THE RUSSIAN REFLEXIVE IN SECOND-LANGUAGE ACQUISITION:
BINDING PREFERENCES AND L1 TRANSFER

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This dissertation investigates knowledge of reflexives by adult English-speaking learners of Russian as a second language. The study uses an experimental methodology to ascertain the extent to which a speaker's native language (L1) influences his or her acquisition of the second language (L2). The thesis concerns L2 acquisition of the reflexive object pronoun *sebja*, the reflexive possessive pronoun *svoj*, and the post-verbal affix *–sja* and investigates the claim that unlike in English, in Russian some anaphors may be bound long-distance (LD) outside non-finite embedded clauses. Twenty non-native and ten native speakers of Russian were tested during the first experiment, and ten non-native and ten native speakers during the second experiment. The experiments were based on Bennett and Progovac (1993) and White et al (1997).

The first experiment found that the more proficient the L2 speakers become, the more their binding pattern reflects that of the L1 informants, suggesting that the L2 subjects depend on their L1 parameters and settings to bind in the L2, but that this dependence wanes as they become more proficient. L2 learners of Russian maintain their L1 AGR parameter in the L2, but transfer their L1 X^{max} binding type at first. Following training, L2 subjects showed greater sensitivity to ambiguity of reference for *sebja* than native Russian speakers or overgeneralized the training. Although no resetting of parameters was observed during the research, the possibility of resetting parameters looks promising. This resetting will vary across reflexive and sentence types.

The second experiment, which evaluated the effects of preferences and pragmatics on binding, suggests that two grammars exist in Russian speakers and that language change may be underway in Russian where LD anaphora are concerned. The L2 subjects were less successful in this experiment and violated the c-command requirement for reflexives. LD binding could be induced through introduction of a verb of power in combination with a LD antecedent deemed to have control over the local antecedent.

The experiment's results conclude that Bennett and Progovac's (1993) X^0/X^{max} addition to Chomsky's Binding Theory does not adequately explain the current binding situation in Russian.

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1.0   CHAPTER ONE: INTRODUCTION

This dissertation concerns the formal representation of grammar in second-language speakers. In particular, the dissertation examines knowledge of co-reference (termed 'binding' in Chomsky, 1981a) among nouns and pronouns within and across clause boundaries. The investigation examines these structures across a number of sentence types, including monoclausal, biclausal finite, and biclausal infinite. In this context, the primary focus is second-language (L2) acquisition of the Russian reflexive object pronoun *sebja*, the reflexive possessive pronoun *svoj*, and the post-verbal affix *–sja*.

Several important points of clarification need to be stated. First, the idea that the post-verbal affix *–sja* is a contracted, but related, form of the object pronoun *sebja* should be noted. Second, the dissertation clearly does not attempt to handle all forms of the post-verbal affix *–sja*. This particular structure can actually be reflexive, reciprocal, or indicative of passive voice. Only those instances within which the post-verbal affix is truly reflexive have been investigated here for comparison against the other reflexive types. Third, although the post-verbal affix may not seem worthy of investigation, as it should always be bound locally and is rarely problematical, it was included within the dissertation work as an assurance that the native and non-native subjects are performing as expected in this least controversial of circumstances. Finally, it should also be noted that idiomatic or implied-subject referent *svoj* examples are not investigated within this dissertation, as they were deemed outside of the general scope of the experiment.

The project itself consists of classroom-oriented research in an L2 situation, that is, L2 acquisition of Russian by native speakers of English. This study uses an experimental

framework as its methodology to ascertain the extent to which a native speaker's language influences his or her acquisition of a second-language. The experiment should also evaluate the validity of the experimental instruments used, as well as provide insight into the performance and knowledge of L2 learners of Russian whose native language is English.

The subjects were recruited for the study using a blind recruitment script in accordance with institutional research board standards. The specifications for the native subjects were: they were native first-language (L1) speakers of Russian, they were not bilingual, they had lived and studied in Russia through at least their high-school years (but had more preferably gone on through a college/professional program), and that they had encountered little English, other than in academic classes, prior to exiting high school. The specifications for the non-native speakers were: they were L1 speakers of English, they were not bilingual, they were at least eighteen years of age, they had to test at an ACTFL intermediate level of Russian, they had not studied abroad extensively in Russia.[1] These specifications resulted in a broad age-range of eighteen to fifty-two for the L1 Russian speakers, but contained the L2 Russian speakers' ages to between eighteen and twenty two.

All subjects had to pass a battery of tests for knowledge and understanding of reflexives. This battery was constructed to ascertain that the subjects held a basic working knowledge of reflexives before entering the experimental battery. Those who passed this test battery then had the main battery of tests administered to them.

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[1] This requirement was made to avoid subjects who might have undue influence in Russian language due to having lived in immersion settings for long periods of time.

In light of the findings from this original test battery, an additional truth judgment task was administered to L1 and L2 Russian subjects. The original experiment had demonstrated two patterns of binding, as well as a possible effect of pragmatics on the results. The last task was administered in order to ascertain why certain lexical items, such as verbs of power, might influence binding choices.

The dissertation hypothesizes that the Chomskian theory of Universal Grammar holds for languages other than English, while attempting to demonstrate that different morpheme types are 'bound' differently (that is have different patterns of co-reference), and that a first language can and will affect these binding patterns. The dissertation continues the current academic dialog as to whether L2 grammars can be described in terms of formal systems of linguistic description that have been developed for native (L1) speakers.

2.0   CHAPTER TWO: AN INTRODUCTION TO SECOND-LANGUAGE ACQUISITION RESEARCH AND PRINCIPLES AND PARAMETERS THEORY

2.1   THE SUPPORTING BODY OF LITERATURE

The work of this dissertation is based on the past efforts of L1 and L2 research that uses linguistic theory to evaluate the cognitive status of second-language knowledge. In other words, this research questions whether L2 acquisition is epistemologically similar to or different from the L1 grammar in the domain of knowledge of reflexives. The limited work on L1 acquisition of reflexives in Russian has been mostly anecdotal. These studies involve diaries kept by parent-researchers on their own children, and most occurred during the Soviet era of exploration and science. The most extensive case documented to date was written by Aleksandr Gvozdev (1921-1929), who kept a phonetic diary of his son's language development during these years. He focused on discovering his child's development of linguistic competence, looking closely at his grammatical development (Gvozdev 1961).

A second noteworthy study was run by Zakharova (1958). She examined two hundred children between the ages of three and seven, showing them pictures of objects whose names were given in the nominative case. The children were then asked questions, which required them to place the names in another case form. The younger children did not pay attention to the gender of the noun, and more often than not overgeneralized a particular

ending for all genders. This was explained by Zakharova as a case of unmarked examples being generalized before marked examples. Thus, the children might acquire the correct structure, but not the correct endings to go with it.

A third study was performed by Vygotsky (1962). Vygotsky investigated the relationship between the acquisition of a language, which is rooted in those who have linguistic knowledge speaking to or around those who do not, and social development and control. He found that the acquisition of language, which begins as an interaction between two people, eventually resolves itself into a function mediated by the learner of the language and expressing the mental processes of the learner. Thus, a one-sided monologue used to direct and communicate becomes a conversation through which an individual learner can express him- or herself, demonstrating thought processes at the same time.

Further work by Slobin (1966) looked at the L1 acquisition of Russian by children, following their development in year/month stages. Here, word order acquisition was especially well documented, and the first universals among languages that were shared with Russian were highlighted. Slobin also reviewed the literature available at that point, noting that most of the literature and studies were flawed, as they neither followed the development of the child consistently nor documented the utterances of the child phonetically.

The acquisition of Russian as an L2 has not been thoroughly studied by many researchers. Researchers of Chinese, Arabic, and other less commonly taught languages at times refer to Russian as part of their research, but few studies have focused on Russian itself as a second, not first, language.

Several studies have been conducted in other Slavic languages. For example, Bennett (1994) conducted an experiment that served as the model for this dissertation. She, however, examined speakers of Serbo-Croatian who were acquiring English as their L2. Her results demonstrate that the testing methodology used here is viable. Bennett went on to research further the ideas from this earlier study with Progovac (Bennett and Progovac 1993, 1998). In each of these studies, Chomsky's Binding Theory was supported by the data, with the addition to the Binding Theory of the distinction between monomorphemes (X^0) and complex structures (X^{max}).

2.2   FOUNDATIONS OF SECOND-LANGUAGE RESEARCH

In 1983, the ACTFL Foreign Language Education Series devoted one of its first volumes entirely to research principles, prospects, and methodologies. This volume was one of the first forays into the field of Second-Language Acquisition Research and its prospects. Since then, an extensive number of Second-Language Acquisition (SLA) studies have been conducted and documented, in accompaniment with "a substantial increase in professional publications and conferences devoted to research in all areas of the field" (Omaggio-Hadley 1993: v). SLA is a field of study that investigates the attempt by a native speaker of a first language to acquire another (non-native) language. The research conducted in this field tends to center around classroom learning, teaching, and error correction, but is not restricted to issues of classroom learning. Some SLA researchers are interested only in second-language cognitive states, and do not require that their research have a direct pedagogical application (White 1989, 2003). The methods used in this field

of inquiry are frequently experimental, drawing on mainstream psycholinguistic and linguistic theory. Cook (1986) and Gregg (1996) maintain that inquiry into SLA requires a theory of what is learned and how it is learned. In the context of this dissertation, linguistic theory provides a detailed description of co-reference. This description provides the theory of the target of learning. Although some of the specific details may prove incorrect, a substantial body of literature does support the current theory of binding. As a result, researchers continue to collect information from the classroom and university setting so as to refine the theory. In order to investigate knowledge of co-reference, an experimental methodology is followed. An experimental methodology (as opposed to a qualitative/ethnographic method as in Cook, 1986) was utilized for several pertinent reasons.

First, one might wander endlessly through the country in question without ever happening upon an instance of the structure under investigation. Many structures are confined by audience and purpose constraints, and would therefore not typically be generated in a random informal setting. In addition, the amount of time required to happen across enough data in several languages for a cross-linguistic comparison, in conjunction with the relative fluidity of language, would render such experiments not only costly, but also ineffective and isolated. Second, even were the structure encountered, the chances that it would be repeatedly encountered in both several similar usages and several diverse usages is a near impossibility. Third, the chances that the structure would be used in a standard manner (that is, grammatically or according to the standard norm) are also slim. When investigators look at the acquisition of a second-

language, they draw a comparison with the standard literary language, as this is a norm that all educated speakers who know the language should reach to a proficient degree.

This issue of competence versus performance is not a new one, nor can it be ignored. Chomsky (1986b: 20-26) addresses this discrepancy between what a subject actually knows and how s/he performs. In this sense, competence constitutes a property found within the human brain. 'E(xternalized)-language', the speech event, contrasts with 'I(nternalized)-language', the system that internally produces the structure of the speech generated. The abstraction of the 'I-language', then, is an effective representation for explaining the language process. No claim is made as to the real physical state of the mind, and this subject has come under debate in the past (Eubank and Gregg 1995).

Regardless, given a particular situation, a speaker may know what is grammatically correct, but due to background or circumstances not perform according to the given standard. Chomsky quotes Jespersen's work (1894, reprinted in 1924), which indicates that there is an inherent inner meaning that may take different outer forms, depending on factors such as environment, audience, stress, and so forth. This dissertation's research attempts to address this issue by allowing all possible interpretations that the subject deems correct to be registered, while also recording a particular preference, if present. In addition, both native and non-native speakers were evaluated to establish a baseline for comparison.

This type of SLA research relies upon a comparison of L2 learner productions with a control group of native (L1) speakers, as compared to the standard language.[2] These speakers are selected for their level of knowledge of the language, not for their age or

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[2] Native speaker responses may differ from the standard language due to factors such as dialect or education.

year in school. Whereas the experimental group must be controlled for age and language level (one would not want to compare the knowledge of a first-year undergraduate student with that of a fifth-year graduate student, for example), the control group members will not necessarily be controlled for age, but rather, only for their level of knowledge of the language. The control group should represent a wide variety of educated speakers who have had institutional training in the target language, so that they reflect the current standard language. They are preferably located in the country of the target language.

There are several guidelines to selecting members of a control group. First, speakers must have grown up speaking only the target language at home and in school (true bilingual speakers are not good control participants). Second, the native speakers must have attained a proficiency level in the language, as indicated either by their diplomas held, or by their occupation and its inherent linguistic demands.

To cover all of these contingencies, SLA research will admit that not all native speakers will deem each and every sentence that they are presented with *acceptable*. The distinction here between the terms *grammatical* and *acceptable* must be clarified at this point. A sentence is *grammatical* if it is theoretically possible according to the grammar of the language, as determined by linguistic experts of the language. The same sentence is *acceptable* if it falls in line with a native speaker's intuition about a sentence being formed according to his or her innate and learned grammar.

Many times, a test subject will not accept a sentence, even though it might be grammatical. There are instances where lexical items on their own or within a single

sentence, when taken without a discourse[3] context, generate ambiguous meaning possibilities, and discourse is required to refine the speaker's interpretation of the sentence.

Linguists have examined the role of the lexicon and grammar in language acceptability. Originally, the lexicon was taken to represent the solid, immutable linguistic information that was passed on from subject to subject, while grammar was seen as a more abstract, changeable form. The lexicon[4] represented stored ideas or concepts, while the grammar then provided a way for these ideas or concepts to be meaningfully linked together in the sentence. Other linguists support the opinion that the grammar and the lexicon are irrevocably intertwined and actually interact to distribute linguistic material. This newer theory states that linguistic material is stored in pieces larger than the lexicon, and that these larger pieces are categorized and sorted from encountered utterances in order to allow subjects to understand and produce new utterances. In particular, Hopper's (1987) paper, "Emergent Grammar", supports this view that grammar and lexicon are not separate entities, but constantly interact. When different and diverse acceptable meanings of a lexical item are available to a speaker, additional context beyond a single sentence is required in order to clarify the meaning intended by the communication effort, or ambiguity remains. This view, however, is quite the opposite of Chomsky's ideas on the subject.

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[3] Discourse is used here to express additional contextual information beyond an isolated sentence. This type of communication may include placing the isolated sentence into a story or dialogue in order to establish meaning.

[4] Here, an item of the lexicon is considered to be a dictionary base-form. Such could include the item itself, complete with its morphemes, prefixes, affixes, and suffixes, as would be cited in a dictionary as a "word" but not extending to a phrase.

On the other hand, if the situation were such that the language meaning grew only out of discourse, this discourse context would always be necessary for the understanding of all lexical items. Yet, the meaning of many words is learned and is perfectly understandable once used in the context of a simple sentence, without a full discourse event taking place In fact, it is only in potentially ambiguous cases that context is required to make acceptability judgments, indicating that, in most cases, lexical items in an isolated sentence are able to express the intended meaning. This is much the same situation as giving a subject a word and asking for its definition. Just because a subject gives only one particular definition to the word (and does not include other possible definitions unless prompted) does not make these other definitions incorrect. It simply means that each item of the lexicon is usually construed with a primary meaning, and that to refine a different meaning for a word, context then becomes a requirement. Most of the time (as seen in multiple-definition English grammar exercises), an isolated sentence appears to be all the context a subject needs to arrive at the correct definition of a lexical item. However, when one examines the reference of a lexical item in conjunction with the language's grammar, many times a discourse context is required.

