learners' interpretations of both reflexive and regular pronouns in simple and complex sentences. For the complex sentences, two types were presented to the learners - sentences in which the reflexive/regular pronoun was embedded in a non-finite clause and complex sentences in which the reflexive/regular pronoun was embedded in a finite clause.

Interestingly, the ESL learners chose a local antecedent for the reflexive 91.7% of the time when the reflexive was embedded in a complex sentence with a finite subordinate clause. When the subordinate

clause of the complex sentence was non-finite, however, that number dropped to 58.3%. The results of this pilot study suggest that Korean learners of English are apparently more likely to bind a reflexive long-distance when the reflexive is embedded in a non-finite subordinate clause than when it is embedded in a finite clause.

Hirakawa (1990) reports similar results. After a preliminary test to screen the learners for the most basic understanding of basic grammar, vocabulary, and elementary facts about reflexives and pronouns, 65 Japanese FL learners of English in four proficiency groups were given a binding test. This test took the form of a acceptability task in which learners were to read a sentence containing a reflexive and then circle the chosen interpretation from a list of choices below. An example is given in (23) (Hirakawa, 1990: 70).

(23) John said that Bill hit *himself*.

a. John

b. Bill

c. either John or Bill

d. someone else _____

e. don't know

Hirakawa finds no grade effects in this study; that is, accuracy on the task does not improve with proficiency level. As a result, the four levels were collapsed and evaluated as a group. The results of this evaluation shows that the Japanese learners of English perform significantly better on complex sentences with finite subordinate clauses than on complex sentences with non-finite subordinate clauses. These findings support those of Finer and Broselow (1986) in that learners are more likely to bind

long-distance when the reflexive is embedded in a non-finite clause than when it is embedded in a finite clause. Hirakawa points out, however, that despite this difference, learners made errors in all sentence types.

Broselow and Finer (1991) report results of binding patterns of Hindi, Japanese, and Korean speaking learners of English. Using a picture task like the one used in Finer and Broselow (1986), this study finds once again that Korean and Japanese native speakers bind the reflexive with a non-local antecedent more often when the reflexive is embedded in a non-finite clause than when it is embedded in a finite clause. Interestingly, the Hindi speakers learning English did not exhibit this pattern. Broselow and Finer suggest that these speakers grew up in a socio-linguistic context in which English is prevalent. Perhaps, they point out, these learners already understood this part of the English system.

Bennett and Progovac (1993) and Bennett (1994) also find that learners differentiate between finite and non-finite embedded clauses . In these studies of Serbo-Croatian learners of English, learners accept long-distance binding into object control infinitive clauses more often than tensed embedded clauses. This finding is particularly interesting because of the fact that the Serbo-Croatian spoken by the subjects has no object control infinitives.

Matsumura (1994) in a replication study of Hirakawa (1990) was mainly interested in changes in accuracy across proficiency levels, so while she breaks the sentence types down into those in which binding between reflexive and antecedent may occur across finite embedded clauses (Types A and B) and sentences in which binding may occur across non-finite embedded clauses (Types C and D), she does not comment on possible differences in accuracy. Her data suggest this possibility, but it is not clear. The relevant results are summarized in Table 1 below. Type A

sentences are biclausal sentences with the reflexive embedded in a finite clause (e.g., Helen knows that Alice blames *herself/* (Matsumura, 1994: 41)). Type C sentences are biclausal sentences with the reflexive embedded in a non-finite clause (e.g., Bob told Steve not to blame *himself*.. (Matsumura, 1994: 41). Responses by subjects were analyzed in two ways, those indicating the local NP as the only possible antecedent (correct) and all other responses (incorrect). The experimental task included four type A sentences and three type C sentence. Thus, the type A mean scores are reported on a scale of four and the type C sentences are reported on a scale of three. Both mean scores and their percentage equivalents are given in Table 1.

There is a difference in mean scores between types A and C sentences at both the low (L) and high (H) proficiency level. ESL learners more accurately bind the reflexive locally when it is embedded in a finite clause than when it is embedded in a non-finite clause. Thus, Matsumura's results support previous findings that learners appear to be more likely to consider LD binding when the reflexive is in a non-finite context.

Demirci (1997) also reports that the Turkish speaking ESL subjects in her study differentiate between finite and non-finite embedded clauses. These learners were significantly more likely to bind a reflexive long-distance when it was embedded in a non-finite clause than when it was embedded in a finite clause.

White et al. (1997) investigate learner judgments of biclausal sentences with finite and non-finite subordinate clauses. Where the

Table 1: Mean scores and standard deviations for Japanese speaking learners of English (Adapted from Matsumura (1994: 29)).

	Low Proficiency Group (L) (n=24)		High Proficiency Group (H) (n=56)		t-score btwn groups	Control (n=15)	
	M	SD	M	SD	t	M	SD
Type A (n=4)	2.75 69%	0.97	3.23 81%	0.93	2.08*	4.00 100%	0.00
Type C (n=3)	1.54 52%	0.76	2.02 67%	0.52	3.20**	2.93 98%	0.25

*p < .05. **p < .01.

context of the story points to the local NP as the more likely antecedent, the ESL groups show no difference in judgment between finite and non-finite sentences, although the ESL subjects were less accurate than the ENS control group. For the picture task, the Japanese group bound the reflexive locally more than for the story task, yet performed less accurately than the ENS group overall.

When the pragmatic context suggests a non-local NP as the more likely antecedent (pragmatically speaking), differences in judgments for finite and non-finite clauses become more evident. For the picture task, both ESL groups bound the reflexive long-distance in both finite and non-finite embedded clauses. For the story task, however, the Japanese group was significantly more accurate on the finite sentences than on the non-finite.

Thus, White et al. found that only the Japanese learners of English differentiated between finite and non-finite embedded clauses and then only when the pragmatic context suggested the non-local NP as a more likely antecedent.

A number of studies have therefore observed a difference in binding patterns between reflexives embedded in a finite clause and reflexives embedded in a non-finite clause. These findings are, however, the result of a small pilot study (Finer and Broselow, 1986), and studies done with methodologically problematic tasks (Matsumura, 1994; Hirakawa, 1990; Finer, 1991; Bennett and Progovac, 1993; Bennett, 1994). The White et al. (1997) study, while better methodologically, found this difference only in very limited circumstances. These issues, along with limitations regarding how the data have thus far been reported will be taken up later in this Chapter.

2.3 Possible explanations for the acquisition of English reflexive pronouns

2.3.1 Explanation #1: Learners Transfer Part or all of Their Reflexive System from the L1 and Apply it to English.

2.3.1.1 *Transfer XP.* Researchers Have Proposed Several Possible Explanations for the Acquisition Process of English Reflexive Pronouns. The most commonly used explanation is transfer. Yuan (1994) suggests that adult learners of English simply transfer the morphologically complex reflexive from their L1 and apply it to the L2. Yuan states:

> It is therefore likely that when Chinese, Japanese, and Korean learners of English encounter English reflexives in the input data, they recognize them as phrasal reflexives through the form of PRONOUN + *self*. As a result, they assume that English reflexives behave like the phrasal reflexives in their L1s, which is a correct assumption. On the basis of this assumption, the learners coindex English reflexives only with local antecedents and reject sentences that allow long-distance binding (Yuan, 1994: 542).

Yuan puts it even more strongly in his 1992 paper where he states,

> Quite a few SLA researchers have used English reflexives to test the resetting of the governing category parameter by native speakers of Chinese, Japanese and Korean . . . any claims for the availability of UG and parameter resetting in SLA on the basis of results obtained from these tests are illegitimate because, obviously, reflexives in English share the same setting as phrasal reflexives in Chinese and no parameter resetting is involved at all (Yuan, 1992).

If, indeed, learners simply transfer the value of the morphologically complex reflexive from their L1 and apply it to the English reflexive pronoun as Yuan suggests, certain learner behaviors

would result. The ESL learner would interpret the English reflexive pronoun in the same manner that they would interpret the morphologically complex reflexive pronoun in their L1. That is, the learner would assume that the reflexive pronoun must find its antecedent within its own clause. As pointed out in the previous section, numerous studies (Thomas 1989, White et al. 1997; Christie, 1992; Demirci, 1997) have found that learners of English, no matter what their L1 type (LDR/SDR or SDR only) accept long distance antecedents extensively. If learners were transferring the SDR-value from the first language and applying it to English, these learners would, as Yang predicts, ". . . reject sentences that allow long-distance binding." This prediction we know from the earlier discussion, is not borne out. Learners of various L1 backgrounds consistently accept long-distance antecedents in the English L2.

2.3.1.2 *Transfer* X^0. Given that learners apparently do not transfer the morphologically complex value of the reflexive pronoun, Lakshmanan and Teranishi (1994) suggest that for Japanese native speakers, learners could inappropriately transfer the value of the morphologically simple reflexive pronoun (in this case, *zibun*) from the L1 and interpret the English reflexive as such in the L2. Eventually, through a process Lakshmanan and Teranishi refer to as *inter-lingual identification*, the learners realize that English reflexives are not, in fact, morphologically simple reflexive pronouns like *zibun*, but, rather, function just like the Japanese morphologically complex reflexive, *karé-zisin*. The learner then discards the *zibun*-type interpretation of the English reflexive and replaces it with a *karé-zisin*-type interpretation.

While this proposal accounts for the finding that Japanese learners of English initially accept long-distance antecedents, certain predictions of learner intuitions given this assumption do not bear out. If learners are, in fact, transferring the LDR value from the L1 and applying it to the L2, there would be a difference in behavior between learners whose L1s contain LDRs and learners whose L1s do not. Presumably, only speakers with LDRs in their first language can transfer the LDR value and go through a long-distance phase of acquisition. This proposal, therefore, predicts that one type of language learner (someone whose L1 contains both LDRs and SDRs) will initially accept long distance antecedents, while another type of language learner (someone whose L1 contains only SDRs) will not accept long distance antecedents. Once again, acquisition data (Thomas 1989; White et al. 1997; Christie, 1992) show that learners from SDR-only L1s frequently accept long distance antecedents.

A second problem with the structural transfer proposals relates to learner interpretation of finite and non-finite embedded clauses. Several studies (Finer and Broselow, 1986; Broselow & Finer, 1991; Finer, 1991; Matsumura, 1994; Demirci, 1997 and White et al., 1997) have found that many learners of English go through a period where they are more likely to accept a long-distance antecedent when the reflexive pronoun is embedded in a non-finite clause than when it is embedded in a finite clause. If learners are, in fact, transferring one value of a reflexive pronoun from the first language and applying it to the second language, the learners would not differentiate between finite and non-finite embedded clauses when no such distinction exists in the L1. The learners who participated in the studies cited above exhibit intuitions which suggest that they are operating from a binding system which differentiates between reflexives in finite and non-finite embedded clauses. This

distinction is made despite the fact that no such distinction is made in either the L1 or the L2.

Bennett and Progovac (1993) and Bennett (1994) (see also White, 1996) attempt to resolve this issue by appealing to the Relatavized SUBJECT Analysis. They suggest the possibility that learners from LDR/SDR-type L1s transfer the value of the X^0 reflexive and correctly identify the overt AGR in finite embedded clauses in English. The result of this is that the learners, thinking that English reflexives are LDR, allow both local and non-local antecedents for the reflexive in non-finite (i.e., non-AGR) contexts. In the finite context, however, learners recognize the overt AGR and thus require local-only binding.

Once again, assuming that the learner transfers the value of the X^0 reflexive from the first language accounts for only half the problem. That is, the transfer-based explanation only accounts for the long-distance binding patterns by learners whose L1s contain LDRs. This transfer-based explanation of LD-binding among learners of English fails to account for the equally strong tendency of learners from SDR-only L1s to accept long-distance antecedents.

Yoshikawa (1993) investigated the relationship between the acquisition of AGR and LD binding in L2 learners. This study measured the rate of errors in subject-verb agreement in a composition exercise as well as the binding patterns of L2 English learners through a multiple choice task. Yoshikawa found that learners whose knowledge of subject-verb agreement (i.e. AGR) was perfect accepted LD antecedents just as often as learners who made many mistakes on subject-verb agreement.

Furthermore, it is possible that the finite/non-finite distinction made by L2 learners of English can be explained in another way. I will argue later in this chapter that the data collected so far may have been

misinterpreted due to the reporting methods used in these studies. It is possible there is another, better, explanation for the finite/non-finite distinction exhibited by L2 learners of English, which I will take up at the end of this chapter.

Structural transfer (of either the morphologically simple reflexive pronoun or the morphologically complex reflexive pronoun) is therefore not a viable explanation for the acquisition of English reflexives. The fact that speakers of both language types (LDR/SDR and SDR only) accept long-distance antecedents to a significant degree and the fact that learners accept significantly more long distance antecedents when a reflexive is embedded in a non-finite clause as compared to a finite clause, suggests that learners of English as a second language are not transferring the value of a particular reflexive pronoun from their first language and applying it to English.

2.3.1.3 *Pragmatic Strategy Transfer.* In addition to the possibility of structural transfer, Demirci (1997) suggests that Turkish learners of English, whose L1 contains both complex and simplex reflexives, innapropriately transfer a stronger sensitivity to pragmatic cues onto English. The study used a grammaticality interpretation task that evaluated the degree to which subjects responded to pragmatic bias. Sentences were divided into neutral sentences, sentences biased toward local NPs, and sentences biased toward non-local NPs. Furthermore, sentence types included sentences with both tensed and non-tensed embedded clauses. Demirci reports that Turkish native speakers are highly responsive to pragmatic cues in considering possible antecedents for Turkish reflexives. The English native speaking group, however, did not respond as strongly to pragmatic bias in their intuitions on possible

reflexive/antecedent relationships. Demirci finds that Turkish speakers learning English continue to exhibit a sensitivity toward (and willingness to respond to) pragmatic cues. She argues that the learners have transferred their pragmatic strategy from Turkish and applied it to their L2, English. She further suggests the possibility that this strategy fossilizes, as she found that even with students who had been studying English for several years continued to apply this pragmatic strategy.

A study by Glew, Demirci, Yamagata, and Gass (1993) reports a similar sensitivity to pragmatic cues by both Turkish and Japanese native speakers. This study used a task similar to that in Demirci (1997), investigated the intuitions of English native speakers learning Turkish and Japanese. The study also included data from three control groups: Turkish native speakers (providing intuitions on Turkish reflexives), Japanese native speakers (providing intuitions on Japanese reflexives) and English native speakers (providing intuitions on English reflexives). Glew et al. (1993) found that the Turkish and Japanese native speaker control groups were most strongly influenced by pragmatic cues in choosing possible antecedents for a reflexive. In some cases, the native speakers denied the possibility of co-reference with an NP against which pragmatic bias was directed. This behavior often occurred even if the NP against which pragmatic bias was directed was (structurally) a perfectly acceptable antecedent for the reflexive.

Similar to the findings of Demirci (1997), Glew et al. report that the intuitions of English native speakers are much less susceptible to pragmatic bias than the Turkish or Japanese speakers.[1] The English

[1] It should be noted, however, that both the Demirci (1997) and Glew et al. (1994) studies report that over 20% of English native speaker responses indicated acceptance of the long-distance NP as an antecedent for the reflexive. These results show a much stronger sensitivity to pragmatic

native speakers who were studying Turkish and Japanese, however, exhibited intuitions somewhere in the middle. These subjects failed to respond as strongly to the pragmatic bias as the Turkish and Japanese native speakers did. The English native speakers who were studying Turkish and Japanese did, however, show more sensitivity to pragmatic bias than the ENS control group did.

The results of these studies suggest that native speakers of languages with both complex and simplex anaphors, such as Japanese and Turkish, are much more sensitive to pragmatic information for antecedent assignment of reflexive pronouns than native speakers of languages such as English which only have complex anaphors. Furthermore, Demirci (1997) suggests that these native speakers continue to be sensitive to pragmatic cues when learning English as a foreign language.

In order to consider the possibility of transfer, both structural transfer and transfer of a processing cue such as pragmatic meaning, it is necessary to consider recent research within the Competition Model, a psycholinguistic model of language acquisition and processing.

The Competition Model contrasts sharply with many nativist theories of language acquisition. While special nativist theories (e.g. U.G.) are developed on the assumption that the "core grammar" is acquired by a separate language component, the Competition Model was developed with the assumption that language learning takes place entirely as a result of the application of more general learning mechanisms . In other words, special nativist researchers argue that

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cues by English native speakers than other studies (White et. al. , 199X; Thomas, 1989) which include "pragmatic context" to help learners consider all possible antecedents.

language acquisition is driven by inborn mechanisms and those espousing the Competition Model argue that language is learned entirely from experience.

While these two philosophies represent two sides of the classic nature/nurture continuum, researchers are beginning to explore possible models which allow for both task specific and general learning mechanisms in the language acquisition process. Researchers arguing for a general nativist proposal for language acquisition (O'Grady, 1996; Eckman, 1996; Wolf-Quintero; 1996) suggest that language acquisition is the result of the application of both task specific and general learning mechanisms.

While there continues to be much discussion and debate over theories of L1 grammar, Eckman (1996) cautions that a theoretical grammar of the L1, such as UG, is not necessarily the guiding system of interlanguages. Interlanguages have grammars, but one must not assume that IL grammars are necessarily the same as the L1 grammar. Eckman states,

> All that one can conclude from the fact that ILs have grammars is that any theory of SLA must include a theory of IL grammar. And, most important, it is an open, empirical question whether a theory of IL grammar is the same as a theory of L1 grammar. Thus, it is conceivable that L1 grammars and IL grammars are governed by different theories. One possible conception of this situation is that L1 grammars obey the constraints of the theory of grammar, namely, UG, while IL grammars obey the constraints imposed by some other theory, e.g., general learning. In other words, under the general nativist position for SLA, UG could be the theory of L1 grammars, and general cognition could be the theory of L2 grammars. It is an empirical matter, which, for the time being, at least, must remain open (Eckman, 1996: 406).

There are several tasks the learner faces when acquiring a second language. While special nativist approaches account for the contribution of the mental grammar to the acquisition task, it provides little in the way of explanation of how the learner uses the mental grammar in conjunction (or in competition) with the various levels of linguistic representation (e.g., phonological, morphological, semantic, pragmatic, social, etc.) present in the input.

Thus, while proponents of the Competition Model make specific claims about how the L1 is acquired, those claims do not necessarily have to be assumed in order to consider the possibility that L2 acquirers assign various values to the different linguistic elements in the input. In other words, regardless of how (i.e., through mathematical weightings of the various cue strengths, through adjusting the value of the cues to accommodate the strengths and weaknesses of the various components of the target grammar, as a consequence of the development of the IL, etc.) the language learner comes to balance the relative value of the various linguistic components, the Competition Model provides a framework whereby it is possible to explore what various cue values at different phases of the acquisition process.

The Competition Model is a model that recognizes the fact that learners (and language users in general) are faced with the challenge of processing several linguistic levels simultaneously in order to interpret the meaning of the language. The listener/speaker must coordinate phonological, syntactic, semantic, and pragmatic information simultaneously as the speech is being produced. Naturally, there are limits on the attention one can devote to each of these various levels. Because of these limitations, a language user must learn to pay close attention to those levels that provide the best information regarding the

interpretation of the sentence. In so doing, the speaker can focus on the important forms and pay less attention to the less important forms.

As a person learns a given language, different forms show themselves to be more effective than others. This is referred to as *cue strength*. Cue strength is defined as "the probability or weight that the organism attaches to a given piece of information relative to some goal or meaning with which it is associated" (Bates & MacWhinney, 1987: 64. cf. Heinleman & McDonald, 1993). In other words, cue strength refers to how effective a given cue (function) is for a language user.

In most cases, several cues will converge on a certain function for a given noun. In (24), for example, *John* is clearly the "doer" of the action. We know this because several cues, namely, word order (the first noun is typically the agent/subject) and animacy (animate nouns are the more likely than inanimate nouns to be agents or "doers" of actions), converge on *John* as the subject/agent of the action.

(24) John built the house.

But, as (25) shows, cues do not always have to converge. In (25), word order tells us that *the sandwich* is the subject/agent of the sentence. Semantics, however, tells us that *John* is the subject/agent because animate beings typically eat things.

(25) The sandwich ate John for lunch.

It is through exposure to sentences in which cues conflict, that learners eventually sort out the weightings of the different cues for a given language. The cue that "wins" the conflict most often, or has the stronger

conflict validity, becomes stronger and more relied upon in the overall processing of the given language.

The various weightings of the cues, however, vary from language to language. Word order, for example, tends to be relied upon most heavily by English speakers. This means that in sentences like (25), English speakers would interpret the first NP, *the sandwich*, as the agent or "doer" of the action. They do this despite the fact that the semantic cue of animacy points to the second NP, *John*. In English, then, the syntactic cue of word order is more strongly relied upon than the semantic cue.

Italian native speakers, however, place more weight on the semantic cue. Therefore, if a sentence like (25) were translated to Italian and the dominant cue, agreement marking was controlled for, John would be the more likely choice of agent/subject because animacy has a stronger conflict validity than word order.

While no Competition Model research has yet been done on the relationship between pragmatic and syntactic cues for linking the reflexive and antecedent, research has been done on the relationship between syntactic and semantic/pragmatic cues as they relate to thematic role assignment.

Gass (1985) conducted a study of 111 learners of English in a second language environment. The learners completed a grammaticality interpretation task which involved interpreting sentences which varied according to semantic verb type (*ask/promise/tell*) and also in terms of the subject and object NP's place on the topicality hierarchy (Human>Animate > Inanimate). By manipulating these factors, the study examined how native speakers and ESL learners responded to situations where semantic and syntactic information converged and competed.

Gass found that when learners were presented sentences in which semantic and syntactic cues converged, they readily provided the correct English interpretation. When the cues competed, however, beginning learners were more sensitive to the semantic cues (animacy in Gass' framework) than the syntactic ones. At higher proficiency levels, learners learned to accept syntax as the dominant cue for English. Furthermore, she found that pragmatic cues dominate over both syntactic and semantic cues when the token sentence indicates an unlikely situation such as (26). The dog is the first NP (indicating that it is the agent) in the sentence and is also an animate noun (animate things are the most likely candidates for agenthood, inanimate things are not). However, because the sentence depicts an unlikely (pragmatically implausible) scenario, most learners indicated confusion on this item.

(26) The *dog* told the *chair* to go (Gass 1985: 25).

When the sentence represented a scenario where pragmatic and syntactic cues converged, learners performed similarly across proficiency levels. In the case of (27), however, both semantic and syntactic cues converge.

(27) The *man* told the *dog* to go (Gass 1985: 25).

The results of this study suggest that pragmatic cues are extremely important for learners of English. Where the pragmatic and syntactic cues converge on one particular interpretation, learners overwhelmingly respond to the cues and choose that interpretation. When the pragmatic information is confusing (such as for sentences such as (26), which indicate unlikely situations), learners do not appear to fall back on either

the semantic or syntactic reading, but indicate confusion. Without a reasonable pragmatic context, therefore, learners do not have confidence to rely on the other levels of the linguistic system.

Gass (1987) continued investigating of the relationship between semantic and syntactic cues in her examination of native speakers, foreign and second language learners of Italian and English. In this study, Gass argued that for the assignment of thematic roles, Italian native speakers (INS) rely more heavily on the semantic cue of animacy than English native speakers, whose dominant strategy is a syntactic one, word order. She examined how Italian native speakers must move from relying on the semantic cue of animacy to a language such as English, whose native speakers rely more heavily on the syntactic cue of word order. The results suggest that the INS learners of English initially become aware of the importance of word order, only moving to reflect the intuitions of native speakers in the case of classic noun-verb-noun (NVN) word orders. This finding, Gass argues, suggests that learners first "get a feel" for a certain part of the L2 grammar before they move on to learn the specific factors which determine the characteristics of that part of the L2. In this study then, the INS learners of English continue to rely on the L1 dominant cue of animacy, but have become aware of the importance of word order. The specific characteristics of this syntactic strategy have not yet been fine tuned.

English native speakers learning Italian, however, acquired the semantic cue strategy of animacy more easily than the INS learners of English did for word order. Gass suggests that moving from a syntactically based system, such a English, to a semantically based one, such as Italian, is somehow easier than vice versa.

Based on her findings, Gass argues that the semantic strategy is stronger than the syntactic. This, she suggests, is supported by the fact that the ENS learners of Italian responded to the animacy cue much more readily and with greater similarity to INS data than the INS learners of English did for word order. She concludes that ENS learners of Italian acquire the native-like animacy strategy, whereas the INS learners of English move much more slowly and with more difficulty, first becoming aware of the importance of word order and then moving on to begin to learn the exact characteristics of English word order.

Other researchers (Harrington, 1987; Sasaki, 1991, 1994; Wulfeck et al., 1986) have supported Gass (1987) in finding that learners more readily adopt L2 animacy strategies. Sasaki (1991) found that ENS learners of Japanese acquired the animacy strategy for Japanese, whereas Harrington (1987) showed that Japanese native speakers learning English continued to rely on their animacy strategy, failing to adopt the L2 (English) strategy of word order. Wulfeck et al. (1986) report that among Spanish/English learners and native speakers, the animacy strategy is a "strategy of last resort." The study found that subjects relied on animacy cues only when the "preferred cue" was missing (for group I this was word order, for group II this was agreement marking).

The Competition Model research on the acquisition of theta-role assignment shows that learners who come from an L1 for which semantic cues are strong, continue to rely heavily on the semantic cue in the L2. They are also less willing to let go of the semantic strategy in favor of the L2 dominant syntactic strategy.

These findings bear a striking resemblance to those reported in the Competition Model studies (Gass, 1985, 1987; Harrington, 1987; Sasaki, 1991, 1994; Wulfeck et al. ,1986). Learners whose L1 requires a heavy

reliance on pragmatic and semantic cues tend to "hang on" to the pragmatic strategy and move more slowly toward a reliance on syntactic cues than vice versa. Likewise, Glew et al. (1993) and Demirci report that native speakers of languages such as Turkish and Japanese (languages with both simplex and complex reflexives) rely heavily on pragmatic/semantic cues and move to a stronger reliance on syntactic cues reluctantly, if at all.

Thus, the studies by Demirci (1997) and Glew et al. (1993) suggest that in addition to providing a structural account of the developing grammar of an L2 learner, it is also important to consider the possibility that a pragmatic strategy plays a role in the interlanguage system of second language learners.

2.3.2 Explanation #2: The L2 Acquisition Process of English Reflexives is a Developmental One Similar to the Acquisition Process of Children Learning English

2.3.2.1 *Child Language Acquisition of Reflexive Pronouns.* If learners are not transferring the L1 value and applying it to the L2, then some sort of developmental process, independent of the learner's first language background, may be at the heart of the acquisition of English reflexives. One possibility is that second language learners follow a process similar to that of English monolingual children. Franks and Connell (1996) report on a study of twenty adults, 13 normal children (age range: 3;7 to 8;6), and 11 Specific Language Impaired (SLI) children (age range 3;9 to 7;8) in order to investigate the process by which native English speakers acquire reflexive pronouns.

The study relies on a Video Multi-Interpretation Task (VMIT). This task was developed specifically to address the problem of tapping the

preferred antecedent rather than the complete range of possible antecedents. The VMIT provides study participants with the pragmatic context essential to tapping a speaker/learner's complete intuitions. The VMIT involves a series of 13 "video-taped vignettes" each of 30 seconds in length. Each vignette involves a scene of puppets having a juice party where the participants take turns pouring juice into each other's glasses. Each vignette is followed by questions designed to elicit the subjects' interpretation of reflexive pronouns. The test questions include three questions evaluating whether subjects understand the question-answer format of the test, five questions to test subjects' binding domain of reflexives, two orientation questions to determine whether subjects accept subject and/or non-subject antecedents, and three C-command questions to determine if subjects accept the reflexive pronoun as an anaphor. (28) provides an example question where the subjects' intuitions regarding the domain and orientation of the reflexive. In this case (Franks and Connell 1996: 443), the child sees a vignette where Mickey is pouring juice into Ernie's glass. The child is then asked,

(28) Did Bugs ask Ernie if Mickey poured juice for himself?

The correct adult, native speaker answer would be *n o* because Mickey did not pour juice for himself, Mickey poured the juice for Ernie (*h i m*). A *yes* answer to this question would indicate that the child/adult is accepting a long-distance object as an antecedent for the reflexive pronoun.

The subjects participating in the Franks and Connell study completed the VMIT several times until the answers for each of the questions were consistent. Franks and Connell then evaluated the response patterns of each individual learner to identify the domain and

orientation of the reflexive for each subject. The response patterns were compared across sentences to develop a complete picture of the domain and orientation of the reflexive for each learner. Response patterns fell into four distinct patterns. One learner was unable to exhibit an understanding of C-command (through the experimental task (answering *yes* to questions 11 and 12 and answering *n o* to question 13) as well as a follow-up task involving an act out protocol where the subject once again failed to demonstrate a clear awareness of the C-command requirement). Franks and Connell conclude that this learner has not yet learned that the reflexive pronoun is an anaphor in need of an antecedent. This finding reflect studies by Wexler and Chien (1987), Chien and Wexler (1990), McDaniel, Cairns, and Hsu (1990) which also identify children who fail to respect the c-command requirement. Likewise, these researchers suggest that learners who display this behavior are not yet treating the reflexive as an anaphor. Instead, these learners interpret the reflexive as a lexical NP with a meaning something equivalent to *body*.

A second group of learners, the "nearest NP group" (n=7), only accepted the local NP as a possible antecedent. This was demonstrated through their responses across sentences. Table 2 shows the experimental questions and predicted adult responses for each item. These seven subjects, then, gave "correct" answers for items 1;1, 2;2, 3;2, 4;3, 5;3, 6;4, 7;4, 8;4, 11;6, 12;6, and 13;6. However, for the subject orientation questions, the learners accepted the interpretation of *Bugs* (the object NP) as the antecedent for the reflexive in vignette test sentence 10;5, but rejected *Ernie* as a possible antecedent in 9;5. This group, Franks and Connell suggest, is at one of the earliest phases of the acquisition process. They suggest that once the child recognizes that the reflexive is an anaphor (evidenced by C-command effects), s/he selects the nearest NP as the

antecedent, thus assigning the local object NP as the antecedent for the reflexive.

Another response-type pattern exhibited in the Franks and Connell study was that displayed by the "LD group." Individuals falling into this group exhibited the following characteristics (Franks and Connell, 1996: 448):

> (a) When the reflexive was embedded in a finite clause, individual subjects in this group allowed both SD and LD antecedents, but only with subject NPs.
>
> (b) When the reflexive was embedded in a non-finite clause, individual subjects in this group allowed only the LD subject as the antecedent.

Franks and Connell suggest that members of this group have realized (and require) that the reflexive raise at LF, but that these language learners do not recognize PRO as an acceptable binder. The result of this is that the reflexive (interpreted by the child as LDR) requires a subject antecedent, but cannot accept the local subject, PRO, as an acceptable antecedent in non-finite embedded clauses. When the reflexive is embedded in a finite clause, either the local or the non-local subject NPs is an acceptable antecedent. Franks and Connell suggest that the reason learners go through this LD phase is that they are not yet able to lexically parse the reflexive pronoun into its component parts. Learners who have not yet reached a stage where they can lexically parse the complex reflexive pronoun (a bimorphemic, XP reflexive such as *himself*) see the XP reflexive as a simplex, monomorphemic reflexive such as Japanese *zibun*. Assuming that the children mistakenly analyze the English reflexive as monomorphemic, they allow long-distance antecedents for the reflexive. The children also, for some unexplained reason, do not

Table 2: The experimental questions associated with the 13 vignettes of the VMIT. Adapted from Franks and Connell (1996: 443)

Vignette	Sentence number	Questions	Recipient or object depicted on tape	Adult English response
		Format questions		
1	1	Is Bugs Ernie's friend?		Yes
2	2	Did Ernie ask Bugs to get the glasses?	Juice	No
3	2	Did Ernie ask Bugs to get the glasses?	Glasses	Yes?
		Domain questions:	nonfinite	
4	3	Did Ernie ask Bugs to pour juice for himself?	Ernie	No
5	3	Did Ernie ask Bugs to pour juice for himself?	Bugs	Yes
		Domain questions finite		
6	4	Did Bugs ask Ernie if Mickey poured Bugs juice for himself?	Bugs	No
7	4	Did Bugs ask Ernie if Mickey poured Ernie juice for himself?	Ernie	No
8	4	Did Bugs ask Ernie if Mickey poured Mickey juice for himself?	Mickey	Yes
		Subject orientation	questions	
9	5	Did Ernie ask Bugs about himself?	Ernie	Yes
10	5	Did Ernie ask Bugs about himself?	Bugs	Yes
		C-command questions		
11	6	Did the mouse who said 'Hi Ernie' pour juice for himself?	Ernie	No
12	7	Did Ernie's friend Bugs pour juice for himself?	Ernie	No
13	7	Did Ernie's friend Bugs pour juice for himself?	Bugs	Yes

consider PRO an acceptable binder.

The final group of learners for this study is referred to as the "Local Group." This group exhibited intuitions in line with the English target system; that is, individuals in this group disallowed LD binding but allowed either subject or object NPs as possible antecedents for the reflexive in simple clauses. This response pattern, Franks and Connell argue, is reflective of the final stage in the acquisition process. At this time, learners realize that English reflexive pronouns are morphologically complex and, thus, cannot find an acceptable antecedent outside of the embedded clause. Because the reflexive is now considered to be morphologically complex, the learner also realizes that it can refer to either the subject or non-subject in the local domain.

2.3.2.2 *SLA of English Reflexives: Reconsidering the Data.* Given this model of child language acquisition, it is important to return to the second language acquisition data and see if they provide any support for the acquisition stages identified in Franks and Connell (1996). Table 3 outlines the developmental stages in Franks and Connell (1996).

In the existing literature, there is little evidence either for or against the existence of a "nearest NP" stage among second language learners of English. This may due, in part, to the task problems of earlier studies. Many of the early studies reported results in terms of aggregateresponse patterns and did not give results in terms of individual grammars (e.g. Bennett & Progovac, 1993; Bennett, 1994; Matsumura, 1994; Thomas 1989). By reporting data in terms of "percentage of responses directed toward NP1, NP2, etc." or the mean scores of learners on an acceptability task where the "right" answer is the local NP (Matsumura, 1994), it is impossible to identify individual interlanguage

systems. It is impossible to tell if any subjects accept the local object to the exclusion of the local subject without examining individual grammars.

Learner intuitions which reflect the "nearest NP" stage are often

Table 3: The acquisition stages of reflexive pronouns for English monolingual children as identified in Franks and Connell (1996: 458)

1. The reflexive pronoun is interpreted as a noun (independent reference)
2. The reflexive pronoun is interpreted as an anaphor
   a. **Nearest NP phase**: The learner realizes that the reflexive pronoun is an anaphor in need of an antecedent, but does not yet understand that the anaphor can raise at LF. The learner therefore selects the nearest NP (the local object) as the antecedent for the reflexive.
   b. **LD phase**: The learner understands and requires that the reflexive raise at LF, resulting in an obligatory subject orientation for the reflexive pronoun. The learner does not understand, however, that PRO is an acceptable binder. This results in the following behavior:
      (i) When the reflexive pronoun is embedded in a finite clause, either the local or the non-local subject is an acceptable antecedent.
      (ii) When the reflexive pronoun is embedded in a non-finite clause, only the non-local subject is an acceptable antecedent.
   c. **Local Phase**: The learner understands that the reflexive can optionally raise and that PRO is an acceptable binder. Furthermore, the learner is linguistically mature enough to parse the reflexive

> pronoun and understands that it is not a morphologically simple pronoun but, rather, is a morphologically complex reflexive pronoun which cannot raise outside of the embedded clause. This gives rise to the English system: local domain, subject or non-subject orientation.

lumped together with intuitions from learners who may be at the target-like "local" phase. Aggregate data reporting like this may elicit general trends in the acquisition process, but if one is interested in identifying subtle changes in the learners interlanguage system, this method is too blunt an instrument.

While recent studies have begun to report data on individual grammars (Eckman, 1994; Thomas, 1991, 1995; White et al. 1997), the way in which the data are evaluated and reported makes it impossible to get a clear picture of interlanguage systems. The acquisition stages identified in Franks and Connell (1996) have several important characteristics. It is not enough to say, "this learner accepts local NPs as possible antecedents." This behavior is only part of the interlanguage system, it is in fact a characteristic of two vastly different systems. A "local-only" interpretation could indicate a learner at the very first stage of acquisition, the "super-local phase," where the learner only accepts the local object as an acceptable antecedent. Or, a "local-only" interpretation could indicate a learner who has acquired native-like competence for English reflexives, in which case this person would accept either subject or non-subject NPs, but only in the local domain.

The problem with the studies by White et al. (1997), Thomas (1991), and Eckman (1994) is that in reporting individual grammars, these studies only examine one feature of the interlanguage system at a time.

For example, White et al. (1997) report on the percentage of subjects who consistently accept binding to subject NPs, then they report the percentage of subjects consistently accepting binding to object NPs. Then the subjects are thrown back into the pool and the percentage of subjects who accept local and/or non-local NPs are reported. With these results, we know how many test subjects bind the reflexive with the object NP as well as how many test subjects bind the reflexive exclusively in the local domain; however, we do not know how many subjects bind the reflexive to the object NP and simultaneously bind the reflexive exclusively in the local domain.

While these studies are providing more detailed information about learners' interlanguage systems than the aggregate percentage reporting of previous studies, they are still falling short in that they do not examine the entire interlanguage systems. Instead, they focus on one feature of the system at a time, masking the possible finer features of different interlanguage systems.

Even with the recent addition of data on individual grammars, the way in which SL data are reported and analyzed prevents us from identifying a "nearest NP" grammar among SL learners of English. Given the data so far provided on the acquisition of English reflexives, it is impossible to tell whether or not a "nearest NP" stage exists in the interlanguage of any ESL learner.

SLA data do, however, provide vague support for stages 2b and 2c. As discussed earlier, many studies have found that learners differentiate between reflexive pronouns embedded in a finite clause as compared to a non-finite clause (Finer and Broselow, 1986; Broselow & Finer, 1991; Finer, 1991; Matsumura, 1994; Demirci, 1997; White et al., 1997, Bennett, 1994)]. These studies have shown that learners are more likely to accept a

long-distance antecedent when the English reflexive is embedded in a non-finite clause than when it is embedded in a finite clause. The findings of these studies differ slightly from those of Franks and Connell (1996) in that they do not identify the exclusively non-local domain for reflexive pronouns embedded in non-finite clauses that English monolingual learners exhibit.

In addition to the task and data reporting problems I have just discussed, the finite/non-finite distinction made by second language learners may not have been adequately measured because of problems with proficiency grouping. Many SLA studies of reflexives (White et al. 1997; Demirci, 1997; Matsumura, 1994; Hirakawa, 1990; Thomas 1991; Bennett & Progovac, 1993; Bennett, 1994) stratify subjects into levels based on global proficiency levels. In assuming that global proficiency levels correspond neatly with proficiency in reflexive binding, researchers may inadvertently be mixing subjects who are at different levels in the acquisition process of reflexive pronouns. Franks and Connell point out that for monolingual English learners, some individuals may stay at a particular level for a long time, suggesting that ages and acquisition stages do not correlate. Furthermore, Franks and Connell suggest that as learners move from one phase to another, the old and new phases can exist simultaneously and compete with one another. They state:

> We propose, instead, that earlier grammars coexist in the mind with later ones. They are, in a sense, in competition . . . Thus, we propose that the child does not immediately abandon G_n as soon as G_{n+1} becomes available, but rather has decreasing recourse to it as the subsequent grammar strengthens. This competition may persist for a long time; . . . (Franks and Connell, 1996; 460).

For L2 learners, we can extrapolate and assume that the potential mismatch between global proficiency level and acquisition stage for reflexive pronouns is even stronger. Given that children progress through acquisition stages at variable rates and also operate with two competing systems simultaneously, it is equally likely that L2 learners also progress at variable rates and operate with two competing interlanguage systems. In fact, it is likely that the L2 acquisition process is even more variable. This of course, is due to the many factors influencing L2 acquisition such as motivation, instruction, immersion in the L2 environment, and input.

Some studies on reflexive pronoun acquisition rely on data from subjects in a foreign language setting (White, 1997; Demirci, 1997; Progovac & Bennett, 1993; Bennett, 1994, Wakabayashi, 1996; Hirakawa, 1990; Matsumura, 1994). When considering intuitions on reflexive binding, it is important that a distinction be drawn between second language learners (who have exposure to the language outside the classroom setting) and foreign language learners. It is commonly assumed that the properties of reflexive binding are not taught in the classroom. Thomas (1991: 217) states that L2 learners of English and Japanese are not taught the rules of reflexive binding.

> No subject in this experiment claimed to have been explicitly taught how to determine the antecedent of a reflexive. An informal survey of teachers of English as a second language found no one who instructs students in this detail. I inspected a dozen popular English textbooks but found at best brief or vague treatment of the interpretation of reflexives. Example sentences, if any, contain only one potential antecedent. Four Japanese language textbooks likewise yielded no evidence that learners are instructed in the relevant constraints of *zibun*
> (Thomas, 1991: 217).

Even in terms of exposure, it is not at all clear that reflexive pronouns have a common place in classroom input. References to oneself or reflexive actions of others are more typical of personal interchange rather than the language typical of the classroom. A study by Parker, Heitzman, Fjerstad, Babbs, and Cohen (1995) suggests that even in Full Language Immersion Programs (FLIPs), language learners do not use the L2 for personal interchange. Parker et al. investigated the language use patterns of 32 pupils in a Spanish-language full immersion program (Grades 3-6) and found that students used Spanish 70-88% of the time in teacher-fronted situations, whereas for social and small-group situations, students used Spanish only 22-27% of the time. These results suggest that for situations in which personal interchange occurs, students overwhelmingly rely on their L1. It is assumed that in a foreign language classroom, even less time is spent involved in interpersonal, social exchange in the L2.

Students in a foreign language setting also have little to no exposure to the L2 outside of the classroom. White et al. (1997) point this out in the description of their FL subjects. They state,

> We gave the learners a background questionnaire to determine their previous experience with English. All had learned English in a classroom setting, with a small amount of additional exposure; even the francophones reported at most only sporadic contact with English outside of the school context . . . Neither group reported having spent much time in English-speaking provinces or countries: an average of 1.5 months for the French-speakers, and 2 months for the Japanese speakers
> (White et al. 1997: 150).

The result of this, therefore, is that while foreign language learners have a middle or high overall proficiency level, this measure may not

indicate one's proficiency for reflexive binding. Because classroom input is impoverished for reflexives, and FL learners have little to no opportunity for interpersonal exchange either in or out of the classroom, these learners may not have had an opportunity to advance beyond the most basic proficiency levels for reflexive binding.

Many proficiency groups, therefore, that are used by researchers to stratify learners as they acquire reflexive pronouns may not, in fact, have stratified learners according to proficiency levels as they apply to reflexive pronouns. This problem could explain the slight difference in findings between the L2 studies and the Franks and Connell study as they relate to phase 2b. Franks and Connell (1996: 448) report that children at phase 2b of the acquisition process exhibit the following behavior:

> (i) When the reflexive pronoun is embedded in a finite clause, either the local or the non-local subject is an acceptable antecedent.
> (ii) When the reflexive pronoun is embedded in a non-finite clause, only the non-local subject is an acceptable antecedent.

Second language acquisition research has produced data suggesting that learners are more likely to accept a long distance antecedent when the reflexive is embedded in a non-finite subordinate clause than when the reflexive is embedded in a finite subordinate clause. If, as I have suggested, these studies grouped learners into proficiency levels that do not accurately reflect proficiency levels for reflexive binding, (in addition to the already mentioned problems of data reporting and task issues) the learner groups could contain learners at various stages of acquisition. This would result in a group of learners, some of whom accept non-local antecedents out of non-finite clauses (learners at phase 2b), and others who exhibit a local reading for the non-finite clause (learners at phase 2c).

Likewise, in evaluating the data on reflexives embedded in a finite clause, second language acquisition researchers could be reporting on a proficiency group with learners who accept both local and non-local antecedents (learners at phase 2b) as well as learners who accept only local antecedents for the reflexive (learners at phase 2c). This proficiency grouping, in combination with the inadequacies of both group data and reporting on individual grammars which I have discussed earlier, could result in data that suggest a stronger tendency to accept the non-local antecedent out of a non-finite clause than out of a finite. The proficiency grouping of learners may, therefore, contribute to the slightly different conclusions reached by second language researchers regarding the finite/non-finite distinction observed in second language learners.

In order to find out if L2 learners are actually following an acquisition pattern like the one identified in Franks and Connell (1996) the study needs to examine the individual interlanguage systems in their entirety as well as investigate learners who have not been broken down into proficiency levels before the experiment. These important methodological issues will be taken up in the next chapter.

2.4 Chapter summary

By reviewing current and recent research on the SLA of English reflexives, several characteristics of learner behavior become clear. First, the research suggests that learners of various first language backgrounds eventually indicate a local domain for the reflexive (Thomas, 1991; Matsumura, 1994; Eckman, 1994; Lakshmanan and Teranishi, 1994). For non-targetlike learners, however, two disntinct patterns are evident. (1) ESL learners of various first language backgrounds allow the English reflexive to identify non-local NPs as acceptable antecedents (Thomas,

1989, 1991; Christie, 1992; Demirci, 1997). (2) ESL learners who have both SDR and LDRs in their first languages allow more long distance antecedents for an English reflexive when it is embedded in a non-finite clause than when it is embedded in a finite clause (Finer and Broselow, 1986; Broselow and Finer, 1990; Bennett and Progovac, 1993; Bennett, 1994; Matsumura, 1994; Demirci, 1997; White et al., 1997).

I have argued that LD binding in ESL learners is not likely due to L1 transfer because studies by Thomas (1989), Christie (1992) and White et al. (1997) have shown that learners with SDR-only first languages (e.g. Spanish and French) also allow LD binding.

Secondly I suggest that while SL researchers (Bennet, 1994; Bennett and Progovac, 1993) have proposed a transfer-based explanation for the +/- finite distinction made by certain learners, I argue that a similar distinction has been shown in monolingual English speaking children. I end the chapter by raising the possibility that L2 learners do not, in fact, transfer a reflexive interpretation from their first languages, but rather, may be going through acquisition stages identified for children by Franks and Connell (1996).