As far as SLA research is concerned, if several test participants are asked about several similar sentences that use the same structure, and if the majority of native speakers accept the structure in one sentence or another with like usage and the sentences are deemed grammatical, then a pattern of usage will be claimed by SLA research as being acceptable for that structure. There may not be unanimous agreement regarding the structure's use in each and every similarly constructed sentence. In fact, it is a rare case when native speakers agree with one another one hundred percent concerning language

usage, due to their upbringing, dialect, and particular education. However, by presenting the control group with numerous examples of the structure in question in different contexts, and by asking a number of native speaker controls about their judgments, SLA research usually manages to settle on a predominant pattern of usage for the structure.

In general, although many SLA experiments have been completed, there is a tendency to overgeneralize the results of those studies. The more experiments that are completed without this error, the more solid the foundation of the field and its findings will become. In addition, Russian has rarely been looked at as far as SLA research is concerned. Several studies have been completed (Rifkin 1997, Hart 1998, Kecskés 2000) on Russian second-language acquisition, but few demonstrate complex, multi-methodological approaches to date. Therefore, one of the major goals of this thesis is to contribute to the field with a solid methodology.

2.3   THE CLASSROOM-ORIENTED RESEARCH BASE OF SLA

The focus of the experiment in this instance is the classroom-oriented research approach. Classroom-oriented research is defined "very broadly here to include research conducted in classrooms, research that deals with learning and teaching in institutional contexts, and other research that is highly relevant to language teaching and learning (Johnson 1993: 1). The research also covers a wide variety of subject areas, including foreign language, English as a second-language, and English as a foreign language. All of these areas together are addressed under the general heading of SLA classroom-oriented research.

The topics of this research include, but are not limited to: how to conduct an experiment, language loss, pragmatics across cultures, learning strategies, affective factors, language proficiency and testing, computer-enhanced learning, content-based learning, and discourse analysis (Johnson 1993). Not only do the number of publications and studies indicate a serious approach to experimental research, but the fact that more and more teachers themselves are conducting the studies and learning to make their results accessible to other pedagogues is also worthy of notice. In short, any topic that affects what information is being taught, and especially how it is being taught, has become the subject of classroom-oriented research. The classroom-oriented experiment of this thesis is dedicated to an analysis of reflexive structure usage and interpretation by L2 learners in comparison to the L1 norm.

2.4   METHODOLOGIES OF CLASSROOM-ORIENTED SLA RESEARCH

In order to complete research in a classroom-oriented setting, a particular methodology must be utilized. Johnson (1993) addresses six different approaches, which she claims are not mutually exclusive, but interact with one another in experimentation. These six typologies are: correlational approaches, case studies, survey research, ethnographic research, discourse analysis, and experiments. This thesis adopts an experimental framework as its methodology. Thus, the experiment's hypotheses concerning second-language acquisition of Russian by native speakers of English will be proven true or false. In addition, information from the investigation into the second-language learners' knowledge and performance will be gained. In essence, the experiment will succeed,

regardless of outcome, in that it will ascertain the validity of the experimental instruments and it will provide findings of an investigation of the performance of second-language learners of Russian, whether or not the data gathered support the original hypotheses.

Success of these six methodologies becomes wholly dependent on the study being valid. In establishing a valid study, Johnson cites six factors that need to be taken into account:

(1)   the development of a flexible, working research design that involves productive refocusing;

(2)   the use of multiple data-collection procedures;

(3)   the collection of adequate amounts of information over time;

(4)   the validity or credibility of the information;

(5)   the data analysis procedures; and

(6)   the typicality and range of examples.

A good analysis is one that identifies important issues, discovers how these issues pattern and interrelate, explains how the interrelationships influence the phenomena under study, and offers new insights (Johnson 1993: 8).

The first of the methodologies, correlational approaches, usually takes a quantitative approach to students, seeking not to provide detailed information about them, but to collect general trend information on them. Topics explored through this methodology range from language testing to language-learning strategies. For example, Ely (1986) examines participation in the classroom and its prediction for learning outcomes. Participation might turn out to be correlated with oral correctness and risk-taking, but not with fluency or written correctness. Of course, several methodological issues follow for

this approach. First, complex behaviors must be correlated and reduced to numbers. Second, many of these studies rely on questionnaires that are, themselves, questionable. Validity, as previously mentioned, is a major factor in a good correlational study, and interviews and observations are more effective means to conduct correlational studies, as opposed to questionnaires (Johnson 1993).

The second approach, the case study, focuses on an individual case within a particular context, and is most utilized for child language acquisition. Cases may be a student, a classroom, a school, or a community, although case studies are rarely used for classroom-oriented research due to their perceived narrow focus. Johnson 1993) reflects that they might be brought to bear on SLA research, as in Gumperz's 1986 look at interactional sociolinguistics in the classroom situation. In other words, classroom-oriented research might well benefit from closer observation of individual classrooms or communities as opposed to the traditional individual as a case. The most problematic methodological problem for case studies is that they are not rigorous (standardized criteria have not been set). On the other hand, they are readily accessible to teachers and provide a focused look at learning.

The third approach, the survey, is designed to generalize characteristics of an entire population by examining a sample of that particular population. For example, over time, the Modern Language Association surveyed registrars at institutes of higher learning regarding the number of students registered in different foreign languages. Through this survey, a ranking of the popularity of languages taught was determined. In addition, this survey system could be used to track trends in language popularity over time, and perhaps be correlated to the rise or fall of the popularity of certain languages.

Methodological concerns from Johnson (1993) include: surveys entertain breadth but not depth, some surveys lack validity, sampling procedures are not explained, there are low response rates, which lead to bias due to nonresponse, and there are no qualitative measures employed. If the surveys could be made more effective for response (as in the MLA study's postcard approach), they could provide valuable data on trends and movement in the SLA community.

The fourth approach, ethnographic research, looks at the study of cultural and social phenomena as they affect the classroom. Macias (1987) used this approach to look at how the culture of Native American students conflicted with their classroom experience. Most of the work is done with young students, and few studies to date have looked at SLA. Methodological problems concern the fact that older participants have not been examined, as well as the fact that the term *ethnography* has been used loosely and not always correctly. In addition, because the work is so specific, it is rarely accessible to teachers and L2 learners.

The fifth approach for SLA research is discourse analysis, or the study of a language in units larger than a sentence. More specifically, this approach looks at written texts and oral interchanges and analyzes them. Discourse analysis can cover a wide range of functions, from analyzing why foreign teaching assistants are difficult for English speakers to understand to how teachers can adapt their classrooms for better learning. Zribi-Hertz (1989) used this methodology to look at reflexive binding in English, claiming that language is built from discourse, and then works backward to the individual word meaning in an approach referred to as the "top-down" method. This method is sociolinguistic and ethnographic in nature. In contrast, other researchers utilize the

"bottom-up" method, whereby an interesting structure is selected and then analyzed for form and function in discourse (Hatch 1992). This approach has a linguistic basis, and is used frequently. Methodological problems with the general approach (Johnson 1993) include: not indicating the frequency, representativeness, and variability of such phenomena, selecting works that are not illustrative of current language (texts that are older or that utilize an odd style of writing), and providing too little discourse context to allow sense to be made of the texts used.

The sixth method for researching SLA is the experimental methodology. These experiments, according to Johnson (1993), "are abundant in the field of second-language acquisition and teaching." Here, researchers try to establish a "cause-and-effect relationship between two different phenomena" (Johnson 1993: 13). The true experimental methodology, of course, randomly assigns participants into the experimental and control groups. However, as previously mentioned, this sort of design "is often impractical, undesirable, or even illegal. Therefore, true experiments conducted in authentic classrooms are rare. Experiments are most often conducted in labs or in simulated classroom settings" (Johnson 1993: 13). Indeed, "the experimental paradigm has remained dominant in research in second/foreign language learning. Its privileged status is evident in most major journals, and in several of the recent books on second-language research methods" (Johnson 1993: 13). A prime example of an experimental methodology is available in Doughty (1991), where the researcher experimented with different pedagogical methods in teaching relative clauses in English. Although the study has some minor flaws, it "provides an example of valuable classroom-oriented experimentation" (Johnson 1993: 13). Difficulties with the approach tend to be that there

is sometimes a lack of generalizability to other situations. In addition, experimentation often fails to answer why a particular method works. However, this methodology is extremely effective in that it often addresses questions that teachers themselves are asking and provides answers to some of the most important questions that are relevant today.

In general, then, it is clearly advantageous to unite several of these methodologies in order to build a comprehensive answer to a question. This thesis is a first step in investigating the cross-linguistic applications of binding theory (Chomsky 1981a) for the acquisition of Russian reflexive structures by L2 learners. It relies, for the most part, on an experimental methodology, while integrating some discourse analysis and survey techniques as well. The hypothesis is put forth that English L2 learners of Russian will be influenced by their English binding parameters until these parameters are reset. Whether or not this hypothesis is proved true or false, the thesis seeks to investigate structures that have been analyzed for other languages and contribute to the literature as to whether or not Chomsky's binding theory holds true for Russian reflexive structures, or whether a different methodology or even theory might provide greater insight.

2.5   A SKETCH OF PRINCIPLES AND PARAMETERS THEORY IN L1 ACQUISITION

Working with SLA research methodologies and Chomsky's binding theory (Chomsky 1981a, 1981b) necessitates a brief overview of Principles and Parameters Theory. Vivian Cook and Mark Newson (1996) provide a sketch in their pages 40-74. Although

Chomsky's theory has evolved, the basic approach has not been superseded or abandoned. On the other hand, ideas on syntax in particular have changed and gone in different, sometimes opposite, directions throughout Chomsky's work. This thesis is based on one of the later models, government and binding, taken from the title of one of Chomsky's books on syntax. The Government/Binding Model of syntax was first elaborated in his 1981a work in this area. This text introduced the concept of principles and parameters, although these concepts have since been modified in a new work, *Barriers* (Chomsky 1986b). The essence of government and binding, now referred to by Chomsky as principles and parameters, was revised again in Chomsky's 1993 and 1995 works on the Minimalist Programme.

These ideas all take root in an idea reiterated by Chomsky (1972: 17) that "each language can be regarded as a particular relationship between sounds and meaning." Here, the sounds are the "external face of language" (Cook and Newson 1996: 42), while the meanings are the "internal face of language" (Cook and Newson 1996: 42). Simply put, the sounds have no meaning to anyone but a speaker of the language, and the meaning is represented outwardly by combinations of sound. In other words, as Cook and Newson (1996: 42) illustrate this concept, there is a direct relationship between sounds and meaning such that

'sounds' ⟵⟶ 'meanings'

Figure 1: The Sound-Meaning Bridge

The complexity of language, however, results not from this simple correspondence, but from how sounds can represent meaning, and, in turn, meanings, sounds. Chomsky explains this in a bridge from sound to meaning via phonetics, as in Cook and Newson's (1996: 43)

```
                syntax
                /    \
         phonetic   semantic
       representation  representation
           'sounds'   'meanings'
```
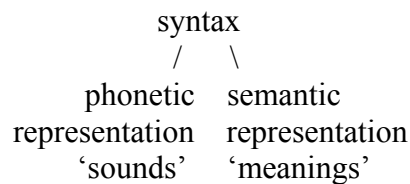
Figure 2: The Sound-Meaning Bridge Tree Diagram

The meaning is thus captured through phonetic form (PF), or sound sequences, and logical form (LF), representations of meanings, through a syntax connection in Cook and Newson's (1996: 43)

```
          syntax
          /    \
        PF      LF
```
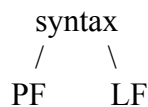
Figure 3: The Bridge Between Phonetic and Logical Form

PF and LF become the interface of the language to bridge the gap between form and meaning. The problem for linguists then becomes one of how children acquire this interface between their language's form and meaning. This question leads to other questions as to how the same form might represent two different meanings ambiguously,

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or how two different forms might represent the same meaning. This led Chomsky to believe that there was a full semantic representation available to children that is not simply at LF. It also led him to the idea of movement, or transformations, as movement was known in early work from 1957 to the early 1970s.

In order to incorporate movement, Chomsky had to arrive at an idea of two different levels of representation for each sentence, a D (or deep) level and an S (or surface) level. In other words, a deep structure could be manipulated to an apparent surface structure through movement of certain elements of the sentence in certain positions. This expression of key structural relationships between the elements of the sentence and their ability to move from certain positions to others included the idea of traces. When an element moved from its original position in the D-structure to a new position in the S-structure, a trace, *t,* remained behind to illustrate where the element had been in the original D-structure sentence, as in (2.1) and (2.2).

2.1. What$_1$ are$_2$ you t$_2$ seeing t$_1$ at the cinema? (S-structure)

2.2. You are$_2$ seeing what$_1$ at the cinema? (D-structure)

Thus, the two levels of syntax, deep and surface, are related through movement, while leaving behind traces to indicate where the S-structure elements that moved originated. Integrating this concept into a schematic, Figure 4 (Juffs 1996) shows the relationships between the different levels of meaning.

```
              Lexicon
    Base <
      |        X-Bar Theory
      |
D-Structure
      |
      | ← Move α⁵
      |
S-Structure
      ∧
     /  \ ← Move α
    /    \
  PF      LF
```
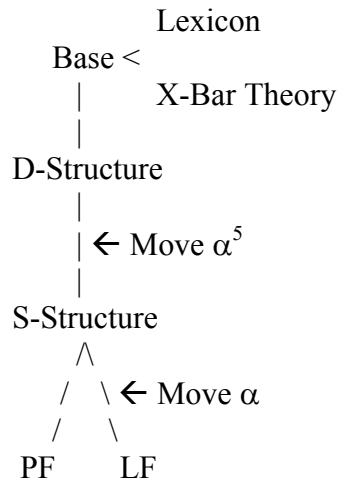
Figure 4: The Model of the Grammar assumed in Chomsky (1981a)

This division of D- and S-structures does not apply to all languages in the same way, however, as not all languages allow wh-movement (like Japanese and Chinese), or curtail movement to very specific elements. The theory is simple in one respect, but is sometimes difficult to understand. The problem in explaining the theory originates in its modularity or compartmentalization into separate components. It is claimed that the language faculty is a separate module in the human mind. In addition, Chomsky's grammar is itself modular and comprises several interacting subtheories. "The description of a single sentence or a single phrase involves the simultaneous application of all relevant principles and parameter settings (Cook and Newson 1996: 48). Understanding the Principles and Parameters Theory is much like trying to understand how an automobile moves by examining individually either its catalytic converter or spark plugs. The individual pieces' places in the grand scheme are not recognizable until the whole theory is presented. Once presented, however, the theory, though sound, is still

---

[5] Move α is a general movement rule (Chomsky, 1986b).

being modified by researchers today. The goals of syntactic theory are to provide a detailed, but economical, description of the structural properties of sentences; it is in this sense that the word 'elegance' is used.

The theory of Universal Grammar (UG) states that certain commonalities are found among languages. The variation among languages is then attributed to parameters that may be set and reset for each individual language.

> Parameters constitute predetermined limits on the ways languages may vary, or the way a particular principle may be instantiated in a language. As such they are understood to be the part of the theory which accounts for differences among languages. It has also been proposed that in some cases a particular parameter setting will have consequences for a variety, or cluster, of superficially unrelated grammatical phenomena in a language. (Juffs 1996: 10)

In this model, the lexicon is the source of syntactic representations. This concept leads to a major principle of Universal Grammar, the Projection Principle, as in (2.3).

> 2.3. The Projection Principle
> Representations at each syntactic level (i.e. LF, and D- and S-structure) are projected from the lexicon, in that they observe the subcategorization properties of lexical items. (Chomsky 1981a: 29)

To understand this relationship among LF, S-structure, D-structures, X-bar syntax is a necessity. X-bar syntax describes the structure of underlying phrases and sentences in terms of a set of principles and parameters that apply to individual elements in the phrase or sentence through a tree-diagram representation. The Projection Principle resulted in part from developments in generative grammar that involved the substitution of X-bar theory, a general phrase structure component (Chomsky 1986b), for the phrase structure rules involved with major syntactic categories. Included within this explanation is the idea of a *head* in the phrase, and the basic phrase structure itself.