Chapter 3
METHODOLOGY

3.1 Introduction

After a discussion of some of the methodological considerations that affect the task design and data analysis for this dissertation study, this chapter presents the research questions for the study as well as descriptions of the control and experimental groups. Furthermore, a description of the task, the sentence types used, as well as a discussion of the predicted outcomes of the data are discussed at the end of the chapter.

3.2 Methodological considerations

3.2.1 Introduction. Proficiency measurements for L2 learners play a critical role in understanding the development of L2 grammars. This is particularly true for studies investigating interlanguage stages. In order to deduce that changes in interlanguage systems are actually a reflection of a developing interlanguage (progressing, ultimately to the steady-state grammar), researchers find it necessary to tie changes in interlanguage systems with overall changes (improvement) in global proficiency. In this way, global proficiency scores serve as a "benchmark" against which specific variations in interlanguage systems are pegged.

In practice, however, studies of the L2 acquisition of reflexives vary widely in how and to what degree the issue of proficiency level is taken into account. Thomas (1994) investigates the different ways in which proficiency level is treated in various SLA studies. She outlines the methods by which SLA researchers have evaluated learner proficiency and how these evaluations have been used in the studies. Thomas finds that the most common method of evaluating the proficiency of the study subjects is through institutional placement. That is, subjects' proficiency level is inferred from their placement into one or another English class.

Reflexive studies also provide several examples of this sort of proficiency evaluation (Finer and Broselow, 1986; Hirakawa, 1990; Lakshmanan and Teranishi, 1994). Other reflexive studies rely on scores of standardized tests such as the English Language Skills Assessment (ELSA) battery (Finer, 1990), the University of Michigan English Language Institute's English Placement Test (MTELP) (Thomas, 1991). Still other studies rely on scores from proficiency tests created specifically for the purposes of the study (Bennett, 1993; Matsumura, 1994).

3.2.2 Proficiency Measurement in SLA Studies of Reflexives. In addition to the variety of proficiency measurements used in reflexive studies, researchers also vary on the range of proficiency levels exhibited for subjects participating in their studies. Thomas (1989) studies a group of learners with a wide range of proficiency values. She reports data on learners with proficiency scores for the ELI representing a range of 56 to 100, although scores were only available for 51 of the 97 learners in this study and no proficiency measure was available for the bilingual group. Thomas (1989:

288) describes these learners as, ". . . individuals for whom English is not a native language, but who have achieved very close to native proficiency."

Thomas (1989) set out to investigate the possible influence of learners' first language background on the SLA of reflexives. Subjects were divided into two learner groups: Chinese and Spanish native speakers learning English. This study makes an important finding; namely, that both the Chinese and Spanish native speakers allowed non-local binding for English reflexives. Thomas found the two groups behaved similarly, regardless of the obvious differences in L1 backgrounds and likely differences in proficiency levels. Ironically, her diverse (proficiency-wise) subject pool enhances her claim that ESL learners from "local-only" type languages are just as likely to accept non-local antecedents for reflexive pronouns as ESL learners whose L1s contain both simplex and complex anaphors.[1]

Other researchers, such as Finer and Broselow (1986), Finer (1990), Eckman (1994) and White et al. (1997) also study heterogeneous groups of ESL/EFL learners exhibiting varying ranges of proficiency levels. Finer and Broselow (1986) report on a small group of Korean ESL learners (n=6), five of whom were placed in an intermediate language class. One learner was of a low proficiency. Finer and Broselow report that the learners who participated in this study (all Korean speaking learners of English) were more likely to accept a non-local antecedent for the English reflexive pronoun when the reflexive was embedded in a non-finite clause as

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[1] Note that this study also included test sentences which provided subjects with contextual clues to help them consider all possible readings of the sentence. This task design, combined with her findings for the diverse language groups, strengthens her conclusions.

opposed to a finite clause. This study, then, identified a particular feature of the learner interlanguage of English reflexives.

Once Finer and Broselow identified this particular interlanguage system (i.e. that these learners were more likely to allow a non-local antecedent in a non-finite context than in a finite), they needed to argue when (at what point) this stage occurs in the acquisition process and also what this interlanguage grammar tells us about how (by L1 transfer, accessing UG, etc.) learners acquire English reflexives. The information on proficiency levels for these subjects was somewhat vague (five students in an intermediate-level class, one student of low level), so it would be quite difficult to specifically link this interlanguage system with any particular point in a given learner's overall proficiency development.

Instead, Finer and Broselow turn to theoretical predictions in their search to answer the "when" and "how" questions of the L2 acquisition of English reflexives. Finer and Broselow recognize that the peculiar behavior of this small group of Korean ESL learners reflected the grammar of a speaker whose Governing Category Parameter (GCP) was set at value (c) (see Figure 3 for an illustration and explanation of the various values for the GCP). English reflexives exhibit the unmarked (a) value, instantiated by a local binding domain. Reflexives exhibiting the (c) value of the GCP (e.g. simplex reflexives in Russian) take a local or non-local antecedent for the reflexive when it is embedded in a tenseless (non-finite) clause, but is restricted to a local interpretation when the reflexive is embedded in a tensed (finite) clause. Reflexives exhibiting the (e) value of the GCP (e.g. simplex reflexives in Korean) can take local or non-local antecedents from all clause types.

Finer and Broselow interpret their findings for this group of Korean learners of English by relying on the Subset Principle, the acquisition model discussed in Chapter One which predicts that whenever grammars fall into a subset relationship (as the parameters of the GCP do), children will assume the most restrictive grammar as the unmarked value (e.g. value (a) for the GCP) and then enlarge the grammar based on positive evidence. Given that Finer and Broselow's subjects have in their L1 reflexives instantiating the (e) value of the GCP, and that English reflexives instantiate the (a) value, Finer and Broselow suggest that their subjects began the acquisition task by transferring the (e) value reflexive from Korean and applying it to English. The interlanguage stage identified for this group of subjects represented the "half-way" mark of the L2 learners. That is, they were in the process of restricting their grammar from an (e)-type interpretation of the reflexive to an (a)-type interpretation (the target system). The interpretation of the data suggests that these L2 learners were behaving according to the predictions of the Subset Principle. Instead of immediately assuming the unmarked, (a) value of the GCP, these learners were operating with a larger grammar. AS a consequence, they were faced with the task of constraining their grammar rather than enlarging it.

The linguistic and acquisition theories in acceptance at the time of this study provided the mechanism by which Finer and Broselow could put their findings into perspective in the acquisition process (who were half-way between their initial assumption of value (e) and the target system, value (a)), and also provide a way of shedding light on how the learners acquired the reflexive pronoun (who transferred value (e) from their first language and applied it to English. Then learners slowly constrained their grammar (a non-UG based mechanism) to reflect the target system, value (a)).

The obvious problem with relying on linguistic and acquisition theories to provide explanations for learner grammars is that the theories themselves are not always stable. When the linguistic theories move on, the acquisition data must be reinterpreted. The Finer and Broselow study provides an example of just such a shift. As I point out in Chapter One, the Subset Principle has received a lot of criticism. This is due to research on child language acquisition, which has shown that children acquiring languages with only complex (local-only) reflexives go through a period of long-distance binding. The more recent theories of reflexive binding and acquisition no longer require learners to initially assume that the reflexive has a local-only domain and so, ironically, the Finer and Broselow results today are not incompatible with behaviors and intuitions identified for monolingual children learning English.

3.2.2.1 Proficiency Scores as a Variable to Control for in Comparing Learners of Various L1 Backgrounds. Finer (1990) explores the results of Finer and Broselow (1986) in greater detail. This study examines the intuitions of a much larger subject pool (n=79) and it directly compares the grammars of different L1 language groups (Japanese, Korean, and Hindi speaking learners of English). In this study, steps to control for proficiency differences are more important than in Finer and Broselow (1986). This is because the purpose of Finer (1990) is to compare L1 groups. In order to compare Hindi speaking ESL learners with Japanese and Korean speaking ESL learners, the groups must be comparable in all respects other than L1 background. With large subject pools, controlling for the possibility of proficiency differences across the groups is notoriously difficult. This difficulty is evident in Finer (1990). For this study, Finer was only able to provide proficiency scores for

part of the subject pool In addition, the range of proficiency scores exhibited by those learners for whom scores were available was large (between 60 and 100 on part of the English Language Skills Assessment (ELSA) battery). As a result, Finer's conclusion that Hindi speaking ESL learners do not differentiate between finite and non-finite embedded clauses the way that Japanese and Korean speakers do, cannot be generalized. Possible proficiency differences between the two groups make it difficult to conclude that Hindi speaking ESL learners acquire English reflexives any differently than Japanese or Korean ESL learners do.

White et al. (1997) attempt to control for possible proficiency differences across their learner groups. This study's purpose was to evaluate learner grammars. Learners are divided according to L1 (French and Japanese native speakers learning English) and compared. White et al. report that learner responses on the story task (but not the picture task), indicate that the Japanese speakers, but not the French speakers differentiate between finite and non-finite embedded clauses in their binding patterns for English. White et al. control for proficiency differences by comparing proficiency scores across groups. The ESL learners in this study took the University of Michigan English Language Institute Test of English as a Foreign Language (ELI test). No significant differences in proficiency scores were found across ESL groups. By reporting proficiency scores and comparing them across the groups a researcher is investigating, it is possible to make stronger arguments for L1-based differences when the two groups perform differently on a certain task.

Given that there were no significant differences in global proficiency scores between the learner groups, can we then assume that each Japanese group and the French group were at the same acquisition stage for reflexive

pronouns? Not necessarily. Reflexive pronouns and regular pronouns are markers of discourse. They are used to refer back to people previously mentioned in the sentence or in the conversation. The results of written proficiency exams such as the MTELP, TOEFL, etc. may not be the best choice in predicting proficiency levels for reflexive pronouns.

These exams are written to evaluate a learner's command of a wide variety of linguistic elements. The scores for these exams, then, represent the average of the learners' abilities in many different areas of the language. A person's command of English grammar could be very low yet their vocabulary and inferencing/reading skills could be high. This score could easily be comparable to a person with extremely strong grammar and low reading skills. Given their proficiency scores, these two people have the "same" proficiency level, can we then assume based on these scores that these two people are at the same point in their acquisition of reflexive pronouns?

To the best of my knowledge, there has been no work investigating the relationship between learners' proficiency scores and their competence for reflexive pronouns. This is not surprising, because at this point we do not have a clear picture of the actual stages L2 learners go through as they acquire reflexive pronouns. This situation results in a circular problem. Until researchers are able to characterize the interlanguage systems exhibited by L2 learners for reflexive pronouns, we cannot develop a model of proficiency levels for reflexive pronouns. Likewise, without a model of proficiency for reflexive pronouns, there is no way to experimentally test the relationship between competence in reflexive pronouns and global proficiency level. For the time being, the correlation must be assumed.

3.2.2.2 Heterogeneous Proficiency Groups and Analysis of Individual Grammars. Eckman (1994) also studies a group of learners of various L1 backgrounds, although he does not attempt to compare one language group with another. Because of this, and because of the way in which Eckman analyzes the data, he is not faced with the problem of controlling for proficiency differences across groups. As a result, Eckman does not provide much information regarding learner proficiency levels, except to say that they (n=25) were enrolled in the Intensive English Program at the University of Wisconsin, Milwaukee. While proficiency levels are not a direct concern for the interpretation of the data, they are relevant to Eckman's experimental task. For all of the reflexive studies I have discussed thus far, it is important to insure that subjects are proficient enough to understand and complete the experimental task. This is an especially relevant concern for reflexive studies because the purposes of these studies require measuring how learners interpret complex sentences.

Eckman (1994) examined individual grammars in order to identify possible grammars that may violate UG principles ("rogue grammars). Because these principles are considered to be universal, it is not directly relevant for the purposes of this study when certain behaviors present themselves. This study simply wanted to identify if rogue grammars exist among second language learners at any proficiency level.

This research objective results in an interesting problem. In order to effectively search for rogue grammars, the researcher needs to investigate the grammars of a wide range of learners (of both L1 background and proficiency level). On the other hand, the researcher can only rely on data from learners who are proficient enough to complete the experimental task.

We see how this problem presents itself in the results of Eckman (1994). For the ESL learners, Eckman finds that 16 out of 25 subjects exhibited native-like grammars.[2] These findings suggest that the subjects for this study were proficient enough to compete the experimental task, but were perhaps too proficient having already acquired target-like intuitions, to elicit data that might identify rogue grammars.

It seems, then, that all studies of the L2 acquisition of English reflexives have run into methodological problems. There is the problem of linking one's findings to current linguistic theories, there is the problem of controlling for proficiency differences in studies comparing learners of different L1 backgrounds, and there is the problem of tapping a wide range of proficiency levels in research investigating individual grammars.

3.2.2.3 Proficiency Scores as "Benchmarks" Against Which Changes in IL can be Pegged. Given the methodological problems encountered in the search to identify how learners acquire reflexive pronouns, the research I discuss in this section approach the problem from a different angle. They consider the question of when certain behaviors (e.g. local binding) present themselves in hopes of developing a model of the acquisition process. In order to do this, researchers have had to tie changes in interlanguage to differences in overall proficiency levels. These studies stratify learners into proficiency levels and then examine the responses of the "low" "mid" and

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[2] Three learners indicated a local domain and a +/- subject orientation while 13 learners indicated a local domain and a + subject only orientation. This study design is prone to eliciting preferred rather than complete interpretations of the reflexive (see Ch. 2 discussion), a problem reflected in the ENS data as well. Out of the 25 English native speakers completing the task, 15 out of the 20 subjects who answered consistently on the orientation-type sentences also indicated a + subject only orientation.

"high" groups in order to better understand the acquisition process. Once again, this sort of experimental design assumes that global proficiency scores can predict proficiency levels for specific structures, an assumption I have presented is only tentative at this point.

Additionally, these studies exhibit problems similar to those identified for SLA studies in general by Thomas (1994). That is, studies of the L2 acquisition of English reflexives exhibit a wide range of measurements, cut-off scores and groupings for various proficiency levels. Additionally, as Thomas, 1994 points out, many studies have problems establishing distinct proficiency groups.

Thomas (1991), for example, relies on the grammar and listening comprehension portions of the MTELP. Subjects are then stratified into low, mid, and high proficiency groups based on the MTELP scores (low: 21-32; mid: 33-40; high: 41-49). Given this proficiency stratification, a learner with a score of 32 on the MTELP would be at the same acquisition stage for reflexive pronouns as a learner whose score is 21. But that same learner would be at a different acquisition stage than someone whose score is 33. So in addition to problems of consistent proficiency measurements, cut-off scores, and groupings across studies, individual studies can sometimes have problems defending that the proficiency groups they use are actually distinct.

Lakshmanan and Teranishi (1994) stratify their experimental group into three proficiency levels based on institutional placement. Group A (n=8), the "low" group is made up of learners from levels 1 and 2 (beginning and low-intermediate) of the intensive English program at the Center for English as a Second Language (CESL) at Southern Illinois University. Group B (n=15), the "mid" group, is made up of levels 3 and 4 (upper intermediate and advanced), and the "high" group is made up of students

enrolled in composition courses required of international students who pass the University's English proficiency requirement. Students were placed into levels at CESL based on their TOEFL scores.

Hirakawa (1990) also stratifies subjects based on institutional placement (grade-level in school), but examines four proficiency levels instead of three: Grade 10 (n=13, ages 15-16), Grade 11 (n=14, ages 16-17), Grade 12 (n=18, ages 17-18), and Grade 13 (n=20, ages 18-19).

Relying on institutional placement to determine proficiency stratification introduces additional variables which further complicate the problem of creating distinct proficiency groups. At English language centers across the country, administrators are under constant pressure to fill classrooms, accommodate staffing requests, student appeals, and teacher schedules and conflicts. All of these pressures can press administrators to accommodate exceptions in the usual placement procedures. Students who are of significantly lower or higher proficiency level can sometimes slip into classes meant for students of a much different level of English proficiency. Given this situation, it is difficult to assume, for example, that Lakshmanan and Teranishi's (1994) low group is qualitatively different from the mid and high groups. It is quite possible that there is some overlap in abilities between the students in each consecutive class.

For Hirakawa (1990), these problems are multiplied because instead of three levels, she investigates four levels. Additionally, these groups were stratified according to their grade level in school. In the case of FL English in Japanese schools, the mechanism for advancement may be different than at other institutions. As Thomas (1994) points out, some schools may advance learners to the higher language class automatically rather than according to actual increases in proficiency level. This may be the situation

for the subjects of Hirakawa's (1990) study. As students move from grade 10 to grade 11 they may move to the next year's language class. It is possible that they did not progress as much as others in their proficiency levels. The result of such a situation would be the establishment of proficiency groups which were not truly distinct. There is some evidence that this problem occurred in Hirakawa (1990), in that she found no grade effects across learner groups.

Additionally, Matsumura (1994) attempted to stratify learners along the same lines as Hirakawa (1990) but found that grade level insufficiently distinguished learner groups. The results of a cloze test administered to the subjects brought out the variation within grade levels.

Even if all students in all classes fall within the required range of proficiency scores, any language teacher will quickly acknowledge that the typical English language class consists of learners at a wide range of proficiency levels. Some students can handle anything the teacher presents, other students seem to be perpetually "lost."

Added to this issue is the problem of defining proficiency levels. For each SLA study, it is up to the researcher to define the terms of "low" "mid" and "high" proficiency levels. On the basis of the studies summarized so far, it is clear that researchers do not agree on the best way to stratify beginning, intermediate, and advanced learners for the purposes of identifying the stages of the L2 acquisition of reflexive pronouns. Because of this, it is particularly difficult to compare results across studies because the definitions of proficiency levels vary so widely.

In the search to describe the L2 acquisition process of reflexive pronouns, proficiency-based stratification studies have in some ways raised more problems than they have solved. We have seen that global

proficiency scores may not be the most accurate predictors of proficiency levels for reflexive pronouns. In addition, defining distinct proficiency groups based on proficiency scores and institutional placement has been particularly problematic. Finally, because there is no clear agreement on standard levels and measurement instruments, proficiency stratifications vary widely, making it extremely difficult to put together a picture of the acquisition of reflexive pronouns on the basis of the collection of research conducted thus far.

There are several important consequences for this situation. First of all, the wide variation in proficiency measurements and cut-off scores makes it difficult to compare studies, because each time a new study is published, the proficiency measures and grouping criteria have changed. Second, most of the studies I have discussed so far stratify learners into proficiency groups that may not be distinct. Qualification for one or another proficiency group can, in some cases, be determined by a one point difference on a proficiency exam. In other cases, qualification for one or another proficiency group is determined by the not always so rigid placement policies of English language programs. In still other cases, no information on the stratification is provided at all (Bennett, 1993).

It is very possible that a particular ESL learner could find him/herself in a different proficiency group for several of the studies cited above. In order to better share L2 research and begin mapping out the characteristics of a "beginner/intermediate/advanced" interlanguage grammar of reflexive pronouns, the definitions of "beginner/intermediate/advanced" learners need to be standardized.

Thomas' (1994) methodological discussion therefore appears quite problematic. We cannot be certain that proficiency scores predict proficiency

for reflexive pronouns, so we cannot rely exclusively on those scores to assure that L1-based groupings are in fact comparable. Additionally, we cannot rely exclusively on proficiency scores or institutional placements (which, assumedly, are determined by proficiency scores) to distinguish proficiency-based groups. So, in what way can proficiency measurements help us understand the L2 acquisition process? A learner's proficiency score is an aggregate marker of acquisition. Because of this, a learner's global proficiency score provides only one clue to his/her competence on a particular structure such as reflexive pronouns. Global proficiency scores can be at best, general markers of L2 acquisition when they are considered in conjunction with other factors influencing the development of the structure. For reflexive pronouns, factors affecting the development of discourse competence, such as time in the L2 environment and type/degree of language use are also important factors that need to be considered in evaluating the acquisition of reflexive pronouns.

3.2.3 Immersion in the L2 Environment. For acquisition studies focusing on reflexive pronouns, the amount of time the learner has lived in the L2 environment is an important factor in the acquisition of reflexive pronouns. Several studies report on learners with little or no experience in the L2 environment (Hirakawa, 1990; Bennett, 1993; Matsumura, 1994; White et al. 1997). Regardless of their global proficiency scores, the learners in these studies have had little to no experience participating in extended oral dialogue. Thomas (1991) argues that reflexives are not taught in the classroom. Furthermore, Parker et al. (1995) suggest that even in L2 immersion schools, students rarely engage in natural conversation in the L2.

Thus, the different learning environments (second language (SL) or foreign language (FL)), then, provide drastically different possibilities for oral dialogue, and, as a result, different levels of exposure to reflexive pronouns. In interpreting the results of L2 studies on the acquisition of reflexive pronouns, it is important to consider whether or not the subjects are FL or SL learners. Despite the ultimate explanation of how learners acquire reflexive pronouns, FL learners simply may not have had enough input to "trigger" acquisition of the reflexive pronoun or to provide enough information for the learner to develop a strategy for acquiring the structure.

Length of time in the L2 environment is, of course, only an indirect marker of a more important factor influencing the development of reflexive pronouns - how often the learner uses the L2 for communication. It is through opportunities for oral discourse and exchange that the learner has an opportunity to practice using reflexive pronouns. One must also consider when and where the learner actually uses the L2 in order to get a clearer picture of the quality of the learning environment. Obviously, SL learners who do not use the L2 at home or at work, but only use it in stores, in class, etc. will not be as proficient in the use of reflexives as someone who has lived in the L2 environment the same amount of time, but must rely on the L2 all day at work.

Issues such as global proficiency, type of learner (FL/SL), length of time in the L2 environment, and language use patterns all provide clues to a given learner's proficiency for reflexives. It is therefore important to take as many of these factors as possible into consideration in interpreting results of studies relating to the acquisition of reflexive pronouns. No one factor can actually predict where a learner will be in the acquisition process. By considering the combination of these factors, researchers can get a much

clearer picture of where the learner should be in the acquisition process for reflexive pronouns.

3.2.4 L1 Background. As I have shown, current research on the L2 acquisition of reflexives assumes that L1 background has an effect on their acquisition among L2 learners. I have laid out various conclusions from numerous studies suggesting why this assumption may not necessarily be so. I discussed how the argumentation for L1 transfer does not accurately reflect the evidence. In Chapter 3, I show that grouping problems such as proficiency stratification and an over-reliance on global proficiency scores, make it difficult to assume that differences reported in the data of different L1 groups are, in fact, due to differences in L1 background.

Added to these grouping problems is the issue of data are analysis and reporting. This issue will be discussed within the context of the results of this dissertation study. Even in the absence of a discussion of these two items (methods of data analysis and reporting), it is difficult to conclude with any certainty what, if any, influence a learner's L1 background has on the acquisition of reflexive pronouns.

3.3 Research design

3.3.1 Research Questions. Language acquisition research concerns itself with questions of "what," "when," and "how." That is, researchers are interested in understanding what the characteristics of interlanguage systems are. Additionally, researchers attempt to outline when changes in

interlanguage systems occur, and if these changes are present in certain learners, but not others. That is, a completely developed theory of L2 acquisition should be able to provide the following information:

What

Learners begin with a certain grammar, G_1, which has the characteristics A, B, C . . .

How

the learner then acquires more information, recognizes certain features of the input, has a chance to try and use the language, transfers value X from the L1, etc. . . .