A sentence can be broken down into a projected phrase structure as in (2.4).

2.4. The boy hit the ball.

This includes the familiar tree-diagram representation of the sentence using its phrasal elements. Noun phrases may include a determiner and a noun, for instance, while verb phrases tend to have a verb followed by a noun phrase (if appropriate). Thus, the sentence (2.4) would be tree diagrammed as in Figure 5.

```
                        Sentence
                           /\
                  Noun        Verb
                 Phrase      Phrase
                   /\           /\
        Determiner   Noun   Verb   Noun Phrase
            |          |      |         /\
          the        boy     hit   Determiner  Noun
                                        |        |
                                       the      ball
```
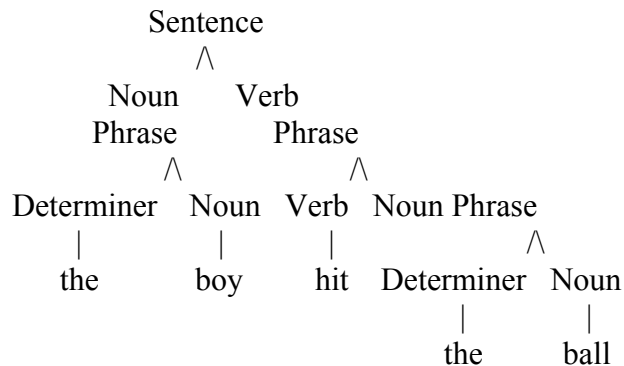
Figure 5: Tree Diagram Representation of Phrase Structure

This same structure can be represented by the bracketing method as in Figure 6.

[s[NPThe boy][VPhit[NPthe ball]]]

Figure 6: Bracketed Phrase Structure

The essential element of each phrase is called the head of the phrase. In an NP, the head is the noun; in a VP, the verb; in a PP, the preposition. From this concept, Chomsky elaborated a theory that languages differ according to their placement of the head as either the first or last element in the phrase. This concept became known as the head

parameter of X-bar theory. X-bar theory then determines the ordering of elements in a phrase, and

> … integrates the lexicon with syntax via the Projection Principle: 'An X-bar structure is composed of projections of heads selected from the lexicon' (Chomsky 1993: 6). On the one hand it is concerned with the lexical categories, Nouns, Verbs, Prepositions, and Adjectives. On the other the syntactic structure of the sentence reflects the properties of the lexical items of which it is composed; the Verb *like* must be followed by an NP complement, for instance. The Projection Principle that projects the characteristics of lexical entities onto the syntax links D-structure to S-structure and LF to the lexicon by specifying the possible contexts in which a particular lexical item can occur. (Cook and Newson 1996: 48-49).

In addition, syntax concerns itself with the semantic roles played by NPs in a clause and their grammatical functions. For example, referential expressions are assigned thematic roles according to their syntactic status. AGENT NPs are usually grammatical subjects and UNDERGOER/PATIENT NPs are usually grammatical objects. Here, the semantic relationships among elements of the sentence are exposed in the principles and parameters theory *theta-roles*. The theta theory examines how lexical items behave in their relationships with other lexical items. The roles of AGENT, PATIENT, and GOAL are thus assigned to the lexical elements of the sentence, and are dependent on the properties of the verb. For example, the verb 'arrive' assigns only a PATIENT/THEME role, while a verb like 'give' assigns three roles: AGENT, PATIENT, and GOAL. Further exploration determines that all elements are assigned a theta role and all theta roles necessary to the sentence are assigned in a subsidiary theory called the Theta Criterion. This "interlocking network of sub-theories in which each interacts with the others" (Cook and Newson 1996: 50) comprises the Principles and Parameters Theory.

To account for the idea that, in most cases, the argument with the semantic role of AGENT has the grammatical function of subject at S-structure and the argument with the semantic role of THEME, in most cases, has the grammatical role of the verb's direct

object, a link between semantic roles and grammatical functions was required. A set of principles was arrived at to forge these links. Thus, Principles and Parameters originated Thematic Hierarchy and Case theory (Juffs 1996: 20).

The Thematic Hierarchy establishes the position of arguments in the D-structure. The Thematic Hierarchy (Larson 1988) states that theta roles possess a hierarchical list with rules that link the theta roles to positions in syntax. The hierarchy presented is that of Larson (1988: 382), as seen in (2.5).

2.5. Thematic Hierarchy
    Agent > Theme > Goal > Obliques (manner, location, time…)

Thus, the D-structure of a sentence with *hit* as the V might be diagrammed as in Figure 7. The assumption is made that the position c-commanded[6] (first branching node definition) by the verb is the 'highest' syntactic position within the VP (Juffs 1996: 21).

---

[6] C-command indicates that an item A at a branching node does not dominate an item B, nor does B dominate A, and the first branching node that dominates A also dominates B (Chomsky, 1986a, 1986b).

```
                IP
               ∧
              I'
             ∧
            VP
           ∧
        NP     V'
      The boy     ∧
      AGENT    V'  PP
              ∧     through the window
            V  NP       GOAL
           hit  the ball
               THEME
```
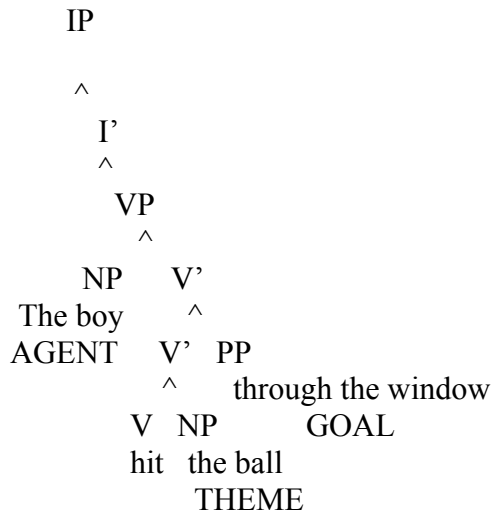
Figure 7: Deep structure of *hit*

Case theory then results in the S-structure order. All NPs are assigned a Case (Chomsky 1981a: 175), with Cases being assigned based on government, or more recently, Specifier-Head agreement (Chomsky 1986b: 24). If an NP fails to be assigned Case, it will be ungrammatical, a phenomenon known as the Case Filter.

This module of the Principles and Parameters Theory affects all aspects of the theory. It is well known that clauses do not simply consist of a linear string of words; instead, asymmetrical relationships exist among words in a clause. For example, the concept of *government* concerns the relationship of a *governor* to its *governed* element. Possible governors are the Noun, Verb, Adjective, and Preposition, that is, all of the heads of lexical phrases may act as governors. For instance, in the sentence in (2.6), the Verb *hit* governs the NP *the ball*, and the Preposition *through* governs the NP *the window*.

2.6. The boy hit the ball through the window.

There is a unidirectional influence exerted from the governor to the governed, which influences the case that a governed element will take. In Case Theory, when the

27

preposition *through* governs the NP *the window*, the governed element, *window*, occurs in the objective (as opposed to nominative) form due to government by the preposition *through*. The inflection, or INFL, is the head of the IP, which assigns the nominative case of the Subject. The INFL element represents the concepts of *Tense* and *Agreement*, where Tense indicates a time reference and Agreement represents singularity or plurality and gender reference. Sentences with both Tense and Agreement are termed *finite clauses*. Sentences lacking Tense and Agreement are referred to as *non-finite* or *infinitival* clauses. INFL can thus be either finite or non-finite. When INFL is finite, it may contain the features of tense and agreement (AGR), which are realized as an inflection attached to the Verb such as *–ed*. When INFL is non-finite, it may contain the infinitival marker *to*. (Cook and Newson 1996: 53) INFL is represented within a sentence as in (2.7).

2.7. The boy INFL hit the ball through the window.

Thus, participants appear in nominative case when there is a finite INFL. In the event of a non-finite INFL, the case of the subject may appear to be objective, as in the accusative form of 'her' in (2.8):

2.8. The boy wants [her to hit the ball through the window].

However, this is actually the result of PRO operating in the sentence.[7] To summarize the theory in a succinct manner, then, it may be said that government is a "syntactic relationship between a governor and an element that is governed" (Cook and Newson 1996: 54), where the governors may be any head (Noun, Verb, Preposition, Adjective, or finite INFL) that can affect the case and/or agreement of the governed element.

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[7] PRO is a null pronoun further explained on page 41-43, whereby a subject pronoun may be dropped or not according to language type.

The relationship between Case and D-structure and S-structure is such that if an NP is in a position that cannot be assigned Case, it is forced to move in order to acquire Case. Hence, at S-structure, *the boy* is assumed to move to Spec of IP in order to be assigned nominative Case from INFL. The Theme argument receives Case from the verb, and the Goal, from the P heading the PP, with both remaining at their D-structure positions.

Finally, the Theta Criterion (Chomsky 1981a: 36), described in (2.9), makes certain that theta roles are not randomly assigned.

2.9. Theta Criterion
Each argument bears one and only one theta role, and each theta role is assigned to one and only one argument.

As Juffs (1996: 22) states, the verb's theta grid, the Projection Principle, the Thematic Hierarchy, Case theory, and the Theta Criterion account for grammatical data. This scheme can be seen to operate, as in sentence (2.10a). Here *put* is assumed to subcategorize for an Agent, a Theme, and a Goal. The verb and all elements in the theta grid will project syntactic positions, in accordance with X-bar theory, based on the Projection Principle. If any of these requirements is violated, the sentence will be ungrammatical, as in (2.10b) and (2.10d). The Theta Criterion asserts that in (2.10b) and (2.10c), one argument cannot receive both theta roles; in (2.10d) the Thematic Hierarchy is violated, since the Goal here maps to a higher position than the position of the Theme; in (2.10e) the Theta Criterion is violated, since one theta role cannot be assigned to two unconjoined arguments, as in *the ball* and *the bat*.

2.10.   a.   The boy put the ball through the window.
        *b.   The boy put the ball.
        *c.   The boy put the window.
        *d.   The boy put the window through the ball.
        *e.   The boy put the ball the bat through the window. (Based on Juffs 1996: 22)

So, in considering English, for example, it is clear that this language has particular UG parameter settings. For instance, the head parameter is always set one way and it adjusts the movement parameter to a particular position. According to Chomsky, then, "[t]he grammar of a language can be regarded as a particular set of values for the parameters, while the overall system of rules, principles, and parameters, is UG which we may take to be one element of human biological endowment, namely the 'language faculty'" (Chomsky 1982: 7).

Taking yet another of the parameters, the *Pro-drop* or *Null Subject* parameter, one can contrast two languages for parameter settings and view the importance of parameter setting to making Chomsky's theory universal to all languages. Unlike English, some languages do not require a clause to have a Subject pronoun. One example of such a language is Chinese.

In Chinese, a pro-drop language, the sentence (2.11) can be answered with sentence (2.12).

   2.11. Shi shen mo?
         'what are you'

   2.12. Shi ge haixiang.
         'am the walrus'

without an initial *wo* 'I' as the subject (Cook and Newson 1996: 57). On the other hand in English (a non-pro-drop language), one cannot express the thought 'I am the walrus' (of Beatles fame) with the sentence (2.13)

   2.13. *am the walrus

Exceptions may, of course, be found to these proper examples, especially in casual speech. However, important here for the universality of acquisition is not whether

exceptions based on regional variety or audience/purpose exist, but whether children learning English produce pro-drop sentences or not. This led Chomsky to question whether there really was no subject in the pro-drop sentences, or whether the subject category simply remained empty for some reason. The basic assumption made is that all sentences have participants (as ascertained by the Extended Projection Principle). The participants are phonetically null in pro-drop languages, the subject spot being filled with the empty category *pro*, as in (2.14).

2.14. *pro* shi ge hiaxiang

The actual pronoun meant is replaced by the empty pronoun 'pro' in the S-structure of (2.14) above. Thus, languages like Arabic, Chinese, and Italian are set to the pro-drop parameter setting, while languages like French, English, and Russian[8] are set to the non-pro-drop parameter setting, and the theory remains a universal of languages. The theory simply has two settings, and only one may operate in the language of acquiring native children. Thus, the ideas of universality and universal grammar are theorized by Chomsky to operate in the languages of the world. Each parameter has two settings, with each language setting its parameter one way. Chomsky arrived at a theory of Universal Grammar that, while revised, has become the basis of a number of SLA research experiments, including those by Bennett (1994), upon which this thesis experiment is based.

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[8] Russian is still debated as a non-pro-drop versus pro-drop language, though this is its most recent classification.

2.6   PRINCIPLES AND PARAMETERS THEORY IN L2 ACQUISITION

The question of whether UG is available to second-language learners who are past the critical period (Lenneberg 1967, DeKeyser 2000) becomes a factor in any study. Questions range from whether adults who have acquired a first language actually have direct access to UG, and if so, to what extent and in what form they are able to access UG. Researchers have attempted to prove that adults have, or do not have, access to UG (Bennett 1994; Thomas 1993).

In spite of all of the research, a conclusion has not been reached as to whether UG is available to adults. There are definite similarities between child and adult language acquisition; however, the differences between cognitive development states and data-gathering techniques (Clahsen 1990: 136) have made conclusions difficult to draw. Some researchers claim there is access to UG by adults (Flynn 1986), some claim there is full transfer and then a switch between the L1 and L2 (Schwartz and Sprouse 1996), and yet others claim there is no access to UG at this point (Bley-Vroman 1988). The difference in opinion as to what is available to adult L2 learners is not really a problem, though. Theories must be tested in order to explore the field, explain the data, and arrive at a final conclusion.

Several researchers have observed the use of L1 structures in the L2, especially in instances where the languages' structures differ. This *transfer* of the L1 to the L2 sometimes appears as errors made by the learners. White (1992) and others have examined principles and parameters in L2 acquisition, finding at times that one, another, or both parameters are operating at the same time in the L2 acquisition process. Whether this discredits the parameter theory or is acceptable in a theory where L1 learners are

'trying out' different parameter settings in switching from one language to another, remains to be seen (Juffs 1996: 34).

Although this thesis is concerned with how the differences between languages may cause interference and transfer, Principles and Parameters theory concerns itself with both what is universal to human languages and how languages vary. It is important to realize that Chomsky (1981a) first developed this idea to account for the fact that human languages share commonalities in some categories, while differing substantially in others. In a sense, then, Chomsky proposes that all languages are constrained by certain fundamental rules, UG, but vary within the given parameters. The operation of UG can then account for the ease of L1 acquisition, the logical problem of L1 acquisition, and the concept of why certain structures generated are grammatical, while others are not. This thesis utilizes this intersection between what varies in language and what remains constant in order to discern whether there is an influence of the L1 English on the L2 acquisition of Russian.

3.0   CHAPTER THREE: BINDING THEORY

3.1   A BRIEF SKETCH OF CHOMSKY'S BINDING THEORY

Chomsky's theory of binding principles has evolved over time. Chomsky (1965) and subsequent developments (Chomsky, 1977) were known as the 'Standard Theory' and 'Extended Standard Theory' respectively. The Revised Standard Theory constituted a move away from very powerful phrase structure grammars to a consideration of how these grammars could be constrained. Specifically, rather than pointing out what was possible through a phrase structure grammar, generative linguists began to develop approaches to syntactic theory that made falsifiable predictions about what is and is not possible in syntax. Chomsky's (1977) constraints paper concerned wh-movement. From 1979-1981, Chomsky turned his attention to constraints on interpretations of NPs and to a typology of different types of NPs that included anaphors (reflexives and reciprocals), pronouns, and full noun phrases called 'referring expressions'. Based on an analysis of English, Chomsky proposed constraints that accounted for the co-reference possibilities of each of these three NP types. The prediction was that such constraints, if they obtained for English, should obtain for all other languages and were thus part of Universal Grammar. This is precisely the kind of falsifiable prediction that linguists, and all scientists in general, value. The proposals in Government and Binding led to a set of research questions that have been productive in generative research.