When

and then progresses to the next stage, G_2, which has the characteristics X, Y, Z.

This process, theoretically, continues until the learner reaches a steady state, G_s, for that particular linguistic element. G_s can be the target system or some sort of fossilized interlanguage stage.

3.3.1.1 *Matching Research Design with Research Questions.* What are the characteristics of learner grammars, when do they occur (in what order), and how do learners progress from one acquisition stage to another? These are the relevant questions for researchers in their search for a theory of the L2 acquisition of reflexive pronouns. How well have these questions been answered so far? I believe that research on the acquisition of reflexive

pronouns has focused itself so much on answering the "when" and "how" questions, that the "what" questions have been inadequately answered.

The studies I have discussed in this chapter, with the exception of Eckman (1994)[3], have looked at the behavior of groups of learners. Some studies compared learner groups based on the first language of the learners (Thomas, 1989; Finer, 1990; White et al., 1997). Other studies compared groups of learners based on a pre-established scale of proficiency groups (e.g. Hirakawa, 1990; Thomas, 1991; Bennett, 1993; Lakshmanan and Teranishi, 1994; Matsumura, 1994). Because of the problems linking proficiency level to proficiency based grouping, it is difficult to conclude with certainty whether the group based differences (L1 or proficiency based) are actually due to the defining characteristics of the group or some intervening variable associated with the grouping.

Despite these grouping problems, it is tempting to continue with this type of research design. The reason for this is because in establishing group-based differences, studies can generalize to the larger population and, additionally, consider the "meatier" questions of how and why acquisition proceeds the way it does. Group-based research design has a lot of power for generalizability and, thus, for considering how L2 acquisition in general proceeds. It is possible, however, that these grouping problems will not always be with us. These problems can be addressed eventually if we take a different look at the question and the way we pose it in research design.

It is impossible to create a coherent argument of how a learner moves from G_1 to G_2, or that G_1 comes before G_2, without at least a minimal

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3 White et al. (1997) include in their results a section titled "individual grammars." I will show later that in spite of the title "individual grammars," what the authors do with the data in this section is really another form of group reporting.

description of the defining features of G_1 and G_2. Until recently, L2 acquisition research on reflexive pronouns has focused primarily on how groups of learners interpret reflexive pronouns. While this research design can be very effective in answering the when (through proficiency grouping) and the how (through L1-based grouping) type questions, the data these studies produce are not designed to develop an accurate picture of the details of the interlanguage systems of individual learners. The designs of the studies I have discussed thus far in this chapter were not powerful enough to answer the "what" question, and, because of the serious grouping problems I have outlined, not able to produce a completely satisfying answer to the "when" or "how" questions. Without some observational data on the interlanguage systems expressed by learners of *various* proficiency levels and *various* L1 backgrounds, we will not only fail to answer the "what" questions of SLA, but also fail to adequately address the "when" and "how" questions.

In that vein, this study has been designed to ask the "what" questions. Below are the research questions for this study.

3.3.1.2 *Research Questions*

1. What are the characteristics of the emerging system of English reflexive pronouns?
2. Are these characteristics present in learners of various different L1 backgrounds?
3. Does this emerging system reflect the emerging system identified in Franks and Connell (1996) for child learners of English?

The research design for this study has sacrificed some power to directly address the "when" and "how" questions in order to give the "what" questions more primacy.

3.4 Subjects

This study collected data from 81 learners of English as a second language, two bilingual speakers and 43 English native speakers (ENS). In order to gather intuitions from learners of diverse L1 backgrounds and proficiency levels, subjects were selected from existing student populations at Michigan State University and two campuses of Oakland Community College, a large, urban community college system in the Detroit, Michigan area.

3.4.1 Control Group. The ENS (n=43) control group was drawn from the student population at Michigan State University. The subjects ranged in age from 18-28. In addition to this group of subjects, two bilingual speakers also participated in the study. One subject was Greek-English bilingual and the other was ASL-English bilingual. Both subjects grew up speaking a language other than English in the home.

3.4.2 Experimental Group

3.3.2.1 *Proficiency Level.* The subject pool for this study was deliberately drawn from a diverse population. Because the purpose of this study is to identify as close to the complete range of possible L2 grammars as possible, subjects with a wide range of proficiency levels, years in the United States, and language use patters were chosen. The ESL group was drawn from the campuses of Michigan State University and Oakland Community College. Eighty-one students, ranging in age from 18-44, participated in this study.

Subjects also exhibited a wide range of proficiency levels. The Oakland Community College subjects all took the MTELP proficiency exam and scored in the range of 43-79 (maximum score: 100). For comparison purposes, this group of subjects falls into the intermediate-advanced proficiency range. The Michigan State University students completed the English Language Center's placement exam and scored between 65 and 80 (a score of 75 is roughly comparable to a 520 TOEFL score and a score of 80 is comparable to a 550), putting them in the high-intermediate to advanced range.

3.4.2.2 *Time Spent in the L2 Environment/Years of Formal English Study.* All subjects were living in the L2 environment at the time they participated in the study. SL learners were specifically selected because they are more likely to have had extensive opportunities for communication and, thus, have adequate exposure to reflexive pronouns. The amount of time living in the United States, however, varied widely. The most recent arrivals had only been in the United States for two months, while some subjects were born in the U.S. and had been living in the U.S. for twenty or more years. Amount of formal study also varied widely. In many cases, subjects who had been living in the United States the longest, had the least formal education of English. One subject, for example, had been living in the United States for 11 years, but had only been in an English class for two months. She states, "I have not really learned English until I came to the United States. I learned to converse in English but this is the formal class I started to study the English at."

On the other end of the spectrum, there were also many subjects who had many years of formal education in English, but very little in the way of experience in the L2 environment. One subject, a woman from Thailand,

had only been in the United States for two months, but she had studied English extensively in Thailand. When asked how many years she had been studying English, she replied, "15 years, but it mostly was grammar, writing, and listening skills."

There are also examples of subjects representing other combinations of variables, some with little formal education and recent arrival to the U.S., others with more formal education and experience living in the United States. These variables all have an effect on a person's competence and should be considered in addition to overall proficiency level when analyzing the results. I will return to these factors later in the dissertation.

3.4.2.3 *L1 Background.* Subjects were chosen to represent a diverse range of first language backgrounds. The primary language background of the learners are given in Table 4.

Table 4: First language backgrounds of ESL learners

Language	N	Language	N
Arabic	6	French	1
Thai	2	Hmong	1
Russian	3	Korean	3
Japanese	4	Chinese	2
Italian	1	German	1
Chaldean	3	Assyrian	1
Serbian	1	Lithuanian	1
Albanian	1		

3.5 Method and materials

3.5.1 Materials.

3.5.1.1 *Task.* There has also been much thoughtful discussion on the issue of the type of task which best elicits the competence of both L2 learners and native speakers regarding reflexive pronouns. In Chapter Two I discuss at length the problem of speaker preferences when attempting to evaluate learner intuitions for reflexive pronouns. Studies by Finer and Broselow (1986), Finer (1991), Thomas (1991) and Eckman (1994) report results indicating a subject strategy for English native speakers. That is, the ENS control groups exhibit a reluctance to acknowledge an object NP in a monoclausal or embedded sentence as a possible antecedent for a reflexive. Likewise, these English native speakers show overwhelming acceptance of the subject NP as a possible antecedent for the reflexive. Of course, theoretically, the subject and object NPs (in the local domain) are equally viable candidates to be an antecedent for the reflexive pronoun. In actual use, however, it appears that English native speakers prefer the subject over the object NP as an antecedent for a reflexive pronoun[4].

In designing a task to investigate the various interlanguage systems of L2 learners of reflexive pronouns, it is important to design the task to elicit native speaker and learner *competence*, rather than preferred interpretations. As I suggest in Chapter Two, studies which indicate subject

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[4] For a discussion of the subject strategy of English native speakers, see Thomas, 1991 and White et al. 1997.

binding but fail to elicit object binding by English native speakers have very likely relied on tasks which tapped the preferred interpretations of subjects, rather than a full range of interpretations.

It is therefore important to discuss how the task used for this study attempts to overcome the problems of learner preference faced by earlier studies. I have suggested that it is essential to provide learners with a pragmatic context from which they can consider all possible interpretations. It is especially important that the subjects in this study have "help" considering all possible interpretations of the reflexive.

A second consideration relates to individual grammars. Earlier I pointed out the importance of reporting individual grammars. This, I argued, is because reporting on aggregate response patterns fails to differentiate learners into the various levels identified by Franks and Connell (1996) for monolingual English learners. In reporting individual grammars, this study will specifically investigate the possibility of the learner grammars as identified by Franks and Connell (1996), but will also identify any other systematic grammars that may emerge among the L2 learners participating in the study.

Given these assumptions, the method for this study will rely on a story task developed by White et al. (1997). This task consists of a short story (2-5 sentences in length) followed by a one-sentence statement relating to the story. The subject is asked to read the story and then read the sentence and decide if the sentence is true based on the meaning of the story. An example is given in (29).

(29) Bill was sick and in the hospital. Nobody knew what was wrong with Bill. The hospital did a lot of tests on

Bill to find out what was wrong. Bill had to wait a long time in his hospital room. Finally, a doctor came in to tell Bill why he was sick.

After the medical tests, the doctor informed Bill about himself.

True False

This task gives learners the contextual information necessary to consider all possible antecedents. In the case of (29), the context helps the learner consider the local, object NP as a possible antecedent. White et al. (1997) conducted a study comparing the story task with a traditional picture task in which subjects were asked to interpret a picture and indicate if the sentence below the picture reflected the meaning of the picture. Her study found that the story task more effectively encouraged learners and English native speakers to consider non-preferred readings of the sentence. White et al. (1997) found English native speakers to be significantly more likely to accept non-subject NPs in monoclausal sentences than in the picture task. Furthermore, the story task also identified the finite/non-finite distinction established in previous studies (Finer and Broselow, 1986; Broselow and Finer, 1991; Finer, 1991; Matsumura, 1994; Demirci, 1997; White et al. 1997; Bennett, 1994).

The task for this dissertation study involved 27 stories. The sentences were kept as simple as possible. Pronouns were used as little as possible, but where they were absolutely necessary, they were used in sentences where there was only one reasonable antecedent. The stories were roughly the same length. The test included three items designed as a proficiency check on the learners. Each of the stories resembled the reflexive stories with the

exception of the true or false statement that followed. For these items, the true or false sentence was written to check that the subject comprehended the passage. An example of this item-type is given below in (30).

(30) Julie and Mary went to a restaurant for lunch. For lunch they each had a cheeseburger, french fries and a Coke. When Julie finished her lunch, she said, "I am finished with my lunch, I will throw our garbage out." "That is so nice, thank you!" Mary replied.
Julie was happy that Mary threw out the garbage.
True False

3.5.1.2 *Sentence Types.* The experimental portion of the task included four tokens for each sentence type. A portion of the task was piloted with 27 ESL learners prior to final preparation of the task. Sentences/stories were constructed to test orientation (one type with context directed toward the subject, one type with context directed toward a non-subject NP) and domain (one type with context directed toward a non-local NP and one type with context directed toward a local NP) for both finite and non-finite embedded clauses. The sentence types are listed below in (31).

(31) a. Monoclausal sentence, context suggests the subject.
- Tom_i gave Bill a picture of $himself_i$

b. Monoclausal sentence, context suggests the object.
- Tom sent $Bill_i$ a letter about $himself_i$

c. Biclausal, finite embedded clause, context suggests local NP

- Tom noticed that $Bill_i$ was looking at $himself_i$ in the mirror.

d. Biclausal, finite embedded clause, context suggests non-local NP

- Tom_i heard that the doctor will operate on $himself_i$.

e. Biclausal, non-finite embedded clause, context suggests local NP

- Tom told $Bill_i$ to trust $himself_i$ more.

f. Biclausal, non-finite embedded clause, context suggests non-local NP

- Tom_i asked Bill to return the book to $himself_i$.

3.5.2 Response Patterns. Individual response patterns for each subject are examined for systematicity. That is, in order to conclude that a given learner exhibited a particular orientiaton or domain, that learner was required to provide the same answer for 3 out of the 4 tokens for that sentence type. The resultant "grammars" were then evaluated within the context of the Franks and Connell (1996) study. If L2 learners follow a pattern similar to monolingual English speaking children, the responses for the subjects participating in this study would follow the patterns outlined in Table 5.

Each of the response patterns outlined in Table 5 reflect the different response patterns identified in Franks and Connell (1996). If a given learner is at the "superlocal" phase of acquisition, they will accept the local object in mono-clausal sentences and reject the local subject. In the biclausal

Table 5: Predicted response patterns for experimental subjects, assuming a response pattern that reflects the acquisition stages identified by Franks and Connell (1996) for child language acquisition

sentence-type	super-local	LD-phase	target system
a	no	yes	yes
b	yes	no	yes
c	yes	yes	yes
d	no	yes	no
e	yes	no	yes
f	no	yes	no

sentences, the local subject is the nearest NP so acceptance of the local subject in this case is predicted. For learners who accept long-distance antecedents, sentence-types "d," "e," and "f" will elicit response patterns to show the specific nature of how individual learners differentiate between finite and non-finite embedded clauses. If learners are, indeed, progressing through an LD-phase similar to that identified by Franks and Connell (1996), these learners will accept local and non-local subject NPs when the reflexive is embedded in a finite clause, yet will simultaneously reject the local subject when the reflexive is embedded in a non-finite clause.

By focusing on the grammars of individual learners from a diverse subject pool, this study intends to identify a wide range of interlanguage systems relied upon by L2 learners.

Chapter 4
RESULTS

4.1 Introduction

This chapter begins with an explanation of the exclusion criteria which were included in this study. Subjects were required to pass a proficiency check as well as a systematicity requirement in order to be included in the study. The control group results are addressed first. Both group and individual results are reported and discussed. This is followed by a discussion of the group and individual results of the learner groups. The learner groups exhibited three language patterns. (1) a target-like behavior, reflected in a local-only domain for the reflexive. (2) a +/- finite behavior, reflected in a local-only domain for the reflexive in a finite context with a local/non-local domain for the reflexive in a non-finite context, and (3) a "yes" - type behavior, reflected in an acceptance of antecedents in all domains and contexts.

4.2 Data reporting

One of the fundamental characteristics of our current understanding of interlanguage is that L2 grammars are not group phenomena, but rather are the systems within which individual learners operate. Recently, SLA researchers have criticized earlier research whose purposes related to the

identification and analysis of interlanguage grammars, but whose data analysis focused on reporting group data (Eckman, 1994; Thomas, 1991, 1995; Wakabayashi, 1996)[1]. By evaluating the general tendencies of learner groups, this type of data analysis can easily obscure the defining characteristics of certain interlanguage grammars. Standard grouping measures (such as proficiency level, institutional placement, etc.) can easily contain learners at different stages of the language acquisition process and, as a consequence, contain subjects with distinctly different interlanguage grammars. By reporting group scores, then, the distinguishing features of interlanguage systems can easily be obscured.

Eckman (1994) argues that this problem in research design is prevalent among studies of the SLA of reflexives. The goal of many of these studies is to identify the interlanguage stages learners progress through in the acquisition process. However, the data analysis reports only on the degree to which groups of learners accept or reject certain NPs (local/non-local, subject/nonsubject) as acceptable antecedents for the reflexive. He states,

> . . . if a study reports that one of the L2 groups gave local responses on English reflexives in 80% of the cases . . . this result does not tell us whether the principles of UG are being obeyed unless we know how those responses are distributed across the subjects. Clearly, the case for UG can be made if all the subjects scored 80%. If, on the other hand, the 80% group result is a composite of subjects compiling many different scores, some of which indicate systematic adherence to UG principles and others which either are unsystematic or indicate non-adherence to UG, then the case for UG governing SLA is not at all clear (Eckman, 1994: 221).

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[1] These studies and their grouping mechanisms/data analysis are discussed in Chapters Two and Three.

It is therefore important to examine individual interlanguage systems as a whole, rather than measuring group averages for each separate component of the target grammar (e.g. "percentage of responses accepting the local NP," "percentage of responses for the non-local NP," etc.).

The data analysis for this study will focus specifically on identifying the characteristics of individual grammars. I also report group results in order to provide additional context to the individual results.

4.3 Exclusion criteria

In order to develop a complete description of an individual's grammar, the experimental task was designed to tap intuitions on a range of factors relevant to the grammar of reflexives. The task included sentences pertaining to the orientation of the subject's grammar (subject-only or +/- subject) as well as the domain of the reflexive in both finite and non-finite contexts . In order to develop as detailed a picture as possible of the interlanguage systems of L2 learners, this study focuses on the various components of the grammar (orientation and domain in both finite and non-finite contexts) as they relate to each other for each subject, rather than in isolation from each other for groups of subjects.

4.3.1 Proficiency Check. The experimental design includes two exclusionary measures which were designed to control for learners who were 1) unable to either understand and follow the task, or 2) provide a systematic picture of their interlanguage grammar. The first measure is a proficiency check. The task was designed to identify subjects whose low English proficiency level prevented them from understanding and completing the task.

The task required that subjects be able to:

1) Read and understand a paragraph of 4-5 sentences.

2) Read and understand a bi-clausal sentence about the passage.

3) Decide if the sentence was true or false according to the passage.

Three such passages were integrated among the test items. Two required a "true" response. One item required subjects to answer "false." This item was included in order to have tokens requiring both *true* and *false* answers in order to check for possible response biases. The three comprehension tokens are provided in (32-34) below.

(32) Mario went to the library to do some research for a school project. He asked the librarian for some help. "Excuse me," Mario said, "I am looking for a book about computers." The librarian showed Mario a large stack of books all about computers.

The librarian showed Mario where to find books about computers.

True False

(33) Julie and Mary went to a restaurant for lunch. For lunch they each had a cheeseburger, french fries and a Coke. When Julie finished her lunch, she said, "I am finished with my lunch, I will throw our garbage out." "That is so nice, thank you!" Mary replied.

Julie was happy that Mary threw out the garbage.

True False

(34) Barry and George went to the movies together every week. This week, Barry arrived at the theater before George. Barry sat down in a seat. Soon,

George arrived, carrying popcorn and soda. "Look Barry, I bought popcorn and soda for us!"

Barry knew that George bought some popcorn.

True False

The ENS and learner groups completed identical tasks. That is, the ENS subjects answered three questions designed to test whether or not they understood the content of the test paragraphs and the complex sentence which followed. After the test administration was completed, it became apparent that one of the items, number (33) above, could be answered either *True* or *False* depending on how one interpreted the paragraph and the sentence. Both the learner groups and the ENS group provided great variation in their responses to this item. This item, therefore, was discarded. Left with two true/false questions, the L2 learners and the English native speakers were then required to answer both remaining comprehension questions correctly in order to be included in the study.

4.3.2 Systematicity. The second exclusionary measure relied upon for this study was a systematicity requirement. That is, for each sentence type in this study, four tokens were included. In order to "qualify" for a particular interpretation, the subject had to answer three out of the four tokens in the same way. For example, in order to conclude that a particular learner's interlanguage requires a local domain (i.e., only the NP in the embedded clause is an acceptable antecedent), that learner must accept three or four of the four test sentences which require a local interpretation of the reflexive.

As I have mentioned, it is necessary to consider the various characteristics of the interlanguage (IL) for reflexives (e.g., domain in finite

and non-finite contexts and orientation) as they relate to each learner, rather than consider each characteristic separately as they relate to groups of learners. This study includes six different sentence types to identify the various characteristics of interlanguage systems for reflexive pronouns. In order to make inferences about each particular component of the grammar, each subject was required to answer three or four of the four tokens (per sentence type) systematically. This systematic response pattern only provides information about how each subject interprets one particular component of the grammar. It is important to understand how all of the components of the grammar are patterned (i.e., to develop a description of the entire interlanguage grammar for the subject). Thus, the subject needs to answer consistently across all sentence types.

Because the experimental group consists of second language learners, it is difficult to obtain systematicity across all six sentence types for the experimental subjects. Because these subjects are learners, we assume that for many of them their interlanguage grammars are not constant or stable. The interlanguages are developing and changing and may simultaneously contain multiple and competing grammars. As the learners move from one interlanguage system to another, their grammars may be in a state of flux. Some learners could be operating with two competing grammars (e.g., G_1 and G_2) until the new grammar finally takes over (Franks and Connell, 1996: 459), or the learners could be restructuring their grammar as they move to the next level . In light of these unstable grammars, it is likely that as learners move from one interlanguage system to another, the grammar may show certain inconsistencies.

Thus, due to the nature of the acquisition process, non-systematic patterns across sentence types were expected. A systematicity requirement of

five or six out of the six sentence types was therefore established. That is, in order to be included in the final subject pool, a given subject must have provided systematic responses (to either accept or reject the particular antecedent) for at least five of the six sentence types.

4.4 ENS control group

4.4.1 Exclusion Criterion

4.4.1.1 *Proficiency Check* Forty-four ENS subjects took the test. One subject did not complete the task, and so that test was discarded. Of the remaining 43 subjects, 12 subjects (one bilingual and 11 English-only native speakers[2]) failed to answer one or both of the two comprehension questions correctly. Six subjects gave an incorrect response for number (33), above; 5 subjects gave an incorrect response for number (32), above, and one subject gave incorrect responses for both comprehension items.

Thus, despite the fact that a large number of subjects were lost (largely due to the fact that only two test items were left to discriminate those who gave thoughtful consideration to the test items (and could understand the reading passages) from those who did/could not), the comprehension errors were evenly distributed across test items. Six subjects answered incorrectly for number (33), five were incorrect for (32) and one subject was wrong for both items. This distribution of errors implies that neither of the remaining two comprehension items were unnecessarily drawing people into a "wrong" interpretation.

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2 Most of the English speakers who participated in the study indicated that they have had some foreign language study. Usually, this involved no more than the equivalent of a semester or two of a college language course. Because these subjects did not grow up speaking anything other than English until their exposure to a foreign language class in high-school and/or college, they are referred to as English-only native speakers.

The subjects, who were enrolled in an undergraduate college course, were either poor readers and unable to comprehend the paragraph, or were distracted and/or not interested in completing the task. In any event, given the errors on the comprehension questions, it is impossible to assume that performance on the experimental items would be any better and so these tests were discarded.

4.4.1.2 *Systematicity.* As discussed earlier, each sentence type consisted of four tokens. When a subject answered *true* to three or four out of four tokens, the subject systematically accepted (A) the reflexive-antecedent relationship being evaluated for that sentence type. Likewise, if the subject answered *false* to three or four of the four tokens, the subject systematically rejected (R) the reflexive-antecedent relationship. When the subject answered *true* to two tokens and *false* to two tokens, the subject exhibited an inconsistent (I) pattern for that sentence type. For the six sentence types investigated in this study, subjects were allowed to exhibit no more than one inconsistent (I) response pattern.

Two ENS subjects exhibited inconsistent response patterns for more than one sentence type. These learners' response patterns are highlighted inTable 7.

4.4.2 Group Results. The final subject pool, then, consists of 29 English-only native speakers and 2 bilingual speakers. The test results for the English-only native speakers (hereafter referred to as the ENS group) are considered separately from the bilingual subjects. First, I consider the group data for the ENS group.

The results are reported in terms of mean scores. There were 24 experimental items (4 tokens per sentence type). For certain sentence types (types X, Y, Z) "true" was the correct answer and for other sentence types (A, B, C) "false" was correct. The mean score for the ENS group is 21.7931 with a standard deviation of 1.6340. These results indicate that most ENS subjects had high scores on the test as the mean score is high and the standard deviation is low (minimum score: 18, maximum score: 24).

The mean scores and their percentage equivalents are given inTable 6, below. The scores for the different sentence types are reported on a scale of 4 as there were 4 tokens per sentence type.

Table 6: Mean scores for English control group (individual sentence types: maximum score 4; overall mean: maximum score 24)

Orientation		Finite Domain		Non-Finite Domain	
Subject	Object	Local	Non-local	Local	Non-local
3.90 (98%)	2.90 (73%)	3.72 (93%)	3.72 (93%)	3.93 (98%)	3.62 (91%)
Overall Mean: 21.79 (90%)					

The group results suggest that English native speakers exhibit local binding patterns when the reflexive is embedded in either a finite or non-finite clause. The subjects for this study were over 90% accurate across sentence types, overwhelmingly accepting the local antecedent (93% accurate for finite, 98% accurate for non-finite) and rejecting the non-local antecedent (93% accurate for finite, 91% accurate for non-finite) in both finite and non-finite contexts. The mean scores also suggest that English native speakers

are less likely to accept the object NP as a possible antecedent for the reflexive. The ENS group was only 73% accurate in accepting the object NP as a possible antecedent for the reflexive. Conversely, they were 98% accurate in accepting the subject NP as an antecedent for the reflexive.

The mean scores therefore suggest that this ENS group exhibits a local binding domain in both finite and non-finite contexts, yet the orientation is not strongly established here. The ENS group appears to accept, although less strongly, the possibility of object binding with a reflexive pronoun. Thomas (1989) refers to this phenomenon as the "subject strategy." That is, English native speakers exhibit a strong preference for the subject NP. Often this preference goes so far as to exclude the object NP. This preference is apparent in the group data above.[3]

4.4.3 Individual Results

4.4.3.1 *English-Only Speakers.* The argumentation for focusing on the individual grammars of L2 learners does not necessarily hold for the native English speaking control group. Assumedly, there is little substantive variation among native speakers. However, individual grammars were analyzed for the control group in this study. This was done primarily to identify the exact nature of the subject preference exhibited by many native English speakers.

While the group data suggests a homogeneous control group (exhibiting a high mean score and low standard deviation), a close look at individual grammars suggests that this group actually exhibits three distinct response patterns. Table 7 summarizes the consistency with which each

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3 For an extensive discussion of the possible task effects on the subject strategy, see White et al. (1997)

subject interpreted each sentence type. There were four tokens per sentence type. In order to be considered consistent, the subject had to answer three or four out of four tokens in the same way.

The individual results shown in Table 7 show more detail than the group results provide. While the group means reveal that the ENS group was only 73% accurate at accepting the object NP in monoclausal sentences, the individual results show how the "incorrect" responses were spread across learners. We find here that only four out of the 27 ENS subjects are responsible for most of the rejections of the object NP. In fact, 23 of the 27 subjects (79% of the ENS subjects) consistently accepted both the subject and object as an antecedent for the pronoun.

By examining how responses are spread across learners, a different picture emerges regarding the grammars of English native speakers. The group mean score implies that all of the subjects who took the test were only 76% accurate on the subject/non-subject sentence types. However, upon examination of the individual response patters we see that nearly all of the subjects (27/29 or 93%) were either systematically correct or systematically incorrect on the subject/nonsubject sentence types. The distribution of incorrect responses, then, is not spread across all the learners, but is concentrated in a few individuals. The group as a whole is therefore not made up of individuals who are 76% accurate, but consists of subjects who have very strong opinions in both directions. There are a few (four) who consistently reject the object NP as a possible antecedent, and there are many (23) who consistently accept subjects and nonsubjects as acceptable antecedents for the reflexive.

In considering both domain and orientation for the ENS group, the data show that most English native speakers exhibited "target-like"

Table 7: ENS individual results (A = subject consistently (3 or 4 out of 4) accepted this NP as a possible antecedent; R = subject consistently rejected (3 or 4 out of 4) this NP as a possible antecedent; I = subject accepted this NP as a possible antecedent for two tokens and rejected this NP for two tokens (inconsistent))

Orientation			Domain			
Subject #			Finite		Non-finite	
NP:	subject	object	local	n.local	local	n.local
E1	A	A	A	R	A	R
E2	A	A	A	R	A	R
E3	A	A	A	R	A	R
E4	A	A	A	R	A	R
E5	A	A	A	R	A	R
E6	A	A	A	R	A	R
E7	A	A	A	R	A	R
E8	A	A	A	R	A	R
E9	A	A	A	R	A	R
E10	A	A	A	R	A	R
E11	A	A	A	R	A	R
E12	A	A	A	R	A	R
E13	A	A	A	R	A	R
E14	A	A	A	R	A	R
E15	A	A	A	R	A	R
E16	A	A	A	R	A	R
E17	A	A	A	R	A	R
E18	A	A	A	R	A	R
E19	A	A	A	R	A	R
E20	A	A	A	R	A	R
E21	A	A	A	R	A	R
E22	A	R	A	R	A	R
E23	A	R	A	R	A	R
E24	A	R	A	R	A	R
E25	A	I	A	R	A	R
E26	A	R	I	R	A	R
E27	A	I	A	I	A	R
E28	A	A	A	I	A	A
E29	A	A	A	I	A	I

behavior. There was one smaller group, of five subjects who bound the reflexive locally in both finite and non-finite contexts, but exhibited a subject orientation. As I have suggested, it appears that these subjects are employing the "subject strategy" by rejecting the grammatically possible, but non-preferred object antecedent.

Two speakers whose responses were not totally consistent were included in this group of "subject oriented, local domain" speakers. Subject E25 accepted two of the tokens which required binding the reflexive with the object NP and rejected the other two. This subject appears to have a preference for the subject NP, but when the context is strong enough, will apparently allow co-reference between a reflexive and an object NP. This speaker, then, does not belong entirely to either the "target-like" group or the "subject-strategy" group. This person's language system appears to fall somewhere between the two groups. While this individual shows signs of a subject strategy, it does not appear to be as strong as it is for those subjects who more consistently rejected object binding.

Subject E26 consistently accepted the subject NP and rejected the object NP, qualifying for the "subject oriented" group. This person, while consistently rejecting the non-local NP in a finite context, was inconsistent in accepting the local NP. Because this person consistently rejected the non-local NP in both finite and non-finite contexts, and consistently accepted the local NP in the non-finite context, I have tentatively included this subject in the "subject-oriented, local domain" group.

This leaves the last three subjects. These subjects exhibited grammars that did not reflect the "target-like" group, or the "subject-strategy" group. Two of the three subjects (E27, and E29) exhibited inconsistent response patterns for more than one sentence type, so interpreting the response

patterns for these subjects is difficult given the lack of systematicity for these sentence types.

Subject E28 appears to allow local and non-local binding in both finite and non-finite contexts. Additionally, this subject allows both subject and object NPs as antecedents for the reflexive. Given that this response pattern was exhibited by a native, monolingual English speaker, it is not likely that the person's mental grammar allows such unconstrained relationships between reflexive and antecedent. However, it is possible that this individual subject recognized the grammatical "violations" of the sentence types where non-local binding makes pragmatic sense, yet nonetheless accepted the relationship between the reflexive and non-local NP because it made pragmatic sense. A second possibility is that the subject was simply exhibiting a "yes" response bias.

4.4.3.2 Bilingual Speakers. The two bilingual speakers who participated in the study and passed the comprehension check exhibit grammars similar to the subjects in the ENS control group. Table 8 shows the results of their tests. B1 is Greek/English bilingual and subject B2 is Spanish/English bilingual.

Subject B1, a Greek-English bilingual, exhibits a target-like grammar, accepting either the subject or object NP as an antecedent for the reflexive and allows only local NPs as acceptable antecedents. Subject B2 likewise binds the reflexive exclusively in the local domain, yet is inconsistent in accepting the object NP as a possible antecedent. This pattern is reflective of ENS subjects E25 and E27. The inconsistent orientation of subject B2 does

not appear to be due to L1 influence, as this person is a Spanish-English bilingual. Spanish reflexives function similarly to English, in that they allow either subject or non-subject NPs as acceptable antecedents in the local

Table 8: Individual Results - bilingual group (A: speaker consistently accepted this NP as an antecedent for the reflexive; R: speaker consistently rejected this NP as an antecedent for the reflexive; I: subject accepted this NP as a possible antecedent for two tokens and rejected this NP for two tokens (inconsistent))

Orientation			Domain			
Subj. #			Finite		Non-finite	
	subj. NP	obj. NP	local NP	n.local NP	local NP	n.local NP
B1	A	A	A	R	A	R
B2	A	I	A	R	A	R

domain. Likewise, the Greek/English bilingual does not appear to be operating with any L1 influence at this point as Greek is a language with both LDRs and SDRs but exhibits a target-like grammar here.

4.5 Learner results

4.5.1 Learner groups. The experimental task was administered to 80 learners of English as a second language, studying English in the United States. Five tests were discarded because subjects failed to complete the entire task.

Seventy-five subjects therefore remained. Many of these 75 subjects indicated that they were multi-lingual. That is, these subjects speak at least two languages other than English, or speak several other languages in

addition to English. The experimental group was therefore divided into two: a multi-lingual group and an SL group.

The motivation for dividing the learner groups comes from differences between multi-lingual and unilingual ESL learners, identified by Zobl (1995). Zobl reports that multi-lingual (ML) ESL learners[4] appear to function with wider grammars than unilingual (UL) ESL learners. Zobl (1995) studied the linguistic judgments of UL and ML learners of English across several English structures, including the c-command requirement for reflexive binding as well as backward anaphora. He found that in most of the structures studied, the multi-lingual learners exhibited larger, less conservative grammars than the monolingual subjects. In the case of reflexive binding, the ML learners allowed binding between reflexive and a non-c-commanding NP more often than the UL learners. Conversely, the ML learners allowed backward anaphora (whose acceptance requires a knowledge of c-command) less often. Because of these differences in interpretation of reflexives by ML and UL learners of English, it was necessary to separate the ML from the UL (hereafter referred to as SL) group for this dissertation study.

The SL group consists of learners for whom English is the only second language spoken by the subject. In some cases, subjects indicated that they spoke or studied a third language, but were only beginners at that language. These people were included in the SL group. The SL group consists of 46 subjects.

The multi-lingual group consists of two types of learners. First, this group contains several learners who are bilingual in two languages and are

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[4] Multilingual learners are learners who know languages beyond their native language. Unilingual learners (UL) are learners who speak one language and are learning another as a second language.

studying English as a third language. All of the bilingual subjects with the exception of one indicated that they were "advanced" "high-advanced" or "bilingual" in their second language (not English). One subject indicated an intermediate proficiency in the second language (not English). The second type of learner in the multi-lingual group is a learner who is studying English as at least a fourth language. The proficiency in the other L2s vary, but because there are multiple L2s, these learners were also included in the multi-lingual group. The multi-lingual group consists of 29 subjects.

4.5.2 Exclusion criteria

4.5.2.1 *Proficiency check.* As with the ENS group, a large percentage of the ESL groups failed to answer both of the comprehension questions correctly. Number (34) was not considered with the learner groups because it could be answered either *true* or *false* and be correct). Twenty-three subjects from the L2 group answered one or more of the comprehension questions incorrectly and 10 subjects from the multi-lingual group (ML group) missed one of the comprehension questions. The distribution of errors and percentage of subjects dropped per learner group is given inTable 9.

As Table 9 shows, half the L2 group was lost due to problems with one or more of the comprehension questions. The multi-lingual group fared better, losing 35% of its subjects. Compared with a loss of nearly 1/3 of the ENS speakers, it is not surprising that such a large proportion of the learner groups failed the comprehension criteria of the task. The effects of this loss of subjects will be taken up at length in the next chapter. As a result, the subject groups were reduced to 23 subjects in the L2 group and 19 subjects in the multi-lingual group.

Table 9: Number and percentage of subjects dropped due to comprehension errors

	L2 Group	ML Group
N	46	29
No. of subjects w/errors on compreh. items	23	10
percentage of group lost	50%	35%

4.5.2.2 *Systematicity.* As discussed previously, this study requires that each subject give the same answer (True or False) for 3 or 4 of the tokens in each sentence type in order for that person's response to be included in any particular category. If a subject answered *true* to two items and *false* to the other two items for the sentence type, they were labeled "inconsistent" for that sentence type. There were six sentence types included in the experimental task, so in order to be included in the experimental group, the learner must have answered consistently on 5 or 6 of the 6 sentence types (i.e. no more than one inconsistent response pattern).

The L2 group lost five subjects and the ML group, lost five subjects due to inconsistent response patterns. The final subject pool is therefore 18 for the L2 group and 14 for the multi-lingual group.

Tables 10-12 show the language backgrounds of the subjects participating in the study. Table 10 gives the L1s of the bilingual learners, Table 11 gives the L1 and L2s of the multi-lingual subjects, and Table 12 gives the L1 backgrounds of the L2 subjects.

4.5.3 Group results. As I discussed in Chapter Three, the goal of this study is to identify as many different acquisition stages as possible. As a result, I intentionally drew upon a diversity of learners to achieve more heterogeneous groups than in previous studies. Therefore, the objectives of the group data analysis are limited. While the learner and control groups are compared for differences in overall mean scores, the analysis of performance on the different sentence types within the test are considered for each group separately. The results provide evidence of certain behavior tendencies for the learners and, as outlined in the next section, these tendencies are reinforced and made clearer upon examination of individual grammars.

Table 13 provides the descriptives for the performance of the experimental and control groups on the task. The SL and ML groups have lower mean scores (around 18.5) than the control group, whose mean score is 21.7931. In looking at the standard deviations (SD) for the groups, the ENS group had very little variance (SD: 1.6340). For the learner groups, the SDs were larger. Of the two groups, the L2 group showed the greatest variance with a SD of 2.8901. The ML group's SD was lower, at 2.1381.[5]

In order to compare the learner groups with the ENS control group, a one-way ANOVA with planned contrasts was run. The contrast test, shown inTable 14, revealed that while there was no significant difference between the mean scores of the learner groups (ML vs. SL mean scores) the mean

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[5] In the next section I analyze the individual grammars of the L2 and ML groups and the results I report in this section support these findings. The L2 group exhibited a larger range of distinct grammatical patterns. While the ML group exhibited fewer distinct grammatical patterns, the largest represented pattern for the ML group was a non-target-like pattern, which is probably responsible for the slightly lower overall mean score represented by the ML group.

Table 10: L1 backgrounds of bilingual speaking learners of English

L1a	L1b	n = 10
Arabic	Chaldean	4
Russian	French	1
Russian	Ukranian	1
Assyrian	Arabic	1
Albanian	Italian (intermed)	1
Mandarin	Taiwanese	1
Lithuanian	Russian	1

Table 11: L1 and L2 backgrounds of multi-lingual learners of English

L1	L2s	n = 4
Korean	German, Japanese	1
Albanian	Italian, Turkish, Serbian	1
French	German, Swiss German, Italian	1
Serbian	Macedonian, Croatian, Slovenian, German	1

Table 12: L1 backgrounds of L2 learner Group

L1	n= 18
Arabic	5
Japanese	4
Korean	2
Thai	2
Hmong	1
Russian	1
Romanian	1
Chinese	1
French	1

Table 13: Descriptives of group performance on experimental task (SL =Unilingual learners of English group; ML = Multi-lingual learners of English group; ENS = English control group)

	N	Mean	St. Dev.	St. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
SL	18	18.6667	2.8901	.6812	17.2294	20.1039
ML	14	18.4286	2.1381	.5714	17.1941	19.6631
ENS	29	21.7931	1.6340	.3034	21.1716	22.4146

Table 14: Contrast tests comparing mean scores of learner groups with ENS control (contrast 1) and mean scores of SL group with ML group (contrast 2)

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
Does not assume equal variances	1	3.2455	.5382	6.030	52.229	.000
	2	.2381	.8891	.268	29.950	.791

scores for the English native speakers were significantly ($p < 0.003$) higher than the learner scores.

In addition to comparing overall performance, one of the purposes of this study was to examine the extent to which learners differentiate between finite and non-finite embedded clauses in the domain they set for English reflexives. Table 13 shows the mean, median, minimum and maximum scores as well as the standard deviation for the finite and non-finite sentences in the test. The scores are given on a scale of 8 because there were two sentence types (local and non-local) for the finite and non-finite items.

The results inTable 15 show that the ENS control group does not appear to treat finite and non-finite embedded clauses differently in its assignment of an antecedent to the reflexive. The mean score for finite sentences is 7.4483, while the score for non-finite sentences is 7.5517.

Likewise, the ML group exhibits similar mean scores for both finite

Table 15: Case Summaries - finite and non-finite sentences (Maximum score = 8;Minimum score = 0; SL = Unilingual learners of English group ML = Multilingual learners of English group; ENS = English speaking control group)

GROUP		Finite Sentences	Non Finite Sent.
SL	Mean	6.6111	5.8333
	Median	7.0000	6.0000
	Minimum	4.00	3.00
	Maximum	8.00	8.00
	St. Deviation	1.2897	1.8231
	N	18	18
ML	Mean	6.2143	6.0714
	Median	7.0000	6.5000
	Minimum	2.00	4.00
	Maximum	8.00	8.00
	St. Deviation	1.9287	1.2688
	N	14	14
ENS	Mean	7.4483	7.5517
	Median	8.0000	8.0000
	Minimum	6.00	5.00
	Maximum	8.00	8.00
	St. Deviation	.7361	.7361
	N	29	29
Total	Mean	6.9180	6.7049
	Median	7.0000	7.0000
	Minimum	2.00	3.00
	Maximum	8.00	8.00
	St. Deviation	1.3453	1.4871
	N	61	61

and non-finite sentences; although the overall means, at 6.2143 and 6.0714 for the finite and non-finite sentences respectively, are lower than those for the ENS group .

The SL group, however, does show differences in accuracy for the finite and non-finite sentences. The overall mean for finite sentences is 6.6111, while the mean score for non-finite sentences is lower at 5.833.

A paired t-test was run on the mean scores on the finite and non-finite sentences for the SL group. The results, shown inTable 16 below, indicate that the difference in score, while not statistically significant, indicate that the SL learners appear to be treating the reflexive differently when it is embedded in a non-finite clause as compared to a finite clause, but more examination of the data is necessary. As I show in the next section, analysis of individual learner grammars reveals that while a large group of SL learners do not differentiate between finite and non-finite clauses in the domain of the reflexive, a group of learners require a local context in the finite domain but allow both local and non-local binding of the reflexive in a non-finite context.

Table 16: Paired samples correlations for SL group

		N	Correlation	Sig.
Pair 1	Finite & Non Finite Sentences	18	.421	.082

In the next section, the individual learner grammars are examined and the results of this examination add some important context to the initial group data reported above.

4.5.4. SL Individual Results. The individual results for the L2 group reveal some interesting patterns. In these patterns, the subjects are loosely grouped into similar grammar systems. Each of the groups includes members whose intuitions exactly match the defining characteristics of the system, but some of the group members exhibited inconsistencies in their response patterns and so inferences were made to find the most logical place for those particular learners. The response patterns for the subjects suggest two different orientations: a subject-only orientation and a +/- subject orientation. Three different domain patterns appear as well: a local-only domain, a +/- local domain in both finite and non-finite contexts, and a local-only domain in finite contexts with a +/- local domain in non-finite contexts. Furthermore, the intuitions represented by these subjects do not provide evidence to support a correlation between domain and orientation, as for each domain grammar represented, there are examples of subjects with +/- subject orientation as well as subjects who exhibit a subject-only orientation.

4.5.4.1 *Target-Like Group.* Subjects SL1, SL2, and SL3 appear to have acquired the English system in that they consistently accept both the subject and object NPs as antecedents for the reflexive. Additionally, these subjects accept the local NP and reject the non-local NP as a possible antecedent in both finite and
non-finite contexts.

Subjects SL4 and SL5 also require a local domain for the antecedent, but show inconsistencies in their responses to the orientation sentences. Subject SL4 is inconsistent in accepting the object as a possible antecedent, a

Table 17: L2 group - individual results (A = subject consistently (3 or 4 out of 4) accepted this NP as a possible antecedent; R = subject consistently rejected (3 or 4 out of 4) this NP as a possible antecedent; I = subject accepted this NP as a possible antecedent for two tokens and rejected this NP for two tokens (inconsistent))

	Orientation		Domain				Response pattern
			finite		non-finite		
Subj/L1	Subject	Object	Local	N. Local	Local	N. Local	
SL1 French	A	A	A	R	A	R	Target
SL2 Arabic	A	A	A	R	A	R	Target
SL3 Arabic	A	A	A	R	A	R	Target
SL4 Arabic	A	I	A	R	A	R	Target
SL5 Thai	I	A	A	R	A	R	Target
SL6 Arabic	A	A	A	R	I	R	Target
SL7 Hmong	A	A	I	R	A	R	Target
SL8 Arabic	A	A	I	R	A	R	Target
SL9 Russian	A	R	A	R	A	R	Target (+subj.)
SL10 Korean	A	R	A	R	A	R	Target (+subj.)
SL11 Korean	A	A	A	R	A	A	+/- finite
SL12 Japanese	A	A	A	R	A	A	+/- finite
SL13 Romanian	A	I	A	R	A	A	+/- finite
SL14 Japanese	A	A	I	R	A	A	+/- finite
SL15 Thai	A	R	A	R	I	A	+/- finite (+subj)
SL16 Chinese	A	R	A	R	A	I	+/- finite (+subj)
SL17 Japanese	A	A	A	A	A	A	"Yes"-type

SL18 Japanese	A	I	A	R	R	R	Unclassif.

grammar exhibited by a number of the ENS subjects. Subject SL5, however, only accepted two of the four sentences which require binding with the subject NP. This subject goes on, however, to consistently accept the object NP as a possible antecedent. SL6 consistently accepts both the subject and object NPs as possible antecedents, accepts the local NP and rejects the non-local NP in the finite domain, yet is inconsistent in accepting the local NP as a possible antecedent in the non-finite sentences. This learner nonetheless consistently rejects the non-local NP in non-finite sentences. Because subject SL6 consistently rejects the non-local NP in both finite and non-finite clauses, and accepts both subject and object NPs as possible antecedents, I also include her in the "target-like" group.

Subjects SL7 and SL8 consistently accept both subjects and objects as antecedents for the reflexive. Likewise, they are consistent in accepting the local NP and rejecting the non-local NP in non-finite contexts. The inconsistency with these subjects lies in their acceptance of the local NP in the finite context. This is unusual because these subjects consistently reject the non-local NP in the finite context; both of these subjects rejected item (35).

(35) Billy delivered newspapers every morning for his job. For three months, Billy had been saving his money for a new bicycle. Billy finally bought the bicycle and told Charlie about it, "Hey Charlie, look at the new bicycle I bought!"
Charlie heard that Billy had bought himself a bicycle. True/False

The target-like group is therefore made up of three subjects who behave consistently in all aspects of English reflexives tested with this task, and four subjects who appear to have acquired the English system, but due to inconsistencies in one of the six sentence types tested, are only tentatively included in the group.