Moreover, historically speaking, one of the topics that has interested traditional grammarians has been how pronouns relate to their antecedents. In spite of this, pedagogical grammars have not treated the typology of NPs with anything near the detail that generative linguistics has. Binding theory originally focused the tools of Universal Grammar on the issue of how pronouns and nouns related to each other, but began to extend this type of relationship to include several other categories as well. Thus, Binding Theory "is concerned with connections among noun phrases that have to do with such semantic properties as dependence of reference, including the connection between a pronoun and its antecedent" (Chomsky 1988: 52).

If, for example, one examines relationships among different types of NPs closely, one soon realizes that particular pronoun classes have specific relationships with their antecedents, and these relationships can be expressed in terms of Principles and Parameters Theory for each language. Take, for example, the sentence in (3.15).

3.15. Rex bit him.

Here, one must assume that there is some entity to which the word *Rex* refers (this particular token of the language refers to some object in the real world). Chomsky therefore calls a word like *Rex* a *referring (or r-) expression*. The theory assumes that people using this sentence in English have knowledge of the entity to whom *Rex* refers. It also assumes that the entity *Rex* bit another entity *him*. Without knowledge of the real world, the proper noun *Rex* and the pronominal *him* cannot be identified. Nevertheless, one idea that is clear to all native (L1) speakers of English from the sentence is that *Rex* and *him* are two different entities: they do not refer to one and the same being.

On the other hand, the sentence in (3.16) presents a different situation.

3.16. Rex bit himself.

Here, *Rex* is still a proper noun referring to some entity outside of the sentence, but *himself* is considered to be an anaphor (a reflexive or reciprocal pronoun) that makes reference back to an entity mentioned earlier in the sentence. Here, *Rex* and *himself* are one and the same being. The main point of Binding Theory, then, is to account for the different interpretations of *Rex, him,* and *himself*, and to identify "how the speaker knows when two such expressions may refer to the same person and when they may not" (Cook and Newson 1996: 62). It is conventional to show that two expressions are co-referent (or not) by using a subscript lower-case letter called an *index*. The above sentences would be indexed as follows in (3.17-3.18).

3.17. Rex_i bit $\text{him}_{*i/j}$.

3.18. Rex_i bit himself_i.

Binding Theory therefore describes the situation of when two expressions can or cannot be co-indexed. "If an expression is in a certain structural relationship to another and is co-indexed with it, it is 'bound' to it" (Cook and Newson 1996: 62-63). Of note here is the fact that all syntactic theories must account for these inclusive and exclusive relationships: the definitions and framework may differ, but the phenomenon is the same, regardless of the theory.

Chomsky's framework sets up a system of word classes, then moves forward to explain their different binding patterns. The three major classes investigated since 1981 are: *referential-(r-) expressions*, *pronominals*, and *anaphors*. Nouns, such as *Rex*, are termed r-expressions as they do not refer to anything within the sentence, but, rather, take their reference from outside information: one needs to know who *Rex* is outside of the sentence. Pronominals, like *him*, refer to the nominative and objective personal pronouns.

Anaphors, like *himself,* are a general class of referring expressions that have subclasses termed reflexives (*himself, themselves)* and reciprocals (*each other*). These types of expressions refer back to a noun or pronoun earlier in the sentence, or in special circumstances, refer to an understood antecedent or claim special emphasis status.

As far as the reference possibilities are concerned, r-expressions are very easy to identify. With very few exceptions, they always refer outside of the sentence and are based in the reader's knowledge of his or her surrounding entities. At the other extreme of reference possibilities are the anaphora, whose reference is always within the sentence or clause (or some referent understood as being entailed by the sentence). Pronouns are seen as between the two extremes: they cannot refer to nouns in the same clause as their antecedents, but usually refer within the sentence (although at times, their reference is outside of the sentence). Take the sentences in (3.19-3.20) as an example.

3.19. Rex_i bit $him_{*i/j}$.

3.20. Rex_i bit $himself_i$.

In sentence 3.19, *Rex* and the pronominal *him* cannot be bound. On the other hand, in sentence 3.20, *Rex* and the anaphor *himself* must be bound. The situation becomes more complicated, however, when an additional r-expression is introduced into the utterance.

3.21. Rex said that Spot bit himself.

Here, *Rex* and *himself* cannot be co-indexed, despite the fact that both are present in the same sentence. From this example, Chomsky arrived at the idea that the clause, not the sentence, was the decisive structure in determining possible reference. Looking at the clause structure clarifies the situation.

3.22. Rex_i said that $[Spot_j$ bit $himself_j]$

Rex is external to the clause, while *Spot* is internal to the clause. The anaphor, *himself* (and indeed, all anaphors in English), must take its reference from within the clause. In other words, the anaphor is *bound* within its own clause. On the other hand, the pronominal *him* has the exact opposite type of binding pattern. Take sentence (3.23).

3.23. Rex_i said that [$Spot_j$ bit $him_{i/*j/k}$].

Here, the pronominal must take its reference from outside of the clause that it is within, resulting in the potentially ambiguous binding pattern illustrated above. On the one hand, it is possible that *Rex* and *him* are co-indexed, meaning that Spot bit Rex, and Rex stated that fact. On the other hand, due to the nature of the pronominal's reference, *Rex* could be stating that *Spot* bit a third, unspecified, party. In either case, *him* cannot be co-indexed in the same clause with *Spot*. Cook and Newson (1996: 65) provide the following summary:

> So the crucial difference between anaphors, pronominals, and referring expressions is the area of the sentence within which they can be bound; anaphors are 'bound' within the clause, pronominals may be bound by NPs in other clauses or be free to take their reference outside the sentence; referring expressions are always free. Binding Theory is then chiefly concerned with giving more precision to the area within which binding may or may not take place. The discussion so far has used the concept of the clause; Binding Theory uses a slightly different concept called the local domain, of which the clause is one example.

Using these terms, it is now possible to reduce Binding Theory to a short statement, followed by the principles themselves. The local domain is defined by (a).

Binding Theory (Chomsky 1981a: 211)

    a. α is the governing category for β if and only if the minimal category containing β is a governor of β, and a SUBJECT accessible to β.

    b.   Binding Principles

        A an anaphor is bound in a local domain

        B a pronominal is free in a local domain

        C an r-expression is free.

Principals A and B accounted for the complementary distribution of pronouns and anaphors, whereas principal C accounted for the necessary outside reference of r-expressions. However, this early theory showed some difficulties in accounting for the data in English, so it was reformulated.

Revised Binding Theory (Chomsky 1986a: 171)

…the indexing I and the pair (α,β) are compatible with respect to the binding theory if α satisfies the binding theory in the local domain β under the indexing I:

I is Binding-Theory compatible with (α,β) if:

(A) α is an anaphor that is bound in β under I

(B) α is a pronominal and is free in β under I

(C) α is an r-expression and is free in β under I

Chomsky then adds a licensing condition for a category a governed by a lexical category γ in the expression E with indexing I:

For some β such that (i) or (ii), I is Binding-Theory compatible with (α,β):

(i) a is an r-expression and (a) if a heads its chain or (b) otherwise

(a) $\beta = E$

(b) β is the domain of the head of the chain α

(ii) α is an anaphor or pronominal and β is the least CFC containing γ for which there is an indexing J Binding-Theory compatible with (α,β).

The effect of this formal statement is that the relevant governing category is the minimal one in which the binding theory can be satisfied by some sort of indexing. Hence, in the

sentence in (3.24) *Rex* and *he* may co-refer, or *he* may refer to an outside entity as in (3.24).

      3.24. Rex said he bit himself

On the other hand, *he* and *himself* must co-refer, with no other possibilities. Therefore, English possesses some instances of clear reference, and others where the reference is ambiguous. Again, Cook and Newson (1996: 66) succinctly detail the import of this theory.

> To find which expression binds another in a sentence, the speaker must know not only the syntactic category (anaphor or pronominal) to which the words [*him*] and [*himself*] belong, but also the relevant local domain. Though the concepts required are abstract, they are necessitated by the data; they are hypotheses that may be refuted or refined by better data.

The term *local domain* is used instead of *clause* due to sentences like (3.25).

      3.25. Rex believes himself to be innocent.

With a main clause of *Rex believes* and an embedded clause of *himself to be innocent*, *himself* is an anaphor which should be bound within its local embedded clause. Yet, this is clearly not the case, as shown in the sentence (3.26).

      3.26. Rex_i believes [$himself_i$ to be innocent].

The embedded clause is an infinitival clause, which has an anaphor as its subject.

These patterns of binding lead to Chomsky's Government Theory, which includes the notions of c-commanding and government. Taking the sentence *Rex bit him*, a tree structure can be generated to diagram the syntactic structure of the sentence. The phrase A may consist of constituents B and C, represented, as in Figure 8.

```
        A
        ^
      B  C
```

Figure 8: Phrasal Tree Structure

Here, the phrasal element A is said to *dominate* constituents A and B, whereas constituents B and C are seen as *sisters*. Each phrase expressed must have a head, or the essential element of the phrase, that is of the same type. Therefore, noun phrases would be headed by a noun, verb phrases, with a verb, and so on. Thus the sentence *Rex bit him* would be represented simply, as in Figure 9.

```
          VP
          ^
      NP    V'
      |     ^
      N'  V  NP
      |   |   |
    Rex bite him
```
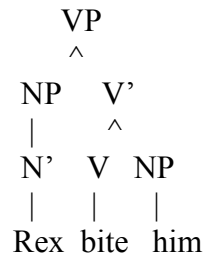
Figure 9: Phrase Structure of *Rex bit him*

However, this scheme does not take into account tense and agreement, so an inflectional category needs to be added into the scheme. Inflection , abbreviated INFL or I, represents the grammatical elements of tense and agreement. Tense gives a time reference (past, present, or future, mainly to the verb), whereas agreement has to do with whether the subject is singular or plural. In this way, the verb agrees with the subject by being inflected for singularity or plurality. As the abbreviation for inflection is INFL or I, so the

abbreviation for agreement is AGR. Sentences that have tense and AGR (+AGR) are finite; those without tense and agreement (-AGR) are non-finite (as in infinitival clauses). The VP internal hypothesis then states that the NP raises to [Spec, IP]. This results in a phrasal structure whereby inflection (I) becomes part of the Inflection Phrase (IP), as in Figure 10.

```
            IP
          /    \
       NP        I'
        |        ^
       N'      I     VP
        | (Tns, AGR)   ^
      Rex    [Pa] [Sg]   NP  V'
                         |    ^
                        N'  V  NP
                         |   |   |
                       Rex bite him
```
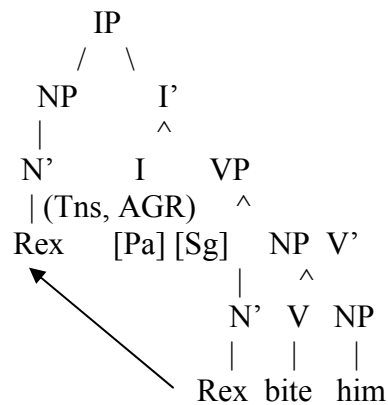
Figure 10: IP Structure of *Rex bit him*

Having thus reformulated the Binding Theory, Chomsky then concludes that all anaphors undergo movement at LF to INFL, as in Figure 11.

They α_i-INFL [VP tell us$_j$ about themselves$_{i/*j}$]

Figure 11: Phrase Structure of *They told us about themselves*

It follows, then, that only co-reference with the subject is possible in this sentence, as the object no longer c-commands the anaphor, with c-command defined as a configuration

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where two elements are contained in the phrase immediately dominating one of them (Cook and Newson 1996; 236).

Chomsky's (1986b) idea of government relates to how tree phrase representations show structural configurations in a general relationship (Cook and Newson 1996: 235). Government is concerned with several interrelated ideas. First, there is the idea of dominance, or what occurs below a particular item of the tree. Second, there is an idea of sisterhood, or what comes beside a particular item in the tree. These simple relationships lead to a third, but more complicated idea, referred to as c-command. The term c-command refers to constituent command, upon which government is based. Reinhart (1983) worked with earlier theories to develop this idea in dealing with pronominalization. In the sentence Rex's friend trusted him, the pronoun him is ambiguous in reference. However, it is clear that him cannot refer to Rex's friend. C-command provides an explanation for these facts. Personal pronouns in English cannot be c-commanded by an element within the same clause. Him is not c-commanded by Rex, but it is by Rex's friend, so only Rex can be a possible antecedent for the pronominal. This can be observed in Figure 12.

```
                    IP
                   / \
            NP          I'
            ^           ^
         NP N        I     VP
         |   |    (Tns, AGR)  |
      Rex's friend [Past] [Sg]   V'
                              ^
                           V  NP
                           |   |
                         trust  N'
                                |
                                N
                                |
                               him
```
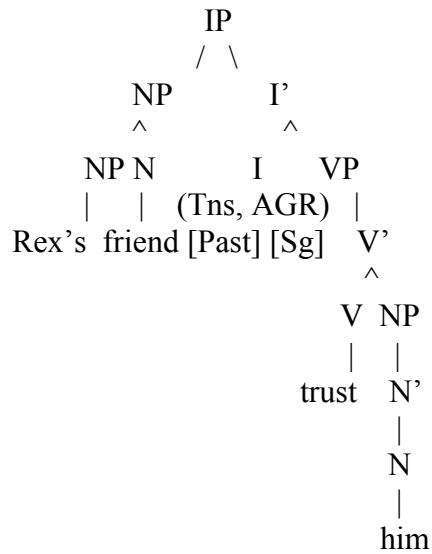
Figure 12: C-command Structure of *Rex's friend trusted him*

It is clear from Figure 12 that the phrase (IP) that contains the NP Rex's friend also
contains him. However, the phrase (NP) immediately containing Rex's does not contain
him. C-command is thus seen informally as a structure where both elements are
contained in the phrase immediately dominating one of them (Cook and Newson 1996:
236). Stated in an official form, Chomsky (1986b) presents the following definition:

> C-Command
> α c-commands β iff α does not dominate β and every γ
> that dominates α dominates β. (Chomsky, 8)

The binding of a pronoun or anaphor, then, requires a c-commanding, co-indexed
antecedent. Chomsky's government is then a form of c-command, but with a few
differences. First, any element can c-command, but *governors* are limited to lexical heads
(N, V, A, P). An element c-commands only those elements that are inside the maximal
projection that also contains the c-commanding element. On the other hand, governors set
a top and bottom limit: the governor can govern its complements, but the government

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relation is blocked at the maximal projection of the complement. Simply put, one element governs another if and only if that first element m-commands (is part of the maximal projection that defines the c-command domain) the second element and no barrier intervenes between the first and second element, all of which includes the ideas that maximal projections are barriers to government, and governors are heads. M-command here is defined as the special form of c-command as stated above. This is a projection principle that proposes that a first element strictly c-commands a second element if and only if the first element does not dominate the second and every X that dominates the first element also dominates the second (as in Figure 12: 37). In Chomsky's (1986b) notation:

Government
α governs β if and only if
(1) α is a governor (N, V, P, A, etc)
(2) α and β mutually c-command each other.

Using these ideas, then, there is no governing relationship possible between a subject and non-finite I, and the binding local domain is actually outside of the anaphor's clause. Finally, returning full circle to Principles and Parameters Theory, the lexical specification and the parameter become integrated, as in the full representation of all parameters for each pronoun or anaphor in (3.27).

3.27.	he/she/it, etc	[+pronominal]	[-anaphoric]
	himself/herself, etc	[-pronominal]	[+anaphoric]
	each other	[-pronominal]	[+anaphoric]

The Binding Theory is a typical approach to syntactical examination in several ways. First, the Projection Principle closely relates lexical items and their syntactic use, stating that the syntax is interwoven with the vocabulary, not a separate entity in and of itself. Second, the theory substantiates principles, not rules, that apply to many different

constructs. Third, Binding Theory illustrates the interconnectedness of the Principles and Parameters Theory. The modules of the theory, including syntax, lexical items, and government interact as to form a whole unit, not as individual, unconnected parts.

This dissertation hopes to contribute to the field of literature either by determining that Binding Theory and Universal Grammar are applicable to Russian reflexives, or by beginning to refine the principles as they apply to Russian. Chomsky (1986: 128), states that small changes in the ascertained principles and concepts can have sweeping consequences for that language and for others as well.

3.2 CROSSLINGUISTIC ACCOUNTS OF BINDING

3.2.1 L1 Studies

In the large body of literature that has developed since Chomsky's (1981a) original proposals, it has become clear that crosslinguistic differences exist where the Binding Theory is concerned. In Japanese and Korean, "antecedents may occur outside finite and infinitival clauses"; in Slavic, "antecedents may occur outside infinitivals" (Bennett and Progovac 1993: 69). However, although "reflexives differ cross-linguistically as to the domain in which they must be bound" (White 2003: 43), Universal Grammar "is not concerned with the information specific to one language" (Cook and Newson 1996: 67). The Binding Theory demonstrates that Universal Grammar is, as its name suggests, concerned with all languages, not just English. In fact, as Cook and Newson (1996: 67) clearly state, "the Binding Principles are couched at a level of abstraction that may be used for any human language. Though the actual sentences of Chinese, Arabic, or

Russian may be very different, they are all covered by the same Binding Principles. Binding is a property, not of English alone, but of all languages." Thus, we can see sentences taken from Cook and Newson (1996: 68), as in (3.28-3.30).

3.28. qa:lat Fatima inna Huda:$_i$ qatalat nafsaha$_i$.
said Fatima that Huda killed herself
'Fatima said that Huda killed herself' (Arabic)

Sentence (3.28) shows that in Arabic, the antecedent of an anaphor, 'nafsaha' must also be local. In (3.29), we see that the morphologically complex anaphor 'ta-ziji' must also be locally bound.

3.29.   Hailun$_i$ renwei Mali$_j$ hui gei   taziji$_{*i/j}$ chuan yifu.
Helen consider Mary will give herself put-on clothes
'Helen thinks that Mary will dress herself' (Chinese)

3.30.   Marina dumaet, čto Nataša$_i$ udarila sebja$_i$.
(Marina thinks   that Nataša   hit   self)
'Marina thinks that Nataša hit herself' (Russian)

Finally, (3.30) shows that in Russian the morpheme 'sebja', self, must take a local antecedent in a finite clause. Therefore in Russian, the same anaphors with the same parameters for [+/- pronominal] and [+/- anaphoric] share the same sort of binding principles. The principles may be used differently, but they still govern the formation of the language.

One difference among anaphors that has been discovered as a direct result of the proposals made by Chomsky (1981a) is the distinction between anaphors that require a subject antecedent and those that may take either an object or a subject antecedent. This difference has also come to be seen as important in recent years. In English, reflexives

can usually take a subject or non-subject as antecedent, dependent on where the two forms are in relation to their antecedents.

For example, in (3.31), 'himself' can be bound by either 'Chris' or 'Sam'. Although many speakers prefer 'Chris' in (3.31a), in (3.31b) the context favors 'Sam' as the antecedent. In (3.31c), 'Sam' is no longer available as the antecedent to 'Sam' because the NP 'Sam' no longer c-commands 'himself'.

3.31.   a. $Chris_i$ gave Sam_j a photo of $himself_{i/j}$.
         b. $Chris_i$ painted Sam_j a portrait of $himself_{i/j}$.
         c. $Chris_i$ painted a portrait of $himself_{i/*j}$ for Sam_j.

However, languages like Japanese tend to restrict reflexives to subject antecedents (White 2003: 44). Russian anaphors tend to take a subject as antecedent. Like Japanese and Chinese, in cases where there is a single simple morpheme ('self' vs. 'himself') and agreement for person and number is satisfied, reflexive structures can be long-distance bound, and can be bound by an object as well.

Thus, a contrast exists between English's local-only co-reference pattern and other languages' ability to long-distance (LD) bind reflexives to some degree. The locality condition, which is taken from Chomsky's (1981a) work on the Binding Theory and states that the big (first) SUBJECT (usually the first potential antecedent for the reflexive) closes off the domain for the reflexive, becomes a problem for languages other than English. However, if one then makes a distinction between reflexive types (the dual, complex morphemic English *him-self*, for example, versus the simple Russian *sebja* 'self'), as Bennett and Progovac (1993) do, then the languages that allow LD binding are still within the Chomskian limits, and differences in binding result from a difference in

morpheme types. This assumption appears to be borne out by the fact that the Chinese

monomorphemes (X^0) can be LD bound, as in (3.32).

3.32.   Zhangsan$_i$ renwei [Lisi$_j$ zhidao [Wangwu$_k$ xihuan ziji$_{i/j/k}$]]
        Zhangsan thinks   Lisi   knows   Wangwu likes   self
        'Zhangsan thinks that Lisi knows that Wangwu likes self'

The sentence in (3.33) shows that the Chinese morphologically complex morpheme

(X^{max}) cannot:

3.33.   Zhangsan$_i$ renwei [Lisi$_j$ zhidao [Wangwu$_k$ xihuan taziji$_{*i/*j/k}$]]
        Zhangsan thinks   Lisi   knows   Wangwu likes   him-self
        'Zhangsan thinks that Lisi knows that Wangwu likes himself'

Based on this contrast and their theory, Bennett and Progovac (1993: 70) claim that

"long-distance binding, then, cannot be a language-specific, but is instead a reflexive-

specific property" that falls within Chomsky's theory, once the effects of anaphor type

have been considered.

   That this phenomenon has occurred in other languages, including Russian, is evident

from Rappaport's sentence[9] (1986: 104), given here as (3.34).

3.34.   Professor$_i$ poprosil assistenta$_j$ PRO čitat' svoj $_{i/j}$ doklad]
        professor asked   assistant   PRO to read self's report
        'The professor asked the assistant to read self's report'

Here, both 'professor' and 'assistant' are potential antecedents of 'svoj'. Many native

speakers prefer the subject (actual agent of the sentence presented in nominative case) as

the antecedent, but will make clear that 'assistant' is also a possible antecedent that is

grammatical. Based on Chomsky's (1981a) work on the Binding Theory, one may then

propose that that the big (first) SUBJECT (usually the first potential antecedent for the

reflexive), which in this case is [+finite]AGR is able to create an ambiguous reading of

---

[9] Several of Rappaport's sentences seem to be based on the work of Rosental' (1974).

sentence (3.33). The SUBJECT here is 'assistant', whereas the subject of the sentence is 'professor'. As both of these elements are [+finite]AGR, the reflexive *svoj* can be bound within the embedded PRO clause, or across PRO ([NP, IP]). Progovac concluded from this fact that [NP, IP] and [NP, VP] could not be Participants for this reflexive (Progovac 1993: 755). She arrives then at a formula that accounts for these data.

> If R is an X^0 (monomorphemic) reflexive, then its Participants are X^0 categories only (i.e., AGR); if R is an X^{max} (morphologically complex) reflexive, its Participants are X^{max} specifiers, therefore [NP, IP] and [NP, VP]. (Progovac 1993: 756)

This theory, denoted "Relativized SUBJECT," is proposed as a solution to the problem of long-distance (LD) reflexives, which seem to violate Chomsky's Principle A. On the other hand, Relativized SUBJECT "both meets the theoretical requirements of simplicity and generality, and lends itself to empirical verification" (Bennett and Progovac 1993: 68). The theory delineates the differences between morphologically simple and complex reflexives, or "(a) that simple reflexives can be bound long-distance (i.e., across specifiers), and (b) that they are subject-oriented [which] follows from the X-bar compatibility requirement as follows: since X^0 reflexives must be bound to AGR, by coindexation transitivity, they must refer to participants." (Progovac 1993: 756) More simply put, X^0 reflexives are morphologically simple forms that can allow local or non-local binding (but require the antecedent to be a subject, as the X^0 morpheme raises by head movement to INFL). Thus, in a complex sentence, these morphemes can raise out of local clauses to long-distance bind by raising from one INFL to another. The antecedent, however, must be a subject in long-distance binding, as only a subject can c-command the reflexive in INFL (White 2003: 45).

On the other hand, X^{max} reflexives (such as *himself* in English or *drug druga'* 'each other' in Russian) are maximal projections already, and can only adjoin to the nearest

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maximal projection (a local clause antecedent), namely, the VP in which they happen to occur. Thus, these morpheme types are bound locally to either a subject or an object (White 2003: 45).

According to Progovac's experiments, morphological simplicity of reflexives and LD binding can thus be correlated. Progovac arrived at this idea through Yang's (1983) and Pica's (1987) work. Cole, Hermon, and Sung (1990) proved that LD binding is possible with X^0, but not with X^{max} anaphors, using the well-known example:

> 3.35. Zhangsan$_i$ renwei [Lisi$_j$ zhidao [Wangwu$_k$ xihuan *ziji*$_{i/j/k}$ / *ta ziji*$_{*i/*j/k}$]
> Zhangsan thinks   Lisi   knows   Wangwu likes   self / he-self
> 'Zhangsan thinks that Lisi knows that Wangwu likes self/himself'

As previously stated, Bennett and Progovac show that, although LD binding is not possible in the above example with a morphologically complex reflexive, it is possible when the reflexive is morphologically simple. This information led to a full description by Progovac (1993) of a Relativized SUBJECT theory. In short:

> The central feature of this analysis involves relativization of the notion of SUBJECT according to the X-bar status of the reflexive, so that the categorical (X^0/XP) contrast between morphologically simple and complex reflexives determines which type of SUBJECT defines the binding domain.
>
> The requirement of X-bar compatibility restricts PARTICIPANTS for X^0 reflexives to X^0 categories. The only X^0 category, hierarchically high enough to bind argument NPs, which has person/number features relevant for binding is Agreement (AGR). From this, it follows that AGR is the only SUBJECT for simple reflexives.
>
> The proposal predicts extra-clausal antecedents for X^0 in languages that lack morphological AGR. Strikingly, binding of X^0 reflexives outside finite clauses appears exactly in those languages that have no agreement markers, such as Chinese, ... Japanese, and Korean. The morphological status of AGR does not affect XP reflexives ... because they are sensitive to XP Participants [X^{max} specifiers], in other words [NP, IP] and [NP, NP].
>
> In languages with morphological AGR, this element is null in infinitival clauses. The Relativized SUBJECT analysis predicts that X^0 reflexives can be bound across infinitival participants since infinitival clauses host no morphological AGR, and are therefore comparable to finite clauses in Chinese-type languages. This prediction can only be verified with object-control infinitivals, since subject control would not

distinguish between local and long-distance binding. Object control is attested in Russian, a language in which binding of the X^0 reflexive *sebja* works as predicted. In the infinitival clause below it can be bound to either of the two participants, the object-controlled PRO subject of the embedded clause or the matrix subject (e.g., Rappaport 1986: 104)

3.36.   Professor   poprosil assistenta [PRO   čitat' svoj   doklad]
Professor$_i$ AGR1$_i$ asked assistant$_j$ [PRO AGR2$_j$ to-read self''s$_{i/j}$ report
'The professor asked the assistant to read his (own) report'

AGR1 is morphologically filled while AGR2 is anaphoric. As a result the governing category for *svoj* is the matrix clause, the first clause that contains a viable SUBJECT (AGR1). As illustrated in (3.37), *sebja* cannot extend across a finite clause subject (e.g., Rappaport 1986: 103)

3.37.   Vanja   znaet, [čto Volodja   ljubit sebja]
Vanja$_i$ AGR1$_i$ knows [that Volodja$_j$ AGR2$_j$ loves self$_{*i/j}$]
'Vanja knows that Volodja loves himself'

This occurs because the subordinate AGR establishes the local clause as the domain for *sebja*. The difference in binding possibilities between Chinese and Russian finite clauses then reduces to an independent difference between the two languages: absence vs. presence of morphological AGR in finite clauses. The difference between the languages is assumed to be a reflex or binary AGR parameter of Universal Grammar. (Bennett and Progovac 1993: 71-72)

There are, then, two variables that would affect L2 acquisition of the target language: anaphor type and AGR parameter setting. Possible transfer of the L1 setting for either parameter would cause incorrect responses in L2 acquisition. If the incorrect anaphor type (morphologically simple versus morphologically complex) is transferred (as in Bennett 1994, Lakshmanan and Teranishi 1994), one might expect binding patterns that are inconsistent with the target language, such as LD binding in languages with an X^{max} reflexive, or local-only binding with an X^0 reflexive. If the incorrect AGR setting is transferred, one might expect incorrect binding patterns, which would become obvious in finite sentences. A [-AGR] setting could be tested for by having participants demonstrate binding preferences in English finite clauses. The [-AGR] setting will result in LD binding. Both a lack of AGR and incorrect anaphor type can cause LD binding in an L2

that has X^{max} type anaphors. The assumed anaphor type can be estimated by forcing an interpretation of reflexives as complex by inserting and adjective between *her* and *self*, as in Progovac and Connell's (1991) study. Here, a test sentence such as in (3.38) was given, and binding preferences recorded.

3.38. Mary told Mrs. Smith that Julie is acting like herself/her usual self.

The students who lacked morphological AGR in their L2 grammars (English) all demonstrated local binding of 'her usual self', where the forced interpretation was an X^{max} anaphor type. However, in the *herself* examples (also X^{max}), only one of the eight students bound the reflexive locally. Although one cannot state from this example that *herself* was taken to be an X^0 reflexive, the binding pattern here does suggest that this is the difference in binding between *herself* and *her usual self*.

In taking the L1 studies into account as a background for this dissertation, it should be noted that ambiguity creates a singularly difficult problem. In many cases, a bias toward one binding pattern is exhibited that does not reflect the subject's linguistic knowledge, but indicates a preference instead. In English, for example, children demonstrate knowledge of Chomsky's Principle A at an early age, but do not demonstrate Principle B at the same age (Chien, Wexler, and Chang 1993). When asked to draw coreferences between a reflexive or pronoun and two possible sentential antecedents by Chien and Wexler, children successfully differentiated reflexives from pronouns independently of task type. However, they were shown to exhibit a response bias when selecting a non-local (as opposed to a local) antecedent. This tendency to ignore one's linguistic knowledge and rely instead upon a preference or bias is repeatedly demonstrated in

experimentation, and especially in L2 experimentation (Thomas 1989, 1994, 1995; Hirakawa 1990).