In addition to the "target-like" group, are two learners (SL9 and SL10) who require local binding in both finite and non-finite contexts, yet maintain a subject-only orientation. These subjects consistently accepted the subject NP and consistently rejected the object NP as a possible antecedent. It is difficult to conclude with any certainty what this response pattern reveals about the mental grammar of these learners. Looking back at the ENS results, we see four native-speaker subjects who likewise consistently reject the object NP as a possible antecedent. We know, however, from earlier discussions that English allows both subject and object NPs as possible antecedents. For the ENS speakers, then, we interpret the rejection of the object NP as a symptom of a strong preference for the subject NP. With this group of learners, however, it is equally possible that the mental grammar of these learners instantiates a subject orientation. This is possible due to the fact that these subjects, native speakers of Russian and Korean, respectively, have morphologically simple (i.e., subject oriented) reflexives in their L1s. It is therefore impossible to say whether the mental grammars of these subjects instantiate a subject orientation or a +/- subject orientation with a strong preference for the subject NP.

4.5.4.2 *Local Domain in the Finite Context/ +/- Local Domain in the Non-Finite Context.* The second domain grammar exhibited by the learner group

is that in which the domain of the reflexive is determined by the finite/non-finite nature of the embedded clause. When the reflexive is embedded in a finite clause, it is restricted to the local domain. When the reflexive is embedded in a non-finite clause, however, it can take either a local or non-local NP as an acceptable antecedent.

Subjects SL11 and SL12 provided systematic responses on all six sentence types. These subjects consistently accepted both subject and object NPs as acceptable antecedents. In the finite context, these learners consistently accepted the local NP and rejected the non-local NP. In the non-finite context, however, subjects SL11 and SL12 consistently accept both the local and non-local NPs as possible antecedents.

Two other subjects exhibited interpretations similar to subjects SL11 and SL12, but because these subjects answered one of the sentence types inconsistently, it is difficult to say with certainty that these learners belong in the "finite/non-finite" group. Subject SL13 consistently differentiates between finite and non-finite contexts. This person requires a local domain in a finite context (accepting the local NP and rejecting the non-local NP) and consistently allows both local and non-local antecedents in a non-finite context. This subject, however, provided an inconsistent response pattern on the sentences requiring binding between reflexive and object. As I have already stated, it is difficult to say whether the individual responses to the object oriented items are due to competence or performance factors.

Subject SL14 exhibits a +/- subject orientation, yet is inconsistent in accepting the local NP in a finite context. Other than the inconsistent results on the finite/local sentences, subject SL14 consistently rejects the non-local NP as a possible antecedent in the finite sentences. In addition, he

consistently accepts both the local and non-local NPs as possible antecedents in the non-finite sentences.

There is one example of a person who differentiates between finite and non-finite clauses in her binding patterns, yet exhibits a subject orientation. Subject SL15 accepts subjects and rejects objects as possible antecedents, she also instantiates a local-only domain for the reflexive in the finite sentences. In the non-finite sentences, this subject is inconsistent in accepting the local NP as a possible antecedent. She does, however, consistently accept the non-local NP as a possible antecedent.

Subject SL16 also exhibits a subject orientation and a local-only domain in the finite sentences. This person, however, is inconsistent in accepting non-local NPs in the non-finite sentence, while consistently accepting the local NP. Given that this person is inconsistent in his interpretation of the non-local NPs in the non-finite sentences, it is not at all clear which group he best fits into. He could fit into the "target-like" group, assuming that the two items in which he accepted long-distance binding were due to factors other than his competence. Likewise, he could fit into the "finite/non-finite" group, assuming that his rejections of the two long-distance sentences were due to factors other than his competence. And, finally, all of his responses could be accurate reflections of his competence. The inconsistent response pattern could therefore be due to the fact that he is moving from one grammar (the finite/non-finite grammar) to another (the target-like grammar).

4.5.4.3 *"Yes" Group.* Subject SL17 appears to allow binding in all contexts. This subject consistently allows both subjects and objects as possible antecedents for the reflexive. She also consistently allows local and non-

local NPs in both finite and non-finite contexts. It should be noted that although this person consistently accepted the binding patterns in all contexts, she did not answer "true" to all the items in the task. In order to qualify for the experimental group, this subject needed to answer "true" to one comprehension question and "false" to another. Furthermore, subject SL17 also gave two "false" answers, although these "false" answers did not affect the overall systematicity of the responses.

4.5.4.4 *Unclassified.* Subject SL18 does not appear to fit into any of the groups outlined above. This subject accepts subject NPs but is inconsistent in allowing object NPs as possible antecedents. This is a pattern we have seen before. Her answers to the domain questions are consistent, but do not reflect any of the domain grammars above. Subject SL18 exhibits a local-only domain in finite clauses, but consistently rejects both local and non-local antecedents for the reflexive in the non-finite sentences.

4.5.5 ML Individual Results. The ML group exhibited patterns similar to the L2 group, but with different representations across groups. The individual results are given inTable 18, below.

4.5.5.1*Target-Like Group.* As with the L2 group, there are several members of the multi-lingual (ML) group who exhibit native-like intuitions. Subjects ML1 and ML 2 provide consistent responses across all sentence types. These subjects accept both subjects and objects as antecedents for the reflexive. In addition, they require a local domain for the reflexive. That is, they consistently accept local NPs (in both finite and non-finite contexts) and reject non-local NPs as possible antecedents.

Table 18: ML group - Individual responses (A = subject consistently (3 or 4 out of 4) accepted this NP as a possible antecedent; R = subject consistently rejected (3 or 4 out of 4) this NP as a possible antecedent; I = subject accepted this NP as a possible antecedent for two tokens and rejected this NP for two tokens (inconsistent))

		Orientation		Domain				
		Finite		Non-finite				
Subj	Native languages/ other L2s	subj. NP	obj. NP	loc. NP	n.loc . NP	loc. NP	n.loc . NP	resp. pttrn
ML1	Italian/ Turkish, Serbian	A	A	A	R	A	R	target
ML2	Arabic/ Chaldean	A	A	A	R	A	R	target
ML3	German/ Swiss German, Italian	A	I	A	R	A	R	target
ML4	Chaldean,/ Arabic	A	I	A	R	A	R	target
ML5	Assyrian/ Arabic	A	A	I	R	A	R	target +subj
ML6	Serbian/ Macedonian, Croatian, Slovenian, German	A	R	A	R	A	R	target +subj
ML7	Lithuanian/ Russian	A	R	A	R	A	R	target +subj
ML8	Chaldean/ Arabic	A	R	A	R	I	R	target +subj
ML9	Mandarin/ Taiwanese	A	A	A	R	A	I	target /yes
ML 10	Russian/ French	A	I	A	A	A	A	yes
ML 11	Russian/ Ukranian	A	A	I	A	A	A	yes
ML 12	Albanian/ Italian	A	A	I	A	A	A	yes
ML 13	Korean/German, Japanese	A	A	A	I	A	A	yes
ML 14	Chaldean/Arabic	A	A	A	A	A	A	yes

Subjects ML3 and ML4 also require a local domain in both finite and non-finite contexts and accept the subject NP as a possible antecedent for the reflexive. These subjects, however, are inconsistent in accepting the object NP as a possible antecedent. Once again, it is difficult to say whether or not this inconsistency is a reflection of the learners' mental grammars. There are examples of this response pattern (accept subject, inconsistent on object) in both the L2 group and the ENS group.

Subject ML5 also appears to have a target-like grammar, in that he accepts both subject and object NPs as antecedents for the reflexive. Furthermore, he requires a local domain in the non-finite context and rejects non-local NPs in the finite context. This person, however, was inconsistent in accepting the local NP in the finite domain.

ML6 and ML7 require a local domain across finite/non-finite contexts, yet consistently reject the object NP as a possible antecedent. These subjects, then, exhibit a target-like grammar but with a subject orientation.

ML8 also appears to exhibit a target-like grammar with subject orientation in that he accepts subjects and rejects objects as possible antecedents for the reflexive. This person also requires a local domain in a finite context, and consistently rejects non-local NPs in a non-finite context. The response pattern for the local NP as a possible antecedent in a non-finite context is inconsistent, however.

4.5.5.2 *Local Domain in the Finite Context/ +/- Local Domain in the Non-Finite Context.* Among the ML group, only subject ML9 fits the requirements of the finite/non-finite grammar pattern, but his response pattern makes his membership in this group tenuous, at best. ML9 allows both subjects and objects as possible antecedents for the reflexive. This

subject also requires a local domain by consistently accepting local NPs and rejecting non-local NPs in a finite context. ML9 also consistently accepts the local NP in a non-finite context, yet is inconsistent in accepting the non-local NP in a non-finite context. As with subject SL17, who also exhibited this pattern, it is difficult to say whether or not ML9 really allows non-local NPs, or does not allow non-local NPs as possible antecedents for English reflexives. Furthermore, it is also possible that this person is in the process of restructuring his grammar and so his acceptance of non-local NPs is variable. All of these possibilities will be taken up again and discussed in the next chapter.

4.5.5.3 *"Yes" Group.* Subjects ML10, ML11, ML12, ML13, and ML14 appear to accept NPs in all grammatical roles and contexts as possible antecedents for reflexive pronouns. Assuming that the inconsistent response patterns (object - subject ML10, local NP/finite context ML11, local NP/finite context ML12, non-local NP/finite context ML13) indicate acceptance of that particular NP, these learners accept subjects and objects as antecedents, and they also accept local and non-local NPs (infinite and non-finite contexts) as antecedents for the reflexive.

As with the L2 group, this behavior does not appear to be the result of a "true" response bias, as all of these subjects did provide "false" answers on the test. Nonetheless, their answers suggest that any NP in any of the grammatical roles tested are acceptable antecedents for the reflexive pronoun.

While the group data analysis did not reveal any significant differences between the ML and the SL groups, the individual grammar analysis does. The ML group is most strongly represented by "target-like"

grammars and "yes" grammars, whereas the SL group is most strongly represented by "target-like" grammars and "+/- finite" type grammars.

4.6 Chapter summary

The analysis of individual grammars in this study reveal several consistent response patterns. The ENS control group overwhelmingly rejected non-local binding (in 26 out of the 27 subjects with one inconsistent pattern or fewer). While some (six) either equivocal or consistently rejected local object binding, twenty subjects responded in perfect accordance with theoretical predictions; that is, these subjects consistently accepted both subject and object antecedents in the local domain and required local antecedents (also rejecting non-local antecedents) for the reflexive.

The learner groups also contain learners who exhibit local-only binding pattern, both with and without a subject orientation. Slightly more than half of the SL and ML groups were made up of learners who consistently rejected non-local antecedents for the reflexive across contexts.

Two interlanguage patterns were also found. These patterns were disproportionately represented by one or the other learner groups. The SL group showed a large percentage (33.33%) of learners who distinguished between finite and non-finite contexts. These learners consistently rejected non-local binding in a finite context, yet allowed non-local antecedents for the reflexive in a non-finite context (for all but one learner, who accepted two and rejected two sentences in which the reflexive referred to a non-local NP in a non-finite context).

Finally, a large percentage (36%) of the ML group learners (with one SL learner) exhibited a "yes"-type grammar which allowed the reflexive to find an antecedent in any domain (local/non-local) and context (finite/non-

finite). The possible reasons for these different interlanguage response patterns, as well as the implications these results have for second language acquisition theory in general are the topic of the next chapter.

Chapter 5

DISCUSSION AND CONCLUSIONS

5.1 Introduction

This dissertation study has resulted in the identification of three distinct learner response patterns. Approximately a third of the ML learners exhibited a "yes"-type response pattern. This response pattern is characterized by the acceptance of antecedents for the reflexive in both domains (local and non-local) and contexts (finite/non-finite embedded clause). I argue in this chapter that this behavior represents an early stage of SLA whereby the ML learner (who, is more likely to entertain "wider" grammars) is more likely to remain at the "yes" stage of acquisition. Furthermore, the ML learners in this dissertation study also had simplex reflexives (monomorphemic, LDRs) in one of the background languages. I suggest that learners who have LDRs in their first language are also more likely to remain at the "yes" stage of acquisition.

The SL group, however, was predominated with learners who exhibited a +/- finite grammar. This grammar is characterized by requiring a local antecedent for the reflexive in a finite context, but allowing both local and non-local antecedents for the reflexive in a non-finite context.

I suggest that these learners, whose first languages include LDRs, have come to recognize that English reflexives require both a referent and a

structural antecedent. Thus, assuming that the learners in this category have mistakenly analyzed the English reflexive as a simplex, LDR, these learners restrict binding to the lower clause in the finite context (because AGR is present in the finite context), but allow both local and non-local antecedents for the reflexive in the non-finite context (because AGR is not present, thus expanding the governing category to include the higher clause (Progovac and Connell, 1991; White, 1995; Bennett, 1993, 1994).

Both the SL and ML groups, however, were predominantly made up of learners who exhibit target-like (local-only) grammars. This chapter also addresses the issue of orientation and domain. Because the design of the experimental task does not elicit data that may disprove the assumption that orientation and domain are not linked, I argue that the data from this dissertation study does suggest that orientation and domain may be acquired separately.

Finally, this chapter provides some final conclusions of the study as well as suggestions for future research.

5.2 L2 Domain patterns

The research objective of this dissertation study was to examine the intuitions of L2 learners of English as these intuitions relate to the acquisition of reflexive pronouns. In Chapter Two I reviewed the results of recent studies of the acquisition of reflexives. The results of many of these studies are analyzed in terms of a transfer-based account of the SLA of reflexives. Some authors suggest that some learners transfer the complex reflexive from the native language and apply it to the L2, English (Yuan, 1994). Other studies suggest that some learners may initially transfer the simplex reflexive from the native language and apply it to the L2

(Lakshmanan and Teranishi, 1995). Still others argue that learners initially misanalyze the English (complex) reflexive as a simplex reflexive (Franks and Connell, 1996 for child language acquisition). For the latter two explanations, the learner eventually discovers that English reflexives are complex and so acquire the target form. Finally, researchers such as Progovac and Connell (1996) and White et al. (1997) propose that learners from certain language backgrounds (e.g., Japanese and Korean) transfer the simplex reflexive from the L1 and apply it to the L2; yet, these learners simultaneously recognize the agreement features on finite embedded clauses. Assuming a relativized SUBJECT analysis, the result of these assumptions would be a learner whose interlanguage allows long-distance binding in a non-finite context, but requires local binding in a finite context.

I propose that while these explanations of the acquisition process adequately account for the data of the individual studies, these explanations do not account for the data across studies. That is, while it is reasonable to assume that because all languages contain complex reflexives, L2 learners should logically transfer the complex reflexive from the L1 and apply it to the L2. The data, however, suggest that many learners allow reflexive binding to local and non-local antecedents in English. That is, these studies suggest that learners are not, in fact, transferring the complex reflexive from the L1 because they allow agreement with non-local antecedents. Secondly, the SL research also provides evidence suggesting that learners are not transferring the simplex reflexive from the L1 and applying it to the L2. This research reports findings that learners from both types of first language backgrounds (those whose L1s contain simplex and complex reflexives (Japanese, Korean, Chinese) as well as those whose L1s contain only complex reflexives (French), allow local and non-local antecedents for

English reflexives. Thirdly, I provide arguments by Hamilton (1996) which call into question the interpretation of learner data by White (1995) and Progovac and Connell (1991).

Given the problems inherent with current explanations of the interlanguage stages of the L2 acquisition of reflexive pronouns, the objective of this dissertation is to focus on the acquisition stages of children acquiring English reflexives. The acquisition stages proposed by Franks and Connell (1996), provide one possible interpretation of the acquisition process which is compatible with current and recent L2 data. This dissertation study sets out to investigate this possibility (that adult learners of English might follow acquisition stages similar to those identified in Franks and Connell (1996) for child language acquisition). Specifically, the experimental task was designed to consider the possibility that second language learners of English go through the same acquisition stages as those identified in Franks and Connell (1996).

Franks and Connell identify four distinct acquisition stages for monolingual learners of English. These are summarized in Table 19.
I point out in Chapter Three that these findings, while much more specific in their description of the characteristics of each acquisition stage, are consistent with the results of SLA studies of reflexives. In fact, the characteristics of the LD-phase as Franks and Connell have described it, provide a possible explanation for the peculiar behavior of some L2 learners of English where they bind the reflexive to a long distance antecedent more often in a nonfinite context than finite.This dissertation study, then, was

Table 19: Acquisition stages of child language learners (both normal and SLI) as identified by Franks and Connell (1996) for English reflexives

Stage	Characteristics
I	Child does not yet identify the reflexive as an anaphor, treats the reflexive as an independently referring noun meaning "body"
II	Child realizes that the reflexive is an anaphor in need of an antecedent, selects the nearest NP (the local object)
III	Child is unable to parse the reflexive and so does not understand that the reflexive is morphologically complex. Child interprets the reflexive as a morphologically simple LDR, resulting in LD binding patterns as well as a subject orientation. PRO appears to be unavailable as a binder to these learners, resulting in local/non-local binding patterns in a finite context, but non-local only binding in a non-finite context.
IV	Child's language facility matures and s/he learns to analyze the reflexive as morphologically complex. This triggers a move to a local domain with subject/nonsubject orientation

designed to specifically consider the possibility that L2 learners of English exhibit interlanguage patterns similar to those identified in Franks and Connell. In the event that L2 learners exhibit similar interlanguage patterns, it would be possible to suggest the possibility that the L2 acquisition of English reflexives is similar to the L1 acquisition process. In the event that different interlanguage patterns are identified, those patterns could be described and considered as to how and possibly why they differ from those patterns identified by Franks and Connell. In the following section I show that while this study was able to identify three distinct domain patterns, some of these response patterns are different from those identified and described in Franks and Connell (1996).

Three distinct response patterns were identified in this study. One pattern, referred to as the "yes"-type response pattern, was characterized by responses which allowed NPs in all domains (local/non-local) and contexts (finite/non-finite). The second pattern, referred to as the LD or +/- finite pattern, was characterized by an exclusively local domain in the finite context, but a non-local domain in the non-finite context. The third response pattern, referred to as the target-like pattern, was characterized by a local domain in both finite and non-finite contexts.

5.2.1 Grammatical Patterns and Grouping. The subjects for this study have been grouped according to the grammatical patterns they exhibited in completing the experimental task. This methodological choice creates a clearer picture of the characteristics of various possible interlanguage grammars in which learners operate. In grouping the learners according to their grammatical patterns, this methodology is able to identify and describe the various characteristics of learner grammars in a way that traditional

grouping (e.g., by language background or proficiency level) or data analysis (e.g., by comparing group mean scores) are unable to do. Conversely, this methodological approach has sacrificed some explanatory power because the grouping takes place post-hoc. Arguments and possible explanations can be made, however, especially with regard to first language influences on the various IL grammars for the learners as well as some important differences found between the SL and ML learners in this project.

5.2.2 Pragmatic L2 Strategy: "Yes"-type Response Pattern. The individual grammatical analysis reveals that all but one of the subjects from the final subject pool exhibited one of three distinct binding domains. The widest domain grammar was that exhibited by the "yes" group who consistently accepted both local and non-local NPs in both finite and non-finite contexts.

5.2.2.1 *L1 Acquisition of Reflexive Pronouns: Early Stages.* Franks and Connell (1996) discuss a study by McDaniel, Cairns, & Hsu, (1990) which relied on the analysis of individual grammars of children and identified that at first, children do not recognize the reflexive pronoun as an anaphor. Instead, these children interpret the reflexive as an independently referring noun phrase, not subject to the rules of structural binding. Franks and Connell included two components in their experimental design to identify children at this stage of acquisition. First of all, the experimental task included several sentences designed to test the child's adherence to c-command. If a child allowed non-c-commanding antecedents for the reflexive, a second test was administered where the child was given two male dolls and asked to show the doll hitting himself and hitting him (the other doll). A contrast in behavior between the two actions suggests an

awareness of the reflexive as an anaphor; no such contrast would suggest that the child does not interpret the reflexive as an anaphor. This method resulted in identifying one SLI child (age 4;11) who did not recognize the reflexive as an anaphor. This child exhibited a "yes"-type response pattern in that the child agreed with every binding possibility presented in the experimental task (Franks and Connell, 1996: 449).

Previous SLA studies have not employed this approach to investigating whether or not c-command violations reflect a lack of awareness of the anaphoric nature of the reflexive. However, several SLA studies have examined learners for evidence of their awareness of the c-command rule (Thomas, 1991, 1995; Christie, 1992). These studies report the interesting finding that some L2 learners allow reflexive pronouns to identify non-c-commanding NPs as acceptable antecedents for the reflexive, despite the fact that the c-command requirement, a requirement instantiated by UG, is assuredly in place and active in the mental grammars of the learners' native languages.

5.2.2.2 *Acquiring the Referential Dependency of the L2 Reflexive.* It is difficult to say exactly why L2 learners may allow non-c-commanding antecedents for the reflexive. As I have mentioned, this behavior among children is interpreted as evidence that the child is at an early stage of the acquisition process and does not interpret the reflexive as an anaphor subject to the rules of structural binding. Given that L2 acquirers are adults who have presumably come to interpret reflexives in their native language as anaphors, they should not have to re-learn the concept of anaphor. However, L2 learners, while linguistically mature enough to be familiar with the concept of anaphor, still need to identify which English words are

independently referring nouns, which nouns are reflexive anaphors and which nouns are regular pronouns. In other words, the learners need to sort out the different referential dependencies of each noun in addition to acquiring the target-like syntactic constraints on binding.

Gass (1987), in a study I discuss at length in Chapter Two and later in this chapter, showed that second language learners initially become aware of or notice salient features of the L2 before they are able to apply the full range of linguistic knowledge applicable to that feature. In this sense, L2 learners may initially recognize the referential dependency of the reflexive, and the importance of linking the reflexive with a referring NP, but may not yet be able to call upon the syntactic constraints of structural binding such as c-command, the clause-mate condition, etc. This initial phase of noticing the referential dependency would result in the learner behavior reported in the L2 studies above. That is, learners would understand the need to assign a referent for the reflexive but would not be able to differentiate between structurally available (i.e. c-commanding) and unavailable antecedents. The result would be that the learner would, in effect, be relying on pragmatic cues to satisfy the referential dependency introduced by the reflexive.

5.2.2.3 *Yes - Group: Non-Structural Binding.* Some supporting evidence for this possibility can be found in the individual grammars of the subjects for this dissertation study. One group of learners exhibited a "yes" type domain pattern. That is, these learners allowed the reflexive to identify NPs in any domain or context as acceptable antecedents for the reflexive. Both local and non-local NPs in both finite and non-finite contexts (as well as both subject and non-subject NPs in most cases) were acceptable binders for the reflexive among these learners. There were learners of this type in both the L2 and

the ML group, although there was a much higher percentage of "yes"-type learners in the ML group than in the L2 group (shown in Table 20).

Table 20: Percentage of learners consistently accepting antecedents for the reflexive in all domains and contexts[1]

SL	ML
5.6%	35.71%

While these learners accepted NPs in both finite and non-finite contexts as well as local and non-local domains, they did not accept every item on the task. All of these subjects accurately rejected the comprehension item which required a "false" answer. Furthermore, in many cases these learners were consistent with 3 out of the 4 tokens for some of the sentence types, suggesting that members of this group were not exhibiting a "yes" response bias. Finally, there are some cases where one of the six sentence types resulted in an inconsistent response pattern, also entailing some "no" answers.