3.2.2 L2 Studies

Further study of Progovac's theory is given in Bennett (1994), who conducted a study of Serbo-Croatian learners of English in which she demonstrated that students of an L2 initially transferred the L1 anaphor type to the L2 (English) that they were learning. Intermediate-proficiency Serbo-Croatian students allowed antecedents of English reflexives outside of complex NPs and object control infinitivals, but did not allow antecedents outside of finite clauses. Progovac and Bennett later suggest an account for this data, stating that "morphological AGR was present in the interlanguage grammars of [the] learners, but . . . they had transferred the L1 X^0 anaphor type to the target language" (Progovac and Bennett 1993: 76). Their conclusion is that "transfer of L1 knowledge of the morphological structure of reflexives may crucially influence the grammar of anaphora in second language acquisition." (Progovac and Bennett 1993: 69)

Lakshmanan and Teranishi (1994) also proposed initial transfer of the Japanese X^0 anaphor type to English as an L2. This transfer resulted in incorrect LD binding of the reflexive, which was only corrected upon recognition of the reflexive as a complex type. It seems, then, that the documented cases to date of L1 transfer to the L2 involve transfer of the incorrect reflexive type, as opposed to transfer of an incorrect AGR setting.

Chinese has also been explored in a contrastive study of the two anaphor types in the L2. Tang and Yip (1998) conducted a study of Cantonese learners of English. They, too,

found a difference in the treatment of the anaphor types, with some LD binding allowed, which would not be allowed by L1 speakers of English.

In L2 English work involving Chinese L1 subjects, Battistella and Xu (1990) examined the reflexive anaphor *ziji* 'self' in Chinese. The studies have focused on explaining differences between Chinese and English as cyclic movement at LF and constraints on the movement of maximal projections. However, reciprocal reflexives, which exhibit differences in English, were only recently investigated by Juffs (1993). Juffs focused on the reciprocals *huxiang* 'each other, mutual, inter-', *bici* 'each other (literally 'this that')', and *duifang* 'other (literally 'opposite')'. Juffs (1993: 20) found that reciprocal relations are expressed as either a quantifier (*huxiang* or *bici*) binding a pronoun *duifang*, or by a reciprocal anaphor *bici*. His findings support the X^0 and X^{max} anaphor types.

An apparent problem for this theory occurs in Christie and Lantolf (1998). This team observed reflexive binding in L2 Chinese and English. Using a truth-value judgment task (a sentence paired with a picture), participants in their study were asked which picture(s) corresponded to the given sentence. In this methodology, participants are asked not only to check grammaticality judgments, but to comment on the meaning of the sentence as well. In the study, the two different morpheme types failed to show evidence of clustering (in relation to orientation and domain) in either L2 or in the control, according to Christie and Lantolf (1998). Thomas (1994, 1995), however, explains why these conclusions are incorrect. The morpheme types are described using a one-way street assumption, which is false. Whereas it is true that "long-distance anaphors must be subject-oriented, it is not

the case that all subject-oriented anaphors must allow long-distance antecedents" (Thomas 1994, 1995).

In addition, although both LD and local binding of the X^0 morpheme may be *possible*, both native and non-native speakers usually "have a strong preference for subject antecedents even where object antecedents are possible" (White 2003: 47). Thus, "in certain contexts, L2 learners and native speakers may reject interpretations which their grammars, in fact, permit" (White 2003: 47). The question must then be posed as to whether or not this "preference" can be elicited, or whether it will interfere in interpretations of those sentences that are potentially ambiguous.

The task of interpretation also becomes difficult depending on the learner's proficiency level. Thomas (1993, 1994) found that L2 learners with lower proficiency accepted both subject and object LD referents on an equal basis when interpreting English reflexives. This result appears to reflect the fact that these reflexives are ambiguous in Japanese, thus the Japanese L2 speakers of English transfer that ambiguity to the L2 interpretation. On the other hand, L1 English speaker controls and high-proficiency Japanese learners accepted subject-oriented referents the majority of the time (Thomas 1994). Thus it would seem that learners do recognize and utilize the new binding pattern once they achieve a certain proficiency level.

In the second half of the experiment, L2 learners of Japanese were investigated. Here, greater diversity was found among the L2 speakers. Thomas found that, at low and mid proficiency levels, English L2 speakers of Japanese failed to recognize ambiguity, but as their proficiency increased, so did their recognition and acceptance of Japanese ambiguity. The Chinese L2 speakers of Japanese, however, responded differently, with

fifty percent of them binding LD and twenty-five percent binding L for *zibun* 'self'. Thomas reflects that these results may reflect a preference for LD binding (which is evident among the L1 speakers of Japanese), but could not conclude such from her results given the tests utilized.

Whereas it is probable that there is a certain amount of noise (incorrect interpretations that are simply mistakes) present in these studies ("performance at 100% accuracy is unusual in any experimental attempts to get at linguistic competence" (White 2003: 6)), this fact does not account for the acceptability of some LD binding of objects. The proposal has been made that, in these cases that are unaccountable for by speaker error, the "participants may have misanalysed [the reflexive] as a pronoun rather than a reflexive. As such, it can take any non-local antecedent." (Thomas 1994) Thus, the grammar is still UG constrained, but due to a low level of competence in vocabulary or other morphology, the interlanguage grammar mixes pronoun treatment in an inappropriate L2, but UG-controlled, interlanguage.

Hirakawa (1990) also examined L2 Japanese acquisition by L1 speakers of English. She relied on the Wexler and Manzini (1987) theoretical framework of the Governing Category Parameter (GCP) and the Proper Antecedent Parameter (PAP) that Thomas had utilized in earlier works (1989). The GCP contains five language values, arranged from least- to most-marked, which include a range of a) English, b) Italian, c) Russian, d) Icelandic, and e) Japanese. The parameter claims that there is a minimal category containing a subject or INFL or TNS or has an indicative TNS or has a root TNS within which the reflexive may be bound. The PAP claims that the proper antecedent of a reflexive is either a subject or any other NP, and that languages again differ on this

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parameter. Hirakawa (1990) investigated these claims using a least-marked language (English) and a most-marked language (Japanese). For the GCP, English only allows the closest NP to be the antecedent of its reflexives. Japanese, in contrast, can allow any NP to be the antecedent of the reflexive. For the PAP, Japanese can only take subject NPs as antecedents to reflexives, while English can take subject or other NPs as antecedents to reflexives. Hirakawa presented the subjects (a Japanese L1 control, an English L1 control, and four Japanese L1/English L2 experimental groups) with a preliminary task that tested the subjects' ability to 1) examine whether the subjects had mastered the structures and vocabulary and 2) to establish that the subjects could differentiate between pronominals and reflexives. She then presented the subjects with the experimental task, a multiple-choice grammaticality judgement test that examined the subjects' interpretation of English reflexives with respect to the GCP and PAP. The sentences tested consisted of five types: monoclausal finite, monoclausal non-finite, biclausal finite, biclausal non-finite, and triclausal. She found that the L2 learners of English failed to set the GCP correctly, setting the value wider than it should have been, and allowing non-local antecedents even in tensed clauses. These results were consistent with those of Thomas (1989), who examined the same parameters using Chinese and Spanish L1 subjects who were L2 English learners. Hirakawa also established that LD binding was much more common in infinitival clauses, a result consistent with that of Finer and Broselow (1986). She concluded that the L2 groups did, indeed, transfer their L1 parameters, but stated that parameter resetting was possible, at least with some learners.

Finally, White et al (1997) investigated L2 English speakers who were L1 Japanese- and French-speaking L1 subjects. One of White's basic tenets is that there exist

"methodological difficulties in investigating second language (L2) learners' knowledge of reflexive binding, particularly in the case of potentially ambiguous sentences where the learner or native speaker may have a preference for one interpretation over the other" (145). In this particular study, White and her team of researchers compared two truth-value judgment tasks, one story-driven and the other picture-driven. Contexts that picked out a particular reading of the ambiguous sentences were utilized. Monoclausal sentences (with possible subject or object antecedents) were used in addition to biclausal sentences with L and LD antecedents. The story task yielded a significantly higher number of correct acceptances of object antecedents for both the native speakers and the L2 groups. The results were such that White suggested that "certain tasks can lead to an underestimation of the learners' competence and that one must be cautious in making assumptions about the nature of the interlanguage grammar on the basis of single tasks" (146).

From these experiments, researchers know that L2 learners have been observed transferring their L1 parameter settings to the L2 they are trying to acquire. The transfer can be eliminated eventually, with increased competence, and the task used to evaluate the learners can impact the results.

No matter which language is considered (English or Russian in this case), the learners have to, at some point, acquire AGR. For Russian and English, this is a similar case of matching person and number in the present and future with the correct morphology on the verb (although the Russian system is more distinctive in its interaction of person and number). For the past tense, English is only sensitive to number, while Russian is sensitive to number and gender simultaneously. Thus, in an L1 English subject's

acquisition of L2 Russian, AGR problems might arise at some point, even though both languages have a [+AGR] setting with finite sentences. However, a second factor that would possibly transfer from L1 English to L2 Russian acquisition is that of Progovac and Bennett's morphologically simple (X^0) and complex (X^{max}) anaphor types. In English, as in Russian, these anaphors can be simple or complex.

The linguistic structures under investigation are the Russian reflexive object pronoun *sebja*, the related reflexive post-verbal affix –*sja*,[10] and the reflexive possessive pronoun *svoj*. Each of these items differs in lexical meaning and usage and thus, while they are all classed as reflexive structures, they may differ in binding pattern. In addition, *sebja*, -*sja*, and *svoj* are structures with monomorphemic stems. That is to say that their stems are not composed of more than one meaning unit. All three structures are considered, therefore, to be morphologically simple.

Sebja is an object reflexive pronoun, which corresponds to the English 'oneself'. The pronoun is not morphologically sensitive to the grammatical person, number, or gender of its antecedent (Padučeva 1983). The pronoun never occurs in the nominative, using its accusative case *sebja* as the citation form.

The post-verbal affix –*sja* is an etymologically related, contracted form of the object reflexive pronoun *sebja*. The postverbal affix and reflexive object pronoun are approximately synonymous only in a very small class of true reflexive verbs. Even with these true reflexive verbs, the two structures are not always equivalent or interchangeable. In general then, -*sja* is affixed directly to a transitive verb, rendering it intransitive by virtue of the fact that the verb is then incapable of taking another overtly

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[10] The post-verbal affix can actually be reflexive, reciprocal, or indicate passive voice. Within this dissertation, only those instances of true reflexivity were utilized in order to remain on topic.

expressed object. The affix does not decline, but is rendered by *–sja* when affixed to a verb form that ends in a consonant, but *–s'* when affixed to a verb form that ends in a vowel.[11]

Svoj is a possessive reflexive pronoun, which corresponds to the English 'one's own'. This pronoun is not morphologically sensitive to the grammatical person, number, or gender of its antecedent either (Padučeva 1983). The possessive reflexive pronoun functions as the Specifier of an NP and has a complete (six case, three gender, two number) paradigm using *svoj* as its citation form.[12]

All of the reflexive structures studied in the dissertation fall into the simple, or X^0, anaphor class according to the system of Bennett and Progovac (1993). In the learning of L2 Russian, then, the danger is to transfer the incorrect anaphor type (X^{max}) from English to Russian. A summary of English versus Russian binding patterns follows in Table 1.

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[11] Adjectival participles formed from verbs in *–sja* preserve *–sja* in all forms. Past adverbial participles always utilize the contracted form *–s'*.

[12] As *svoj* is a reflexive pronoun, it should not be able to be utilized in nominative case without an antecedent. However, semantically and syntactically, the pronoun does appear in this form due to idiomatic usage and understood reference, but these are beyond the scope of the dissertation.

Table 1: Reflexive binding differences in English and Russian

sentence	English	Russian
I. Sentences with reflexives in complex noun phrases (CPNPs) **A. CPNPs in tensed clauses**	a. The professor$_i$ read his$_j$ article about himself$_{*i/j}$ **Local binding only of X^{max}**	a. Professor$_i$ čital ego$_j$ stat'j-u o sebe$_{i/j}$ 'The professor read his article about him/himself' **Local/LD binding allowed of X^0**
	b. The professor$_i$ read his$_j$ article about his own$_{*i/j}$ work **Local binding only of X^{max}**	b. Professor$_i$ čital ego$_j$ stat'j-u o svojej$_{i/j}$ rabote 'The professor read his article about him/himself' **Local/LD binding allowed of X^0**
B. CPNPs in infinitival clauses (subject control verb)	c. Ivan$_i$ wants to read my$_j$ report about myself$_{*i/j}$ **Local binding only of X^{max}**	c. Ivan$_i$ xočet PRO$_i$ čitat' moj$_j$ doklad o sebje$_{i/j}$ 'Ivan wants to read my report about himself/myself' **Local/LD binding allowed of X^0**
	d. Ivan$_i$ wants to read my$_j$ report about my own$_{*i/j}$ trip. **Local binding only of X^{max}**	d. Ivan$_i$ xočet PRO$_i$ čitat' moj$_j$ doklad o svojej$_{i/j}$ poezdke 'Ivan wants to read my report about his/my trip' **Local/LD binding allowed of X^0**
	e. Ivan$_i$ wants to bathe himself$_i$ in the lake' **Local binding only of X^{max}**	e. Ivan$_i$ xočet PRO$_i$ pobrit'-sja 'Ivan wants to shave himself' **Local binding only of X^0**
II. Infinitival biclausal sentences	f. Nataša$_i$ asked Marina$_j$ to pour herself$_{*i/j}$ some tea. **Local binding only of X^{max}**	f. Nataša$_i$ poprosila Marin-u$_j$ PRO$_j$ nalit' sebe$_{i/j}$ čaj-u[13] 'Nataša asked Marina to pour her/herself some tea' **Local/LD binding allowed of X^0**
	g. Nataša$_i$ asked Marina$_j$ wash her own$_{*i/j}$ dishes. **Local binding only of X^{max}**	g. Nataša$_i$ poprosila Marin-u$_j$ PRO$_j$ myt' svoju$_{i/j}$ posudu 'Nataša asked Marina to wash her (own) dishes' **Local/LD binding allowed of X^0**
	h. Nataša$_i$ asked Marina$_j$ to wash herself$_{*i/j}$ before lunch. **Local binding only of X^{max}**	h. Nataša$_i$ poprosila Marin-u$_j$ PRO$_j$ myt'-sja$_j$ pered obedom 'Nataša asked Marina to wash her/herself before lunch' **Local binding only of X^0**

[13] A phenomenon occurs whereby LD binding can especially be induced if the LD antecedent is deemed to have power over the L anrecedent.

Table 1 (continued)

III. Tensed biclausal sentences	i. Vera$_i$ said that Daša$_j$ always talks about herself$_j$. **Local binding only of X^{max}**	i. Vera$_i$ skazala, čto Daša$_j$ vsegda govorit o sebe$_{*i/j}$ 'Vera said that Dava always talks about herself' **Local binding only of X^0**
	j. Vera$_i$ said that Daša$_j$ always talks about her own$_{*i/j}$ life. **Local binding only of X^{max}**	j. Vera$_i$ skazala, čto Daša$_j$ vsegda govorit o svojej$_{*i/j}$ žizni 'Vera said that Daša always talks about her own life' **Local binding only of X^0**
	k. Vera$_i$ said that Daša$_j$ always defends herself$_{*i/j}$ against evil dogs. **Local binding only of X^{max}**	k. Vera$_i$ skazala, čto Daša$_j$ vsegda zaščiščaet-sja$_j$ ot zlyx sobak 'Vera said that Daša always defends herself against vicious dogs' **Local binding only of X^0**

To summarize the examples of the table, English binds anaphors within the local domain, as all anaphors are seen as the complex (X^{max}) type. On the other hand, Russian monomorphemic anaphors demonstrate binding differences based on [+/- AGR]. They can be bound locally or long distance if there is no AGR interference. Otherwise, they, too, are constrained to the local domain. The reflexive –sja, which has become integrated into the verb form, always seeks to be bound locally, as the AGR is present in the verb itself. Important to note here again is that, while this can create an ambiguous situation for Russian speakers, there is a strong preference to bind to Participants. Thus, we would expect differences among the X^0 bindings of sentence Types 1A, 1B, and II (other than the –sja morpheme). L1 speakers would be expected to interpret these types of sentences as ambiguous in nature. On the other hand, it is hypothesized that higher-level L2 learners will pattern close to the L1 control, while lower level L1 learners will be influenced by their English parameters to bind everything locally.