Table 21 outlines the first language background of those learners exhibiting a "yes"-type response pattern. This response pattern, as I have stated, is characterized by the acceptance of local and non-local NPs in finite and non-finite contexts as well as (in most cases) subject and object NPs in the local domain. This binding pattern does not violate UG constraints on binding. Icelandic *sig* and Serbo-Croatian *sebe* reflexives exhibit just such a binding pattern (nonsubject oriented (NSO), LDR); thus, it is possible that

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[1] Some of these learners provided inconsistent responses for one of the six sentence types. I suggest in Ch. 4 that because these learners consistently accepted the other five sentence types, they belong in the "yes"-group.

Table 21: First language backgrounds of subjects exhibiting a "yes" response pattern

Subject	L1	Other L1s
ML10	Russian	French
ML11	Russian	Ukranian
ML12	Albanian	Italian
ML13	Korean	German, Japanese
ML14	Chaldean	Arabic
SL 17	Japanese	n/a

these learners are interpreting the English reflexive as a morphologically simple LDR which instantiates a nonsubject orientation in the local domain.

While there is no direct evidence to contradict this possibility, the data from other studies (Thomas, 1991, 1995; Christie, 1992) that have identified learners who allow non-c-commanding NPs as a possible antecedent, raise the possibility that some L2 learners bind the reflexive discoursally (exempt from the structural constraints on reflexive/antecedent relationships) at some stage of the acquisition process. Furthermore, Hamilton (1996) argues that one cannot automatically equate LD binding with an X^0 analysis of the reflexive. He points to a study by White (1995) in which White tested L2 learners on their awareness of gender and agreement properties of English reflexives. She reported that learners were aware of the agreement properties of reflexives, suggesting that these learners

understood the morphological complexity of the reflexive. Additionally, these same learners exhibited a high degree of LD binding, raising the possibility that these learners allowed LD binding of XP reflexives. Hamilton points to this finding to suggest the possibility that learners who exhibit LD binding may not be interpreting (or transferring) the reflexive as an LDR, but rather, are transferring a logophoric interpretation of the reflexive.

As I discuss in section 1.7.3 of Chapter One, logophoric binding is a non-structural, discoursal form of binding where the reflexive is semantically linked with its antecedent. Thus, Hamilton (1996) suggests that one cannot rule out the possibility of non-structural binding. Hamilton (1996: 433) admits, however, that logophoric binding is infrequent in the L2 data and so the only way this possibility could occur would be for learners to transfer the logophoric strategy from the L1. Given the overall infrequency of logophoric binding in both the L1 and the L2, it is difficult to account for all LD binding based on logophoric transfer.[2]

However, the possibility that learners bind the reflexive non-structurally remains strong. Demirci (1997) and Glew et al. (1993) have suggested that learners from some language backgrounds may rely more heavily on pragmatic strategies than on other language groups. Furthermore, I suggest in Chapter Two that studies by Gass (1985, 1987), Harrington (1987), Sasaki (1991, 1994), Wulfeck et al., (1986) have made a

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[2] One subject in this study who allowed LD binding in both finite and nonfinite contexts. This subject was a bilingual speaker of Arabic and Chaldean. Hamilton (1996;433) points out that LD binding of an Arabic learner of English could not be explained through logophoric transfer, as Arabic does not have logophoric binding. This subject's LD binding could suggest against logophoric binding; however, this person also speaks Chaldean and it is not clear whether or not logophoric binding is present in Chaldean.

strong case that in other components of the grammar (in this case, the assignment of thematic roles to the NPs in the sentence), learners who come from an L1 for which semantic cues are strong, continue to rely heavily on the semantic cue in the L2. They are also less willing to let go of the semantic strategy in favor of the L2 dominant syntactic strategy.

The "yes" type learners in this dissertation study may represent a similar situation. With the exception of one subject, all the "yes" type learners come from languages which include both SD and LD reflexives. The use of a pragmatic strategy for reflexive binding may vary among learners, depending on their first language. Additionally, the results of the studies by Demirci (1997) and Glew et al. (1993) suggest that native speakers of languages such as Japanese and Turkish (which have both complex and simplex reflexives) are more sensitive to pragmatic information for antecedent assignment of reflexive pronouns than native speakers of languages with only complex reflexives such as English. Furthermore, Demirci (1997) finds that native speakers of Turkish continue to be sensitive to pragmatic cues when learning English as a foreign language.

These findings bear a striking resemblance to those reported in the Competition Model studies (Gass, 1985, 1987; Harrington, 1987; Sasaki, 1991, 1994; Wulfeck et al. ,1986). Learners whose L1 requires a heavy reliance on pragmatic and semantic cues tend to "hang on" to the pragmatic strategy and move more slowly toward a reliance on syntactic cues than vice versa. Likewise, Glew et al. (1993) and Demirci report that native speakers of languages such as Turkish and Japanese (SDR/LDR languages) rely heavily on pragmatic/semantic cues and move to a stronger reliance on syntactic cues reluctantly, if at all.

As I discussed earlier, SLA studies of reflexive pronoun acquisition have shown that some learners initially allow reflexives to identify non-c-commanding antecedents. I have suggested that this is a reflection of an early stage of acquisition where the learner recognizes the referential dependency of the reflexive, but is unable to call upon and employ the syntactic constraints on structural binding. The Competition Model research discussed above has found that pragmatics and semantics are relied upon strongly and early on in the acquisition process. An understanding of and reliance on syntactic cues develops more slowly and is characterized by an initial awareness of the importance of the cue before the actual syntactic rules can be called upon.

The IL grammars identified in this dissertation study support these findings. The "yes"-type learners appear to recognize the referential dependency of the reflexive and select a referent for the reflexive. However, their behavior suggests that these learners are employing a non-syntactic strategy in assigning reference for the reflexive by allowing any pragmatically reasonable NP to serve as the referent.

Furthermore, the preponderance of learners in the "yes" group with native languages which contain both LD and SD reflexives (shown in Table 22), suggests that learners with this type of language background remain at this stage of acquisition longer than learners whose L1s contain only SDRs. This finding is in line with the studies by Glew et al. (1993) and Demirci (1997) who report that learners from such SDR/LDR language backgrounds as Japanese and Turkish rely more strongly on pragmatic cues in their native languages than English native speakers do for English. Furthermore, Demirci (1997) reports that Turkish EFL learners not only rely heavily on

pragmatic cues in their native language, they continue to assign great importance to pragmatic cues in their L2 English.

Thus, the learners in the "yes" group of this dissertation study represent a group of learners from SDR/LDR first languages who are exhibiting a reluctance to let go of their pragmatic strategy and begin focusing on the syntactic element of reflexive binding.

Table 22: First language backgrounds of learners exhibiting a "yes"-type response pattern

Subject	L1	Other languages
SL17	Japanese	na
ML10	Russian	French
ML11	Russian	Ukranian
ML12	Albanian	Italian
ML13	Korean	German, Japanese
ML14	Chaldean	Arabic

A second communality across the "yes"-type learners (with the exception of SL17) is that they are multi-lingual learners of English. This factor may also contribute to slowing learners down from moving to consider the syntactic elements of reflexive binding. As discussed in section Zobl (1995) reports that multi-lingual (ML) ESL learners[3] appear to function with wider grammars (allowing a wider range of structures and

[3] Multilingual learners are learners who know languages beyond their native language. Unilingual learners (UL) are learners who speak one language and are learning another as a second language.

relationships) than unilingual (UL) ESL learners. Zobl (1995) found that ML learners were less likely to respect the c-command requirement than their UL (SL) counterparts. This finding can be interpreted as indirect evidence that ML learners may stall in the stage of acquisition where learners can only recognize and call upon pragmatic strategies to satisfy the referential dependence of the reflexive.

It therefore appears that the "yes"-type response pattern may be the result of a combination of two factors. First of all, the majority of learners come from first language backgrounds which contain both LDRs and SDRs and, thus, are more reluctant to let go of the pragmatic strategy and focus on the syntactic cues so important for English binding. Secondly, these learners are largely, ML learners who also appear to allow non-structural binding to a greater extent than UL learners.

5.2.3 LD Group (+/- Finite Group). As I suggest above, ESL learners appear to begin the acquisition task by allowing non-structural binding in all contexts for the reflexive. Some learners stay at this phase longer than others. Previous research suggests that ML learners allow more non-syntactically constrained binding than UL learners. Also, SLA research (Gass, 1985, 1987; Harrington, 1987; Sasaki, 1991, 1994; Wulfeck et al. ,1986) has suggested that beginning learners tend to rely heavily on semantic and pragmatic cues, adding "weight" to syntactic cues develops more slowly.

These two factors may have combined to prolong the non-syntactic phase of acquisition for the ML learners with LDR/SDR L1s. Sooner or later, however, learners come to recognize the importance of the syntax in determining which NPs can serve as antecedents for the reflexive and which NPs are excluded.

A second domain pattern identified in this dissertation study reflects a growing focus on the syntactic elements of the L2 grammar. In Chapter Three I suggest the possibility that L2 acquirers go through a phase of acquisition similar to the LD phase identified in Franks and Connell (1996). Franks and Connell argue that previous research on L1 acquisition has provided both direct and indirect evidence that children learning either SDR or SDR/LDR languages go through a stage of LD binding on their way to acquiring the target system (Read & Hare, 1979; Matthei, 1981; Wexler & Chien, 1987; Chien & Wexler, 1990; Hyams & Sigurjónsdóttir; 1988, 1990; Sigurjónsdóttir & Hyams, 1991, 1992). Franks and Connell also identify an LD stage for child acquirers of English. Through their emphasis on individual grammars and their VMIT experimental task, Franks and Connell are able to provide a detailed picture of the characteristics of this LD phase. Franks and Connell identify one group of learners whose response pattern allowed both local and non-local antecedents for reflexives in a finite context, but required a non-local antecedent for the reflexive in a non-finite context. In addition, these learners exhibited a subject orientation for the reflexive in the finite context.

In Chapter Three I suggest the possibility that L2 learners also pass through an LD phase in their acquisition of reflexive pronouns. Furthermore, I raise the possibility that the LD phase of acquisition for L2 learners is also characterized by the behavior identified in Franks and Connell but because of the way the data have thus far been reported, the specific characteristics of this stage have been obscured.

This dissertation study identified a group of learners whose binding domains are sensitive to the nature of the clause in which the reflexive is embedded. When the reflexive is embedded in a non-finite clause, it can

take either a local or non-local antecedent. In a finite context, however, the reflexive instantiates a strictly local domain. This response pattern reflects the findings of previous SLA research and contrasts with the findings in Franks and Connell (1996).

The response pattern for this LD group is characterized by a local-only interpretation of the reflexive in a finite context and a local/non-local binding pattern in a non-finite context. Subjects SL11, SL12, SL13, SL14, SL15 and ML9 appear to be applying a different binding domain for the reflexive in finite and non-finite contexts.

As Table 23 indicates, this response pattern is strongly represented by the SL learners and nearly absent in the ML group. Five of the 18 SL learners (28%) exhibit this LD pattern yet only one ML learner could fit this pattern. In fact, this ML learner gave an inconsistent response pattern for the critical non-local test items in a non-finite context, making it uncertain whether or not this individual best belongs in the LD or target-like group.

Table 23: First language backgrounds of learners exhibiting LD binding pattern

Subject	L1	Other Languages
SL11	Korean	na
SL12	Japanese	na
SL13	Romanian	na
SL14	Japanese	na
SL15	Thai	na
ML9	Mandarin	Taiwanese

Several researchers have provided explanations for the distinction some learners make between finite and non-finite embedded clauses in binding patterns for English reflexives.

Hamilton (1996) provides a thorough critique of the researchers who have sought to account for this LD phase through the Relatavized SUBJECT Analysis.

Progovac and Connell (1991) reconsider the data from Thomas (1989). In this study, Thomas studies Spanish and Chinese native speakers learning English. While the study reported LD binding for both groups, the Spanish speakers allowed more non-local antecedents (although not significantly so). Progovac and Connell (1991) proposed that while both the Spanish and Chinese groups incorrectly analyzed the reflexive as X^0, the Spanish speakers were not able to recognize that English has overt AGR due to how little overt agreement marking exists in English as compared to Spanish. Conversely, because Chinese has null AGR, these learners were able to recognize and respect AGR. Hamilton (1996) challenges this interpretation of the data and argues that while Thomas finds the Spanish learners bound LD more than the Chinese learners, that difference was not significant. Thus, Progovac and Connell's claims that AGR is somehow more or less recognizable by learners depending on their L1 background are compromised. Furthermore, Hamilton discusses a study by Christie (1992) who studied English speakers learning Spanish and Spanish speakers learning English. She reported LD binding for both groups, the ENS learners of Spanish actually showed higher rates of LD binding than the SNS learners of English. This finding also contradicts Progovac and Connell's prediction that differences in the prominence of agreement

marking in the L2 (as compared with the L1) somehow affects the LD binding patterns of learners.

White (1995) also adopts an explanation of her data similar to the one by Progovac and Connell (1991). White found that French speaking ESL learners also exhibited considerable LD binding. In this case, White suggests that the learners misanalyzed the reflexive as X^0 and, because French has a more obvious agreement system, failed to recognize that English has overt AGR. This resulted in the LD binding by the French speaking ESL learners.

Bennett (1993, 1994) also suggests this explanation for her finding that Serbo-Croatian speaking learners of English allowed LD binding into embedded non-finite clauses but not finite. The learners exhibited this behavior despite the fact that the dialect of Serbo Croatian spoken by the subjects does not have object control infinitives. Bennett suggests that these learners transferred the X^0 reflexive from their native language and also recognized overt AGR in the L2, English. This resulted in the learners' different binding domains in the finite and nonfinite contexts.

Hamilton suggests that tense, rather than AGR is the opacity factor for movement of the reflexive. However, another possibility is that the Relatavized SUBJECT Analysis can still account for the data if one re-analyzes the role of the learner's L1 in the acquisition of +[AGR].

Hamilton's main criticism of Progovac and Connell (1991), White (1995), and Bennett (1993; 1994) is that English AGR does not appear to be any more "recognizable" for one language group or another. It appears that learners of all L1 backgrounds LD bind. The Thomas (1989) data show that learners from -[AGR] L1s such as Chinese LD bind. The data show that Spanish learners of English and English learners of Spanish LD bind. The

data also show that Serbo-Croatian learners of English LD bind in a non-finite context.

It appears that these studies (and other SLA studies which report similar data) are attempting to account for two different types of data: data that L2 learners LD bind (e.g., Thomas 1989, 1991; Demirci, 1997;White et al. 1995) as well as data that show L2 learners LD bind only in a non-finite context (e.g., Finer & Broselow, 1986; Hirakawa, 1990; Bennett, 1993; White et al., 1997). Much of the data showing overall LD binding have come from studies which examined group means and/or did not include test sentences investigating binding patterns in a non-finite context so it is difficult to tell if the LD percentages reported are the result of LD binding across contexts or if these learners distinguished between finite and non-finite contexts. As I discussed in Chapter Two, these studies have found LD binding in learners whose L1 backgrounds instantiate SD-only binding or SDR/LDR binding.

The studies showing LD binding in a non-finite context have only been able to show that learners whose first languages contain both SDRs and LDRs differentiate between finite and non-finite contexts in their binding pattern.

Despite this limitation, as well as the results of this dissertation study which only include individuals from LDR/SDR-type L1s in the +/- finite group[4], It is premature to assume that this stage of acquisition phase is limited to learners whose L1s contain both SDRs and LDRs.

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[4] There is one example of a subject who was removed from the subject pool due to an error on one of the comprehension items. Nonetheless, this individual answered consistently on all six sentence types. This subject, a French native speaker, exhibited a local only domain in the finite context and a local/non-local domain in the non-finite context, suggesting that the finite/non-finite distinction is not necessarily a function of the learner's L1.

First of all, SLA research, as well as the behavior of the "yes"-type learners in this dissertation study, has shown that learners of all first language backgrounds LD bind. I have argued that LD binding across all contexts represents a stage of acquisition where the learner is binding the reflexive non-structurally. If research has shown that learners of all L1 backgrounds LD bind, why must we then assume that the LD binding associated with the +/- finite IL is necessarily the result of transfer? Simply because an example has not yet turned up, does not mean that there does not exist an example of a +/- finite IL by a learner whose L1 only has SDRs.

Furthermore, there is some evidence, although small, that we cannot rule out the possibility of learners from SDR-only L1s LD binding exclusively in a non-finite context. White et al. (1997) report on a study which sought to compare the effectiveness of story and picture tasks in measuring binding domain and orientation. The study examined the intuitions of a group of French speakers and Japanese speakers learning English as a foreign language. The mean scores of the biclausal sentences, particularly those sentences in which context was directed toward the non-local NP as the likely antecedent, showed significant differences in accuracy for the Japanese speakers between sentences with finite and non-finite embedded clauses. That is, the Japanese speakers were significantly more accurate at requiring a local-only domain for the English reflexive in a finite context than in a non-finite. This finding reflects the results reported in Finer & Broselow (1986), Hirakawa (1990), and others which identified a pattern where learners appear to allow more LD binding in a non-finite context than finite. White et al. (1997) do not report a significant difference in accuracy between finite and non-finite contexts for the French speakers. However, the results, reproduced in Table 21, show a small difference in

accuracy for the French speakers. Even if this difference is not significant, it is quite possible that contained within the group of individual learners, there could be several learners who exhibit this +/- finite distinction in their binding domains. The group mean scores reported in this study hint at the possibility that French speakers also pass through a stage where they LD bind exclusively in a non-finite context. Thus, while it is not possible to argue definitively that learners from all language backgrounds go through a stage where they LD bind exclusively in a non-finite context, it is likewise premature to assume the opposite (that only those learners coming from an LDR/SDR L1 LD bind exclusively in a non-finite context) is true. The debate is still open on this matter.

If it is true that learners of various L1 backgrounds progress from the non-structural stage to a +/- stage, it is possible that for learners from SDR/LDR-type L1s, this stage is prolonged. Thus, the heavy representation of learners from certain L1s in the data showing this response pattern.

Progovac and Connell (1991), White (1995), and Bennett (1993; 1994) argue that learners are faced with two distinct tasks in acquiring the target like system for reflexive binding. For English, learners need to recognize that English as a +[AGR] parameter setting. That is, English has overt AGR which, when present, serves as SUBJECT for a monomorphemic, X^0 reflexive (not present in the L1 grammar of English, but could be present in a learner's IL). Secondly, the learner needs to recognize that English reflexives are complex, XP, reflexives.

The behavior of the +/- finite learners in this dissertation (and other studies such as Finer & Broselow, 1986; Bennett, 1993; White et al., 1997) suggests that learners come to recognize +[AGR] in English before they learn to analyze the reflexive as an XP reflexive. This dissertation study includes a

group of learners, listed in Table 23, whose grammars are characterized by a local only domain when the reflexive is embedded in a finite clause and a local/non-local domain when the reflexive is embedded in a nonfinite clause. This response pattern is indicative of a learner who has come to recognize AGR in English yet interprets the reflexive pronoun as if it is monomorphemic. In assuming the reflexive is monomorphemic, the learner allows the reflexive to bind outside of the embedded clause only when AGR is not present, as is the case with a nonfinite embedded clause.

Hamilton (1996) argues against crediting an X^0 analysis to learners who bind long distance. It is equally possible, he argues, that the learners are interpreting the reflexive as a logophor and binding it non-structurally. In my discussion of the "yes"-type group, I suggest that non-structural binding is a likely possibility, given that the learners show no evidence of a syntactically constrained system. Additionally, I predict that this nonsyntactic strategy is an initial strategy used by the learner which is predicted to be followed by a focus on the important syntactic component of reflexive binding.

The response pattern of the +/- finite group of learners suggests a systematic difference in domain based on a syntactic element - the nonfinite nature of the embedded clause. Thus, because the defining characteristic of this response pattern is a syntactic one, the motivation for the domain patterns is more likely a syntactic one.

The questions which arise are, 1) Are learners misanalyzing the reflexive as an LDR? 2) Are they transferring the LDR from their first language? Or, 3) does their first language somehow guide them into a misanalysis, representing a combination of factors? As I discuss in the previous section, the evidence collected from SLA research so far only

includes examples of learners whose first languages contain both SDRs and LDRs. However, we should not assume that just because we have not seen any counterexamples yet, these counterexamples do not exist. There are examples of learners from SDR-only L1s who bind LD. Many of these studies reported group mean scores and/or did not specifically investigate the +/- finite issue, so the debate is still open and is an issue for further research.

Thus, upon closer evaluation I have shown that a common interlanguage pattern among L2 learners is to require a local domain when the reflexive is embedded in a finite clause, yet allow both local and non-local antecedents for reflexives embedded in non-finite clauses. This response pattern differs from that identified by Franks and Connell (1996) for child language acquisition. Franks and Connell identified a response pattern where a group of children required non-local binding in a non-finite context and allowed local and non-local binding in a finite context. There is an important communality here, however. Both groups of learners appear to recognize and assign importance to the finiteness of the embedded clause. Ironically, while the finite status of the embedded clause is of critical importance to child and adult learners of English, it has no effect on the binding domain of the target grammar.

Franks and Connell (1996) suggest that the reason for the LD children's binding domain described above is that these children misanalyze the reflexive as monomorphemic and do not allow PRO, the non-lexical subject of the clause, to be an acceptable binder. This is a curious possibility, according to Franks and Connell, given that Wexler (1992) suggests that PRO becomes available to children through maturation of the case filter to

children at a much earlier age than the subjects were at in the Franks and Connell study.

The L2 learners in this dissertation study, as well as the learners identified in studies such as those by Finer & Broselow (1986), Hirakawa (1990), Bennett (1993; 1994), and White et al. (1997) appear to have an adequate grasp of PRO and allow it to serve as a binder for the reflexive because the local NP in object control infinitivals is consistently accepted by learners as a possible antecedent. This makes sense, as Franks and Connell (1996; 456) argue that the reason the children do not allow PRO as a binder is due to maturational issues which, assumedly, the adult L2 learners bring to the learning task.

5.2.4 Local Group. One place where the child and second language acquisition research on reflexives find common ground is on the issue of ultimate attainment. Both child and adult acquirers show evidence that they ultimately acquire the local-only interpretation of English reflexives. Franks and Connell (1996) identify a group of 6 subjects (3 normal, 3 SLI) who exhibit a target-like interpretation of the reflexive.

The results of this dissertation study also include a group of learners who interpret the reflexive as a local-only anaphor. Seventeen subjects (SL1, SL2, SL3, SL4, SL5, SL6, SL7, SL8, SL9, SL10, ML1, ML2, ML3, ML4, ML5, ML6, and ML7) consistently rejected non-local binding in both finite and non-finite contexts. These learners come from a variety of first language backgrounds and contain learners who have SDR-only L1s as well as L1s which contain both SDRs and LDRs. Both the SL and the ML groups contained learners who exhibited a target-like response pattern and were

comparably represented. Ten of the 18 SL subjects (56%) and 8 of the 14 ML subjects (57%) required a local domain for the reflexive.

While it is quite possible that factors such as first language and mono/multi-lingual backgrounds have an effect on the rate and means of L2 acquisition of English reflexives, it does not appear that they prevent learners from ultimately adopting a local domain for the reflexive.