This thesis seeks to determine whether Binding Theory as currently formulated explains the binding situation in Russian, or requires modification or discarding. As Cook and Newson (1996: 68) claim, "[l]anguages differ over the lexical items that may be used as anaphors and pronominals, and in the details of the syntax, but each of them nevertheless observes Binding constraints. Rather than a statement about a single construction in a single language, we have arrived at some principles of language. Of course, these principles may be wrong; some other more inclusive explanation might subsume Binding; the aim is to make statements about language that are precise enough to be tested." Thus, this dissertation hopes to test the theory for Russian.

4.0   CHAPTER FOUR: THEORETICAL BASIS FOR EXPERIMENT

4.1   DESCRIPTION OF REFLEXIVE STRUCTURES UNDER INVESTIGATION

Although the structures examined have been described briefly in chapter three, a more extensive explanation of them is warranted. The linguistic structures under investigation are the reflexive object pronoun *sebja*, the related reflexive post-verbal affix *–sja*,[14] and the reflexive possessive pronoun *svoj*. Each of these items differs in lexical meaning and usage and thus, while they are all classed as reflexive structures, they may differ in binding pattern. In addition, *sebja*, *-sja*, and *svoj* have monomorphemic stems. That is to say that the stems are not composed of more than one meaning unit.

Sebja is an object reflexive pronoun, which corresponds to the English 'oneself'. The pronoun is not morphologically sensitive to the grammatical person, number, or gender of its antecedent. The pronoun never occurs in the nominative, using its accusative case *sebja* as the citation form, but is case marked.

The post-verbal affix *–sja* is an etymologically related, contracted form of the object reflexive pronoun *sebja*. The postverbal affix and reflexive object pronoun are

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[14] The post-verbal affix can actually be reflexive, reciprocal, or indicate passive voice. Within this dissertation, only those instances of true reflexivity were utilized in order to remain on topic.

approximately synonymous only in a very small class of true reflexive verbs, as in (4.39-4.40).

    4.39.   On zaščiščaet-sja
             he defends-self
             'He defends himself'

    4.40.   On zaščiščaet sebja
             He defends self-ACC
             'He defends himself'

Even with these true reflexive verbs, the two structures are not always equivalent or interchangeable. First, -*sja* cannot randomly be substituted for *sebja* when *sebja* has been conjoined or contrasted with another NP (e.g., Klenin 1977: 189).

    4.41.   On zaščiščaet sebja i drugix protiv ix obščix vragov-GEN
             He defends self-ACC and others-ACC against their common enemies
             'He defends himself and others against their common enemies'

Second, *sebja* is subject to general rules of reflexive pronoun interpretation, a fact that accounts for the ambiguous interpretation of some sentences containing *sebja* (Klenin 1977: 189): -*sja* is not subject to these rules as "we always equate the semantic object of any true reflexive verb with the agent of that verb" (Klenin 1977: 189). Therefore, continuing with Klenin's example, the sentence in example (4.42) has an ambiguous interpretation as either (a) or (b):

    4.42.   Mama ne pozvoljaet Volode   zaščiščat' sebja   ot zlyx sobak-GEN
              mama not allows   Volodja-DAT to defend self-ACC against vicious dogs

         a. 'Mama doesn't allow Volodja to defend himself against the vicious dogs'

         b. 'Mama doesn't allow Volodja to defend her against the vicious dogs'

However, the sentence in (4.43) is not ambiguous, having only the local reflexive reading.

4.43.   Mama ne pozvoljaet Volode   zaščiščat'-sja   ot   zlyx   sobak-GEN
        mama not allows   Volodja-DAT to defend -self   against vicious dogs
        'Mama doesn't allow Volodja to defend himself against the vicious dogs'

Third, "there are verbs for which -*sja* is normal and *sebja* cannot usually be substituted,

e.g., *povesit'sja* 'to hang oneself'.

In general then, -*sja* is affixed directly to a transitive verb, rendering it intransitive by

virtue of the fact that the verb is then incapable of taking another overtly expressed

object. The affix does not decline, but is rendered by –*sja* when affixed to a verb form

that ends in a consonant, but –*s'* when affixed to a verb form that ends in a vowel.[15]

Moreover, this thesis only seeks to address those forms of –*sja* that are truly reflexive,

and does not discuss those forms that designate mutual action or passivization.

Svoj is a possessive reflexive pronoun, which corresponds to the English 'one's own'.

This pronoun is not morphologically sensitive to the grammatical person, number, or

gender of its antecedent either, but is marked for case. The possessive reflexive pronoun

functions as the Specifier of an NP and has a complete (six case, three gender, two

number) paradigm using *svoj* as its citation form.[16]

This study deals with all of these anaphor types and their binding patterns in L2

Russian, within the limits stated above. Far from covering all possible occurrences of

reflexive binding (as this scope is greater than any thesis would allow), this thesis looks

cross-linguistically at reflexive structures that have been used in other second language

studies.

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[15] Adjectival participles formed from verbs in –*sja* preserve –*sja* in all forms.
[16] As *svoj* is a reflexive pronoun, it should not be able to be utilized in nominative case without an antecedent. However, semantically and syntactically, the pronoun does appear in this form due to idiomatic usage and understood reference, but these are beyond the scope of the dissertation.

4.2 BINDING PATTERNS OF REFLEXIVE STRUCTURES

A brief review of binding patterns will be presented here, so as to facilitate understanding of the experimental sentences. Examples have been reproduced here from Table 1, pp. 72-73.

I.   The post-verbal affix –*sja* is always bound within its clause to the nearest possible antecedent, whether object or subject, as in sentences (4.44)-(4.46).

4.44. Ivan xočet   kupat'sja   v ozere.
       Ivan wants PRO to bathe-self in lake
       'Ivan$_i$ wants to bathe$_i$ in the lake.'

4.45. Nataša poprosila Marinu   myt'sja   pered obedom.
       Nataša asked   Marina   wash-self-INF before lunch
       'Nataša$_i$ asked Marina$_j$ to wash up$_{*i/j}$ before lunch.'

4.46. Vera skazala, čto Daša vsegda zaščiščaetsja   ot   zlyx sobak.
       Vera said   that Daša always defends-self   from vicious dogs
       'Vera$_i$ said that Daša$_j$ always defends her$_{*i}$/herself$_j$ against vicious dogs.'

In example (4.44), the empty element PRO, or big PRO, comes into play. PRO is restricted in non-finite clauses to the subject position. The complement of the verb 'to want' in the example is an infinitival clause, which is [-FIN]. Yet, there is evidence that there is an element in the infinitival clause's subject position, which has syntactic and semantic properties, but remains "invisible" as far as its phonological form is concerned, and thus has no phonetic representation in the sentence (Cook and Newson 1996: 246-256). The idea, then, is that there must be an independent subject of the infinitival clause. This form behaves like a pronoun, taking its reference from and coindexing with the subject in the higher clause. This empty category, PRO, may appear only in the subject position of non-finite clauses.

II. When the object or possessive reflexive pronoun is the complement of a finite verb (tensed biclausal sentences), the pronoun must be bound within its embedded clause, as in sentences (4.47)-(4.48):

4.47. Vanja znaet, [čto Volodja ljubit sebja]
Vanja knows that Volodja loves self
'Vanja$_i$ knows that Volodja$_j$ loves himself$_{*i/j}$'

4.48. Vanja znaet, [čto Volodja ljubit svoju   sestr-u]
Vanja knows that Volodja loves his own sister
'Vanja$_i$ knows that Volodja$_j$ loves his own$_{*i/j}$ sister'

III. When the reflexive possessive or object pronoun is part of an embedded infinitival clause, either the PRO or matrix clause subject can be the antecedent, as in (4.49) and (4.50):

4.49. On ne razrešaet mne [PRO proizvodit' opyty   nad soboj]
He not permits   me   PRO to perform experiments on   self
'He$_i$ does not allow me$_j$ to perform experiments on himself$_i$/myself$_j$'

4.50. Professor poprosil assistenta   [PRO čitat' svoj   doklad]
Professor asked assistant PRO to read   his own   report
'The professor$_i$ asked his assistant$_j$ to read his own$_{i/j}$ report'

One major difference between Russian and English as far as binding is concerned is that, contrary to Chomsky's Binding Theory, X^0 reflexive anaphors are able to bind to objects in Russian. Chomsky's work is based on English, which does not allow coreference with the subject in (4.99) above, while Russian allows the subject or the object to be bound in the same sentence. Although subject binding is preferred in most cases, object binding can and does occur as well in situations I and III described in the above examples. In English, the same sentence would have to be rendered with the X^{max} reflexive *myself* in order to bind the object.

4.3   L1 ACQUISITION

4.3.1   Acquisition Mechanisms

The traditional literature on the L1 acquisition of Russian that includes reflexives and knowledge of what interpretations are not possible has been briefly summarized within sections 4.31 and 4.32. Although it is unlikely to be helpful in the final analysis, for the sake of completeness and to assure readers that the information does not come to bear on the dissertation, a brief review of the literature associated with this area has been given.

In order to understand the native Russian speaker's acquisition of anaphors, it is first important to look at how the native speaker of Russian acquires the language as a whole. A large amount of literature on Russian, dating from the Soviet era, has attracted the attention of psycholinguists. This body of data is large enough to allow a comparison/contrast study with English so as to highlight universal aspects of language acquisition and linguistic competence (Slobin 1966: 129).

Russian has three genders combined with six cases and two numbers. Nouns, adjectives, and pronouns show gender, number, and case. Verbs, on the other hand, are conjugated for person and number in the non-past, and for gender and number in the past. Verbs are marked for two aspects (imperfective and perfective) and three tenses (past, present, and future). Verbs of motion carry an additional distinction (uni- or multi-directional). The morphology is therefore of great importance in the language. In fact, the nominal morphology actually facilitates a relatively free word order, although there is an observed neutral word order for most constructions. The multitude of possible

combinations for expression of meaning, however, generates a complex topic of study in acquisition.

The most extensive case documented to date was written by Aleksandr Gvozdev (1921-1929). He kept a diary, in phonetics, of his son Zhenya's language development during these years. Focusing on discovering his child's development of linguistic competence, Gvozdev looked closely at Zhenya's generative system (Gvozdev 1961). Through this and other similar studies, a clearer picture of syntactic development in Russian children comes into focus, summarized by Slobin (1966).

In this diary, the child begins with a few central words, around which he or she begins to form utterances and then simple two-word sentences. Combinations of morphemes do not necessarily correlate with the correct adult phrasing. This stage occurs between birth and one year, eight months, and includes such sentences as "ja dam" ('I will give'). However, the two-word sentences, at first infrequent, become more frequent and then, eventually, more complex. The addition of a third word, for example, occurs at the age of approximately one year, nine months and begins a gradual lengthening of the sentence structure. These three-word sentences tend to contain negation (the opposite of the two-word positive sentence), as in "net, ni dam" ('no, I will not give').

Again, as is attested in later work, the child will generate a correct connection of morphemes, but the generated phrase often does not correspond to a correct adult usage (using "net kormi" 'no feed' for the correct "ni kormi" 'don't feed') (Slobin 1966: 133). As far as order of learning, it is supposed that children of Russian add their newly-learned words to the ends of their sentences in order to lengthen said sentences. For instance, the child might start with the basic "mama" 'Mom', then progress to "mama niska" 'Mom

book' (malformed), to "mama niska tsitats" 'Mom book read' (also malformed). Although these are not all correct formations of the sentence "mama čitaet knigu" 'Mom is reading a book', nonetheless, they approximate adult speech and add words to the end of the sentence as they are learned.

The child learns a word order of subject-object-verb at first, but tends to replace this structure with a subject-verb-object order at around one year, eleven months. This change in pattern does not surprise most linguists, as it is often the case that "the subject precede object in the dominant actor-action construction of a language, and that the two most common patterns are SVO and SOV" (Slobin 1966: 134), although this is not always so.

In accordance with this "trial and error" formula of the child, certain structures begin to develop properly in a certain order. For example, conjugated forms of verbs occur after infinitives first make their appearance, and adjectives and possessive pronouns (including *svoj* 'one's own') appear after nouns first make their appearance. Interesting also is that these same adjectives at first appear in the order of noun followed by adjective, instead of the usual adjective followed by noun sequence (Gvozdev 1949, 1961). One might expect, in fact, that word order might be random in this case, yet Slobin states:

> [W]ord order is quite inflexible at each of the early stages of syntactic development. One might have predicted that Russian children, being exposed to a great variety of word orders, would first learn the morphological markers for such classes as subject, object, and verb and combine them in any order. This is, however, hardly the case. Child grammar begins with unmarked forms – generally the noun in what corresponds to the nominative singular, the verb in its … imperative or infinitive form, and so on. Morphology develops later than syntax, and word order is as inflexible for little Russian children as it is for Americans. …

> [There] must be something in LAD, the built-in "language acquisition device"
> discussed by … Chomsky, and others, that favors beginning language with
> ordered sequences of unmarked classes, regardless of correspondence of such a
> system with the input language (Slobin 1966: 134-35).

By age three, children know all generic grammatical categories (case, gender, tense, etc.) according to Gvozdev (1949). After the age of three years, nine months, no new grammatical cases enter the child's language. However, the learning of different morphemes and morphology continues much longer. As Slobin (1966: 136) summarizes from the available studies, children are between the ages of seven and eight when they sort out all of the proper conjugational and declensional suffixes and categories, stress and sound alternations, and other categories. The Russian child does not master his or her morphology until he or she is several years older than the American child who has completed his primary grammatical learning.

Important here is the idea that morphological markers, and their complexity or simplicity, are absent from the Russian child's language until about one year, eleven months. By the time the same child is about two years old, one can see that once the principles for inflection and derivation are acquired, they are immediately applied over a wide range of structures. For example, as dative case is acquired, it is used simultaneously for indirect objects and motion toward a person. The sequence of events is: gender agreement acquisition, grammatical case acquisition, preposition usage acquisition. All of this, of course, takes place after different roots are learned (Gvozdev 1949).

The point of this entire discussion of Russian child language acquisition, then, is that the reflexive structures themselves are learned in stages. First, the root itself, or

morpheme, is learned. Then gender and number agreement occur. Case agreement follows shortly thereafter, with preposition acquisition occurring as a final step. Therefore, Russian reflexive acquisition by native children follows a step-wise procedure, until it finally attains true adult form. In addition, forms that are learned first (say a particular gender ending of a reflexive) tend to be generalized to all reflexives, regardless of gender. Once the child learns that there is another gender ending, this one tends to supplant the first for a short period as the ending of choice. Eventually, the child integrates the competing endings in order to arrive at standard adult Russian.

The reasoning behind these choices for acquisition is as follows: the child acquires the ending that is not marked, then generalizes it to all instances requiring that ending. Once the child learns the marked example, he or she uses it exclusively as the "latest form". Once the child realizes that both forms can coexist, he or she begins to use the proper adult forms.