5.3 Orientation and domain

5.3.1 The SLA Orientation of Domain: predictions from theoretical and CLA research. As I discussed at length in Chapter Two, theoretical accounts of reflexive binding such as the LF-movement analysis and the Relatevized SUBJECT analysis predict that the natural consequence of LD-binding is that only subject NPs can serve as antecedents for the reflexive. Thus, LD-binding entails a subject orientation for the reflexive. It is important to note, however, that the opposite scenario does not hold. Subject orientation does not entail LD-binding, as it is very possible for a reflexive pronoun, the Japanese *kare-zisin* for example, to be a short distance reflexive yet require a subject orientation. Non-subject binding, however, entails local binding. Because structural LD-binding is subject oriented, object binding must be restricted to the local domain.

These predictions for domain and orientation relate specifically to the adult target grammar, yet also lay out the boundaries within which child learners are assumed to operate. That is, the LF-movement analysis and Relatavized SUBJECT analysis assume that the mental grammar of child language learners (i.e., learners who have access to UG) disallows LD object binding throughout the acquisition process. An important question for SLA researchers is whether or not L2 learners also unconditionally disallow LD

object binding. Through this line of inquiry, researchers investigating this link hope to find evidence either for or against access to UG.

Franks and Connell (1996) investigate the acquisition of English reflexives by normal and specific language impaired (SLI) children with the intention of identifying the various characteristics of learner grammars as they relate to both domain and orientation of reflexives. In their study, Franks and Connell (1996) argue that their data show that domain and orientation are linked for monolingual learners of English. As learners come to discover that the reflexive has a specific domain (in the LD and, later, local phases of acquisition), so too do they show evidence of a specific orientation for the reflexive. The learners who allowed long distance binding also required a subject orientation for the reflexive. Likewise, all but one of the learners who required local binding also allowed both subjects and non-subjects as possible antecedents.

While these initial findings suggest that the link between domain and orientation has been established, the Franks and Connell (1996; 449) data show that the task problems prevalent in recent SLA reflexive studies, detailed in Chapter Three, may have similarly affected this study. Despite the fact that English reflexives theoretically allow both subject and non-subject NPs as possible antecedents in the local domain, five control subjects (adult English native speakers) exhibited a subject orientation in their response patterns. Likewise, Franks and Connell indicate that one experimental subject (an SLI child) also exhibited a subject orientation with a local domain.

More disconcerting, however, is the finding that one control subject and one experimental subject consistently accepted a sentence in which the long-distance object served as the antecedent for the reflexive. LD object

binding is an unattested binding pattern. Because this response pattern clearly violates the rules of English binding, and one control subject exhibited this pattern, it is possible that the task did not always accurately tap learner/speaker grammars.

5.3.2 SLA Research Context. SLA studies of reflexives have also faced considerable obstacles in controlling for task effects. Thomas (1995) specifically investigates the relationship between domain and orientation among L2 learners of Japanese. In a summary of the individual grammars of *zibun* binding for 34 learners from two of her previous studies, Thomas reports that while only seven subjects recognized *zibun* as an anaphor and also bound *zibun* long distance, five out of these seven learners (71%) required a subject orientation in a local domain (*zibun* requires a subject orientation, even in the local domain). While the majority of learners who bound *zibun* long distance required a subject orientation, some learners inappropriately allowed *zibun* to bind with nonusubject NPs in the local domain. Thomas (1995: 220) argues that this behavior is not a violation of UG, as it is theoretically possible for an X_0 anaphor to bind with nonsubject NPs in the local domain (e.g. Icelandic *sig* or Serbo-Croatian *sebe*). While LDRs instantiating nonsubject orientation in the local domain is not a UG unattested grammar, Thomas does not address the issue of motivation of this particular grammar. It is not clear why these particular learners, most of whom do not have LDRs which allow object binding in their L1s (English, French, Spanish, German, Korean, Thai), might interpret *zibun* in this way. Nor is there any theoretical motivation for why learners would naturally assign an LDR with a nonsubject orientation in the local domain.

Thomas then turns to learner interpretations of *zibun* in the non-local domain. Less than half of the original subject pool (23 out of 58) allowed *zibun* to bind long-distance. Of the 23 L2 learners of Japanese who bound *zibun* long-distance, 16 (70% of the LD binding subjects) required a subject antecedent in the non-local domain. The remaining seven subjects (30% of the LD binding subjects) did not require a subject antecedent for the reflexive. Of these seven subjects, six of them were low proficiency learners of Japanese, suggesting that the subject orientation of *zibun* does not co-occur with the acquisition of LD-binding, but rather proceeds at a slower pace. Thomas concludes the following:

> Thus if longitudinal evidence were to confirm that L2 learners pass through a stage in which they allow long-distance, nonsubject antecedents for *zibun* on their way to acquiring the native-speaker grammar, this fact would be problematic for both Manzini and Wexler's parameterized binding principles and for the proposal that anaphors move in LF (Thomas 1996: 228).

The other possibility, Thomas suggests, is that learners misanalyze *zibun* as a pronoun with the features [+pro, -ana], resulting in a grammar which allows binding with LD subjects and nonsubjects as well as local subjects. The research design of this part of the study, however, made answering this question impossible.

Other SLA studies which address the domain/orientation relationship such as White et al. (1997) and Christie (1992), do not address the possibility of LD object binding, but report that L2 learners of English from various first language backgrounds as well as English native speaking adults accept nonsubject antecedents in the local domain to varying degrees.

5.3.3 Orientation and Domain in the Dissertation Study. The results of this dissertation study support these results. While this study did not directly investigate the possibility of LD nonsubject binding, the experimental task included four stories/sentences in which context was directed toward the local subject as the antecedent and four stories/sentences in which context was directed toward the local object as the likely antecedent for the English reflexive. The results indicate that learners from various first language backgrounds (French, Arabic, Thai, Hmong, Korean, Japanese, Italian, Asssyrian, Mandarin, Russian, Albanian, Chaldean) consistently accept both subject and nonsubject NPs as possible antecedents in the local domain.

What is most interesting is that for each domain grammar pattern identified in this study there are examples of learners whose response patterns indicate each orientation type (subject only as well as nonsubject orientation (NSO) patterns).

These results suggest that learners appear to acquire the rules of orientation at varying rates and also that these rates differ from the acquisition rate for the domain of the reflexive. However, it is also possible that the story task relied upon for this dissertation study may have fallen short in its goal to minimize the subject strategy so common among both English native speakers and ESL learners. There are several cases (SL9, SL10, ML6, ML7, ML8) where learners exhibit a local domain but reject the object NP, implying a local domain with a subject orientation. However, as my previous discussion suggests, it is impossible to say whether or not the rejection of object binding by the ESL subjects is a reflection of a subject orientation or a subject strategy by learners who may not, in fact, instantiate a subject orientation in their mental grammars. This uncertainty is made stronger in light of the fact that three control group subjects (E22, E23, and

E24) also consistently rejected local object binding, despite the fact that these people were adult monolingual speakers of English who should theoretically allow local object binding.

A second possible explanation for these results, then, would be that the L2 learners in this study, like some of the English control group subjects, actually instantiate a subject/nonsubject orientation in their mental grammars, but some learners are not sufficiently convinced by pragmatic cues that the object NP is indeed allowable. Assuming this second explanation, then, it is still difficult to find evidence to support the assumption that domain and orientation are linked. In this case we assume no differences in orientation across subjects (i.e., they are all probably subject/nonsubject oriented) yet these same subjects exhibit definite differences in domain patterns (there are those who strictly require local binding across contexts, those who only allow LD binding in a non-finite context, and those who allow LD binding in all contexts).

A third explanation is the more likely; yet, unfortunately, this explanation is more difficult to establish: L2 learners of English who consistently reject local object antecedents represent a mix of learners who instantiate a subject/nonsubject orientation mentally, yet exhibit a strong preference for the subject as well as learners who actually instantiate a subject orientation in their mental grammars. Given that experimental tasks have thus far been unable to overcome the strong preference for the subject NP exhibited by some English native speakers (e.g., Finer & Broselow, 1986; Hirakawa, 1990; Finer, 1991; Thomas 1991), it is difficult to differentiate those learners who reject object binding as a result of competence factors from those who reject object binding as a result of performance factors.

This dissertation study has produced data on the relationship between domain and orientation that can be interpreted in three ways. In the first case, it is possible that the behavior of the learners accurately reflects their mental grammars. In this case, then, the data do not support the assumption that domain and orientation are linked for ESL learners, as there are examples of subject oriented learners as well as subject/nonsubject oriented learners for each domain group identified.

Secondly, the data can be interpreted as if learners who consistently reject object binding actually allow object binding in their mental grammars. These learners are merely exhibiting a strong preference for the subject antecedent that cannot be overcome by the experimental task. In this case, the data reported here would imply that the orientation of the learner grammars remains constant (i.e., subject/nonsubject orientation), while several domain grammars can be identified. This interpretation of the data also suggests that the acquisition of domain and orientation proceed at separate rates.

Finally, the data can be interpreted as reflecting a mixture of learners with different orientation grammars (both subject-only and subject/nonsubject orientation), but whose behavior cannot be relied upon as an accurate predictor of the underlying mental grammar. Specifically, it is impossible to infer the orientation of the reflexive in the minds of the learners who consistently reject the object antecedent. Given this state of affairs, the data do not conclusively support or falsify the assumption that domain and orientation are linked in the SLA of English reflexives.

5.4 Conclusion and suggestions for further research

5.4.1 Acquisition Stages. In the previous sections I have argued that the "yes"-type response pattern represents the earliest phase of the acquisition process. I make these arguments based on the findings of previous research in both CLA and SLA. Previous studies have identified that both child and adult acquirers of English go through a period where non-c-commanding antecedents are allowed for the reflexive pronoun. The child language researchers interpret this behavior as indication that the child is interpreting the reflexive as a non-anaphor. Thus, the reflexive is seen as a regular noun meaning something roughly equivalent to *body*. I argue that this behavior among L2 learners represents a period in the acquisition process where the learner has not yet been able to put into action a syntactic system for reflexive binding. The learner, while understanding that the reflexive is an anaphor in need of an antecedent, does not impose structural constraints on the binding of antecedent and reflexive.

While this dissertation study did not measure learners for their acceptance or rejection of c-command, I argue that the "yes"-type response pattern also implies a non-structural binding pattern, given the unusual, though not unattested, pattern of NSO in simple clauses with nonlocal binding across contexts.

Using years of English study as a source of rough proficiency comparison across groups, differences appear between the two interlanguage systems I identify and the target like response pattern. The average years of study for each group is given in Table 22 below.

I argue that on a theoretical basis, the "yes"-type IL should precede the +/- finite IL. The "yes"-type response pattern shows no indication of syntactic constraints on the binding of reflexive and antecedent. The +/-

finite IL, however, represents a first step toward the application of syntactic constraints, although non-target like, of reflexive binding. In examining the years of study for learners in Table 24, there is almost no difference between the two groups. On the basis of years of English study alone, then, there appears to be no evidence indicating that one IL precedes another.

In addition to the theoretical reasons for positing that the "yes"-type IL precedes the +/- finite, there is the issue of ML and SL learners. The "yes" group is almost totally made up of ML learners. Zoble (1995) reported that his ML subjects were not as accurate at respecting the c-command rule as the subjects. Zoble (1995:) suggests that for ML learners, the c-command rule is

Table 24: Average years of language study for each acquisition group

Group	Average Years of Study
Yes - all but 1 ML	6
+/- finite - all SL	6.8
Target - SL	9.6
Target - ML	8.9
Target - SL/ML	9.3

only weakly instantiated. I argue that rather than having a "weakly instantiated c-command," these learners, because they are ML learners who have more L1 data to sort through and accommodate to the new L2, stall in the "yes"-type stage for a longer time than their SL counterparts.

The SL learners, then, are able to recognize the importance of syntax for English reflexive binding more quickly and begin applying their knowledge. Initially, it appears that the learners become aware of AGR and differentiate between finite and non-finite embedded clauses in their binding domains. This is likely due to a correct awareness of the clause structure of English (particularly the finite/nonfinite distinction) combined with a misanalysis of the English reflexive as an X^0 anaphor. I argue for a "misanalysis" of the reflexive rather than a transfer-based argument for two reasons. First of all, I suggest that we cannot rule out the possibility that learners from SDR-only L1s do not make this distinction simply because we have not yet produced an example of this evidence.

Secondly, there are studies which show that learners from SDR-only L1s bind LD (e.g. Thomas, 1989; Christie, 1992; White et al. 1997). These studies did not examine the possibility that the subjects distinguished between finite and non-finite contexts so it is unclear what their individual grammars reveal. According to the argumentation developed in this dissertation study, the subjects could be operating with either a yes-type IL or a +/- finite type IL.

Assuming that all L1 types progress through the two IL domains I have identified in this dissertation study, why, then, is the +/- finite group composed entirely of learners whose L1s contain SD and LD reflexives? These learners, while not directly transferring their L1 intuitions, still can be subject to L1 influences. In languages which contain both SD and LD reflexives, the SD reflexives are used much more infrequently than the LDRs and so it is possible that learners from SDR/LDR language backgrounds take longer to recognize the complex nature of the English reflexive pronoun.

Equally possible, of course, is that while learners of all language backgrounds bind non-structurally once they recognize the reflexive as an anaphor, only those learners from SDR/LDR L1s apply an LDR analysis to the English reflexive once they move into the syntactic phase of acquisition.

5.4.2 Suggestions for Future Research. The ILs identified here and their proposed sequences are the result of cross sectional data that need to be confirmed through longitudinal data. The idea that learners pass through a stage of non-structural binding needs to be experimentally tested. Particular attention to linking c-command violations and non-local object binding with this "yes"-type response pattern would help establish the lack of structural binding I have suggested to be in the minds of these learners.

Another important question to be addressed is whether or not the +/- finite distinction established for learners from SDR/LDR language backgrounds is also present in learners from SDR-only L1s. It is unclear whether or not learners from SDR-only L1s pass quickly through this stage or skip it altogether, recognizing the complex nature of English reflexives as similar to those in the L1.

None of these questions can be sufficiently answered without serious attention to the development of a reliable experimental task. Despite the best efforts of child and second language acquisition researchers, the issue of preferred interpretations for the reflexives continues to plague research on reflexives. Despite all of the positive qualities of the story task which I outline in Chapter Three, the results of this dissertation study also produced data which suggests limitations in tapping complete grammatical intuitions rather than preferred interpretations of the reflexive.

This problem of preferences and complete grammatical possibilities may relate to the issue of the lexicon in reflexive binding. There were several particular test items where learners and English native speakers were more likely to "stray" into allowing LD binding when the rules of structural binding do not allow it. This appeared to be particularly strong in the cases of three-place predicates in the experimental task, such as *drive* and *give*. While the reflexive was in a subcategorized position in each of these cases, where it was in the position of the third argument, some learners allowed the reflexive to LD bind. The idea that reflexives in non-subcategorized positions are not subject to the rules of structural binding, may not be a cut and dried distinction in the minds of some speaker and learners. It is possible that some predicate arguments are "stronger" than others, meaning that some argument positions, particularly those in three-place predicates, are freer to bind semantically than others. This lexical factor could also play a role in the challenging task problems in reflexive research. The highly inconsistent response patterns identified in much research on reflexives, and the resultant reluctance to let go of group reporting (due to the fact that it is so much "neater" than investigating individual grammars), may be helped by taking into consideration these possible lexical effects. There is no doubt that these and many other interesting questions relating to the acquisition of reflexive pronouns will be the subject of debate for a long time to come.

APPENDIX A

APPENDIX A

Experimental and control task.

Background Information

Directions: Please answer the following questions.

1. Please circle one:

   Male Female

2. What is your native language?

3. What other languages do you know and how well do you know them (beginner, intermediate, advanced)?

4. When did you come to the United States?

5. How many years have you been studying English (including English classes in your country)?

6. Do you speak English outside of class? When d o you speak English?

7. What is your age?

Directions: Read each story below. After each story is a sentence. Read the sentence and decide if the sentence is *true* or *false* according to the story you read. Circle your answer. If you read a word that you do not understand, circle the word.

Example: George and Tim went to the park to play. Tim brought a soccer ball. George and Tim played soccer together all afternoon. Finally, George said, "I have to go home for dinner. My mom is waiting for me."
George brought a soccer ball to the park.
True False

1. John really wanted to work at the video store. He went to the store to talk to the manager. John explained that he was a hard worker. John also said that he knew all about video movies and that he could start work right away.
John told the manager about himself.
True False

2. Bill was sick and in the hospital. Nobody knew what was wrong with Bill. The hospital did a lot of tests on Bill to find out what was wrong. Bill had to wait a long time in his hospital room. Finally a doctor came in to tell Bill why he was sick.
After the medical tests, the doctor informed Bill about himself.
True False

3. John was sick in the hospital. He was nervous because he needed an operation. A doctor came into John's hospital room and said, "Hello John, I am the doctor. I will operate on you tomorrow."
John heard that the doctor will operate on himself.
True False

4. Teresa and Madeleine went to a party one night. Teresa drank too much beer at the party. When it was time to go home, Teresa was worried because she didn't want to drive her car. "I'll drive you home, " said Madeleine. "Oh, thank you Madeleine. I really appreciate it" said Teresa.
Teresa was happy that Madeleine drove herself home.
True False

5. Barry and George went to the movies together every week. This week, Barry arrived at the theater before George. Barry sat down in a seat. Soon George arrived, carrying popcorn and soda. "Look Barry, I bought popcorn and soda for us!"
Barry knew that George bought some popcorn."

6. Helen was reading a great book. The book belonged to Carrie. One day Carrie called Helen on the telephone. Helen was not home so Carrie left a message on the answering machine: "Helen, this is Carrie. Can you give me my book? I need it right away!"
Carrie told Helen to give the book to herself right away.
True False

7. Jeff wanted to buy a new house. He applied for a loan at the bank. The banker asked Jeff for some important information. "I am sorry," Jeff said, "I left that information at home." The banker replied, "Oh, that's O.K. you can give me that information later.

The banker told Jeff to give himself the information later.

True False

8. Sharon was studying hard for a math test. Sharon knew the material well, but would always become afraid during the test. Before the exam, the teacher said, "You should not be afraid, Sharon, you understand the material. You just need to believe that you can do it!"

The teacher told Sharon to believe in herself more.

True False

9. A little girl and her mother went to the store. The little girl saw a toy she really liked and said, "Mother, I really want that toy! Would you buy it for me?: The mother said yes, and the little girl said, "I am so happy!"

The little girl was happy that her mother bought herself a toy.

True False

10. Molly and Cheryl were going to the store together. When Molly arrived at Cheryl's apartment, she could not find Cheryl. Molly looked all over the apartment but could not find Cheryl. Finally, Molly saw Cheryl looking in the mirror in the bedroom.

Molly noticed that Cheryl was looking at herself in the mirror.

True False

11. Jerry could not sleep at night. This was a big problem, Jerry tried sleeping pills, but they didn't work. Finally, Jerry went to see a psychologist about his problem. The psychologist asked Jerry a lot of questions about Jerry's life and work.

During the session, the psychologist asked Jerry about himself.

True False

12. Patrick decided to have a party for his birthday. Patrick invited many of his friends. At the party, Patrick walked up to a man and said hello. The man responded, "Hello, my name is David. I came to me party with my brother who is a friend of yours."

David gave Patrick some information about himself.

True False

13. Tom was driving home on a very snowy day. He drove over a patch of ice and the car slid off the road and into a tree. Wen the policeman arrived, Tom gave his name to me policeman. Tom also explained that his arm hurt and that his head was bleeding.

After the accident, Tom told the policeman about himself.

True False

14. For a school project, Sally decided to interview her grandma and write a short story. "Grandma," Sally asked, "Please tell me, where were you born? What was your school like? Also, please describe your family for me."

Sally questioned grandma about herself.

True False

15. Ken bought a new gun to use for hunting. Ken wanted to show the gun to Stan. "Hey Stan, look at my new gun," Ken said. Ken took the gun out and showed it to Stan. While Ken was holding the gun, Ken accidentally pulled the trigger and the gun fired, shooting Ken in the foot.
Stan saw that Ken shot himself.

16. Harold and James live together. They share a small apartment. Usually Harold cooks dinner and James washes the dishes. Tonight, however, Harold has to work. Harold said, "James, I will not be home tonight, you will have to cook dinner alone."
Harold told James to cook dinner for himself.
True False

17. Julie and Mary went to a restaurant for lunch. For lunch they each had a cheeseburger, french fries and a Coke. When Julie finished her lunch, she said, "I am finished with my lunch, I will through our garbage out." "That is so nice, thank you!" Mary replied.
Julie was happy that Mary threw out the garbage.
True False

18. Dan moved to Michigan for a new job. Michigan was so cold compared to his old home in Florida. Dan's friend, Greg, said, "Dan, I know why you are so cold, you do not have a warm coat! Go to the store and buy a warm coat, then you will feel better!"
Greg told Dan to buy himself a warm coat.
True False

19. Paul and Mark were brothers. Paul lived in Idaho and Mark lived in New York. Mark called Paul every week to talk on the phone. Paul and Mark were talking on the phone one day and Paul said, "I know these long-distance phone calls are expensive, Mark, why don't you write me a letter?" Paul asked Mark to write himself a letter.

True False

20. Ellen cut her hand and it would not get better. She went to the hospital. At the hospital a nurse came into the exam room and looked at the cut. The nurse said, "Wash well with this special soap. The doctor will come in and look at it."

The nurse asked Ellen to wash herself well before the exam.

True False

21. A boy and his father went on a bike ride together. The boy went down a hill very fast. "Don't go so fast!" shouted the father. It was too late, the boy fell off his bike and started crying. The father gave the boy a hug. Then the boy was happy again.

The boy was happy that the father hugged himself.

True False

22. Billy delivered newspapers every morning for his job. For three months, Billy had been saving his money for a new bicycle. Billy finally bought the bicycle and told Charlie about it, "Hey Charlie, look at the new bicycle I bought!"

Charlie heard that Billy had bought himself a bicycle.

True False

23. Mario went to the library to do some research for a school project. He asked the librarian for some help. "Excuse me," Mario said, "I am looking for a book about computers." The librarian showed Mario a large stack of books all about computers.

The librarian showed Mario where to find books about computers.

True False

24. Harry and George loved their baseball team, the "Pittsburgh Pirates." One day Harry went to George's house to drive to the game. When Harry saw George he screamed "George! You look great! How did you paint that pirate on your face? I love it!"

Harry was that George had painted himself.

True False

25. Mike is a respected man in his community. Mike collects warm clothes to give to the poor and he also helps cook them meals at the local church. A reporter from the newspaper came to write a story about Mike. The reporter asked Mike a lot of questions about Mike's life and his work with the poor. During the interview, the reporter asked Mike about himself.

True False

26. Monica got a new job in another state. Before beginning the new job, Monica wrote a letter to Nicole, the manager of the company. In the letter, Monica explained what a hard worker she was. Also, Monica described how happy she was to have this new job.

Monica wrote a letter to Nicole about herself.

True False

27. At the beginning of class, the teacher collected homework from all of the students. One boy did not hand in his assignment. After class, the teacher called the boy to his desk and said, "I see you forgot to bring your homework today. Please give me your assignment tomorrow morning."
The teacher told the boy to give himself the assignment tomorrow.
True False

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