Again, a hierarchy of learning occurs in this acquisitional process. Russian children, for instance, tend to pluralize all nouns early, then divide mass and count nouns later. They tend to make the animate/inanimate distinction quite late in their childhood. Modifiers, including the reflexive *svoj*, are compiled into a general modifier class. Only later are they divided into subclasses of possessive pronouns, adjectives, and so on. Feminine past tense gets used first, followed by masculine, followed by mixed usage, followed by separate gender entities being resolved. Finally, predicates may be divided into instrumental or nominative at a later period as well.

As one can see, then, the first-language acquisition of reflexive forms by native speakers does not occur as one perfectly unified step. As the child acquires first root

morphemes, then gender, case, and so on, the form expressed by the child becomes ever clearer and ever closer to the adult approximation. Russian children get the reflexive form first, followed by getting the right gender of the form, followed by the correct case expression, followed by use of the form with prepositions. Thus, the L1 acquisition of Russian reflexives is a complex process, which takes time to approach the adult norm.

In addition, there is some evidence that binding in child L1 is an acquired process. For example, LD binding does occur in child grammars where it should not. Progovac and Connell (1991) have proposed that children who are learning languages that have X^{max} anaphors, but who allow LD antecedents, may have misclassified that anaphor as an X^0 element. McDaniel, Cairns, and Hsu (1990) report research that shows a large percentage of young children who do not locally bind reflexives in learning English, for instance.

Progovac and Connell (1991: 13) defend this data, claiming that the children have adopted a Russian-like binding pattern where they possess AGR, but miss the fact that the reflexive is morphologically complex. Under this assumption, the trigger for narrowing the binding domain under these circumstances in English should be recognition of the fact that the reflexives in question are of the X^{max} type, as well as acquisition of AGR for X^0 reflexives. However, for Russian, the trigger should be the acquisition of AGR (with the exception of infinitival clauses). In Chinese, there will be no trigger (Bennett and Progovac 1993: 74-75).

Once the child is older, the pattern of interpretation of X^0 reflexives in Russian permits antecedents outside infinitivals and NPs with lexical participants. The acquisition process, with all of its generalizations and overgeneralizations, fits nicely with Universal Grammar suppositions.

As far as Universal Grammar and reflexive binding are concerned, this entire process might be explained in terms of AGR and relativized SUBJECT.[17] The theory of relativized SUBJECT predicts that "long-distance binding of simple reflexives correlates with absence of morphological AGR" (Bennett and Progovac 1993: 72). However, Clahsen (1990), Meisel and Müller (1990), and other authors have made a claim that young children lack INFL projection, as well as AGR markers. If the theories of these authors hold true, a prediction would be made concerning L1 acquisition of reflexives. Children acquiring languages with X^{max} reflexives should demonstrate the local-only binding pattern as soon as they recognize the lexical and morphological properties of the X^{max} reflexives (Bennett and Progovac 1993: 73). This pattern accounts for early local binding in languages that have X^0 reflexives (Bennett and Progovac 1993: 73).

4.3.2   Previous Studies in L1

Most information on L1 acquisition is noted anecdotally (Progovac and Connell 1991). As mentioned in the previous section, even native speakers of Russian start with a reflexive pattern where they possess AGR, but miss the fact that the reflexive is morphologically complex (Progovac and Connell 1991). Other researchers (Bloom 1990) suggest that all children begin by categorizing all pronouns as full NPs, which accounts for early local binding in languages that have X^0 reflexives (Bennett and Progovac 1993: 73).

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[17] This is a difficult statement to prove, as we have no data on L1 children's interpretations, but it is consistent with the collected data.

Several experiments have contributed to the knowledge of native speaker acquisition of Russian, upon which L2 studies are based. Most of these experiments rely upon a diary kept as a child ages and proceed through the language acquisition process. Several problems with this type of experiment are common. First, many linguists try to compare child language systems with their adult counterparts. Second, some linguists do not phonetically record their data. Third, some linguists rely on their memories when writing down utterances, waiting several hours before recording in the diary. The most extensive and best-documented diary is attributed to the Soviet linguist mentioned above, Gvozdev, who recorded his son's utterances using phonetic notes at regular intervals during actual utterances. Although conclusions were drawn, this was more documentation than experiment.

A second noteworthy study was run by Zakharova (1958). She examined two hundred children between the ages of three and seven, showing them pictures of objects, whose names were given in the nominative case. The children were then asked questions that required them to place the names in another case form. The younger children did not pay attention to the gender of the noun, and more often than not, overgeneralized a particular ending for all genders. This was explained by Zakharova as a case of unmarked examples being generalized before marked examples.

A third study was performed by Vygotsky (1962). Vygotsky investigated the relationship between a language initiated by one person to another and social development and control. He found that the acquisition of language, which begins as an interaction between two people, eventually resolves itself into a function mediated by the learner of the language and expressing the mental processes of the learner (1962).

The outstanding works on Russian L1 language learning are summarized in the following table.

Table 2: First Language Linguistic Studies

Linguist: Year	Method	Findings
Gvozdev: 1949, 1961	Diary of son, Ženja from birth to nine	Child language follows set patterns, which do not correspond necessarily to adult norms
Zakharova: 1958	Examination of two hundred children, ages three to seven	Children tend to overgeneralize unmarked endings; they then replace unmarked endings wholly with newly-acquired marked endings, again overgeneralizing, and finally, synthesize the full range of endings into an adult-like whole
Vygotsky: 1962	Examined children for their pragmatic functioning of language	Language begins as communication between two individuals, but evolves into an expression of the learner's thought processes and mediation control

4.4   L2 ACQUISITION

4.4.1   Competing Theories

Several competing theories have been proposed over time to account for how L2 learners acquire a second language. Each theory attempts to examine the acquisition of an L2 against the broader backdrop of the L1, and then explain the data. The generative

approach examines what a learner knows and the origins of this knowledge. A brief review of generative L2 literature is warranted to provide a comprehensive picture of generative L2 theory.

Daniel Finer (1991: 351) presents an elaboration of reflexive binding. Finer states that Government and Binding Theory (GB), the syntactic framework often used to explain Universal Grammar (UG) in SLA, attempts to link language acquisition with linguistic variation. A prominent question in this study, and for UG in general, is how children are able to acquire a language, given the poverty of the stimulus. In other words, children, as they acquire language, will neither encounter all possible correct forms of the language nor produce and have corrected all possible errors in the language. Therefore, the data contained in the input of a language are insufficient to account for the complex output and intuitions of the learner. The primary goal of GB is then to provide a theory of UG that is general enough to accommodate the many disparate languages in the world today, while still being specific enough to allow the child to acquire his or her particular language, given a poverty of stimulus, an average child, and the fact that the child is not unduly influenced by negative evidence.

Several hypotheses taken to be the basis of most of these studies concern a set of innate principles and parameters that operate in SLA. These are:

   a.   If a cluster of structural properties represents the effect of a single parameter setting, all the related properties associated with that parameter setting may be acquired simultaneously.

   b.   L2 sentences that violate universal principles should be judged ungrammatical by learners, even if evidence of these violations is not observed in the language data.

c.   Interlanguage grammars should not demonstrate rules or properties that native languages do not demonstrate. (Finer 1991: 352)

Therefore, a child can learn the differences in binding the X^0 and X^{max} anaphor types without direct evidence. The child may either experience the fact that an X^0 anaphor may be bound LD (moving through INFL), or that an X^{max} anaphor may not (cannot move through SPEC of CP or adjoin CP and may be co-indexed with an object). These parameters are clustered together, so once one of the clustered parameters has been activated, the others follow suit.

Finer (1991: 353) interprets Chomsky's Principle A[18] to mean that each anaphor has an antecedent within its governing category. Although it is certainly true that reflexives are bound into a certain syntactic structure, the range of governing category is not always the same for each language. As we have seen in chapter 4, section 4.2, some Russian anaphors, for example, can be bound LD, whereas English does not permit this sort of LD binding. The assumption is then made that there must be parametric variation across languages concerning the item's governing category, all of which is compatible with Progovac's theory.

Finer (1991: 358-359) conducted a study of interpretations of reflexives by Koreans (who speak a most marked language) learning English (a least marked language). Markedness here is defined in terms of learnability, not as the typological markedness used by descriptive linguists. Finer's results were interesting in that he could not trace certain results back to either language. In fact, it appeared from his results that the

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[18] Chomsky's Principle A states that an anaphor is bound in its local domain (see p. 50)

Koreans had not followed their own grammar or the grammar of the language they were learning, English. Instead, their grammar seemed to be a compromise between the two grammar types, resulting in a semi-marked grammar akin to Russian. He concluded that although UG does constrain the range of L2 learner hypotheses, their responses seemed to compromise on the parameter setting, with neither the L1 nor the L2 as the basis of language formation, but, rather, a language between the two as a middle-ground parameter.

Finer conducted a second study to confirm these results, enlarging his subject base to include Japanese and Hindi speakers as well. The replication of the Korean experiment demonstrated that the Japanese also compromised in determining the binding parameter (1991: 360). The results for the Hindi speakers (whose language is like the interlanguage of the Japanese and Koreans) could be interpreted either as showing no distinction between the clause types, or as a Hindi compromise, moving toward a less-marked parameter setting (1991: 361).

Whereas the theory behind Finer's experiment and findings is sound, it raises several difficulties. In the first study, there were only six participants involved, the study failed to explain why the binding parameter changes were dependent on clause type, and it required the inclusion of the idea of the 'rogue grammar'. In the second study, Finer was unable to account for some of the unexpected variation that he obtained. Finally, his theory for both studies was based on Wexler and Manzini's 1987 work (which has since been superseded).

Thomas supported Finer in her 1989 study of reflexives. She examined reflexive binding using several different languages in an attempt to look at underlying grammars.

She conducted a second study (1991), within which she claimed that Finer's results were correct, but that they were accounted for incorrectly. She attempted to explain away Finer's 'rogue grammar'. She referred in her 1991 work to Read and Chou Hare (1979) and Goodluck and Birch (1988), who demonstrate that when the grammar allows more than one possible referent for a reflexive, native speakers "systematically prefer one interpretation of the reflexive over the other(s) in a neutral context" (Thomas 1991: 379). In addition, "this preference can be strong enough to prevent speakers from recognizing underlying ambiguity." (1991: 379) Thomas hypothesized that the Japanese and Korean speakers preferred non-local antecedents regardless of the fact that their underlying grammar allowed both the local and non-local antecedent.

Thomas chose as her participants for several studies as L2 learners of Japanese whose L1s were English and Chinese. She compared learners of the same language with different responses to binding opportunities. Her main goal was to examine how participants behaved when given an ambiguous choice of antecedents. For instance, in English reflexives can only be bound locally for sentences like (4.51).

4.51. Alice$_i$ thinks that Susan$_j$ likes herself$_{*i/j}$.

The sentence can only be interpreted as Susan liking herself, not as Alice liking herself or Susan liking Alice. On the other hand, the same sentence rendered in Japanese is ambiguous, as seen in sentence (4.52).

4.52. Alice$_i$ wa Susan$_j$ ga zibun$_{i/j}$ o aishite iru to omotte iru

Here, Alice can like herself or Susan can like herself.

Interestingly enough, when the participants were presented with the sentences like (3.56), they overwhelmingly chose to bind the anaphor LD to the subject, as opposed to

locally (as is the case in English). Participants were also tested for pragmatic and syntactic constraints. Thomas sought to elicit the percentage of participants who consistently produced a given interpretation of a reflexive, not the overall incidence of each interpretation of a reflexive in context. By using only those participants who bound consistently one way or another, Thomas eliminated data produced by guessing or by other erroneous influences (1991: 383-384).

Thomas found that pre-training on ambiguity did not always help the participants to recognize ambiguity. In fact, there appeared a strong preference for the LD subject to bind the reflexive. Likewise, few learners consistently gave interpretations of reflexives that would indicate the existence of a 'rogue grammar'. Thomas therefore maintained that Finer's methodology was sound, but that the analysis needed to be reinterpreted. Thomas's improved explanation of Finer's results is still lengthy, complex, and restrictive.

The competing theories, including those on which this dissertation is based (from Section 3.2.2), are summarized in Table 3.

Table 3: Competing Theories of UG's Government and Binding Theory of Reflexives

Linguist	Focus	Findings	Faults
Bennett[19] (1994)	*Anaphors in English in relation to the X^0 and X^{max} anaphor types	*Students of the L2 initially transferred the L1 anaphor type	*No explanation of incorrect responses that fits with theory
Bennett and Progovac (1993)	*Readdress Bennett's 1994 study; hones in on AGR and anaphor type	*Students had morphological AGR, but transferred the incorrect anaphor type to the L2	*Only Serbo-Croatian, thereby assuming anaphor types are common to all languages
Finer (1991) First Experiment	*Anaphors in English bound in limited governing category	*UG constrains range of L2 learner hypotheses *Compromise between L1 & L2	*Governing category range too limited *Few participants *Fails to explain subject choice *False 'rogue grammar'
Finer (1991) Second Experiment	*Enlarged study (a) to include Japanese and Hindi	*SUBJ binding greater than OBJ binding *Japanese/Koreans bind OBJ more *Hindis bind SUBJ more	*Hindis had too much English contact *Variations unaccounted for *Complex theory
Hirakawa (1990)	*GCP and PAP examination and transfer from L1 to L2	*Transfer does occur from the L1 to the L2 *Some students are able to reset the parameters in question	*Does not explain why some can reset parameters, while others cannot
Progovac (1993)	*Movement to INFL versus relativized SUBJECT	*Proposed a movement of the reflexive to INFL	*Does not explain (non)movement of some anaphors
Thomas (1989)	*Pragmatic vs. syntactic influence on reflexive interpretation *Neutral vs. biased sentences	*Majority of reflexives bound to SUBJ in neutral sentences *Pragmatics favored over ambiguity *Biased sentences favor SUBJ	*Complex *Confusing *Not all variation accounted for
Thomas (1991) First Experiment	*Reexamined Finer's work on Japanese and Korean	*Defends Finer *Claims preferences over ambiguous reference	*Never states how preference noted *Complex/Restrictive
Thomas (1991) Second Experiment	*Pragmatic & syntactic constructs	*Explicit training does not reset parameters	*Ignores overall incidence to view binding preference
White et al 1997	*Task type can affect researchers' judgment of learners' competence	*Demonstrated competence affected by task type *Responses to ambiguous sentences may present a preference	*Unable to conclude which task actually better represents learner competence

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[19] All studies conducted by Bennett, Progovac, Bennett and Progovac, Hirakawa, and White were used as the basis of the dissertation experiment.

From these studies, three competitive elaborations of GB theory have been proposed to account for reflexive binding across languages: Finer's Governing Category restraint, Thomas's pragmatics and syntax limitations, and Bennett and Progovac's X^0 and X^{max} anaphor types. For the purposes of this dissertation, Progovac's theory of anaphor type (elaborated in chapter two) was selected as the basis of the current experiment, due to the fact that the theory has already been proven for Serbo-Croatian (another Slavic language) and the fact that Russian does exhibit these anaphor types. Other considerations made when selecting the experimental basis were that Progovac's study maintains validity, briefly and simply explains the data, and does not rely on theories that have since been superseded. The thesis experiment is therefore modeled on this theory and will explore its validity in an L2 acquisition study of Russian.

4.4.2   Binding Theory and L2 Acquisition of Russian

At its inception, generative linguists, and Chomsky in particular, studied one language at a time, focusing on the rules and lexicon of one particular language. However, since the eighties a great deal of crosslinguistic research, such as Huang (1982), has been conducted that compares several languages, noting the presence or absence of observed similarities and differences along a scale of value judgments and parameters. Although many languages have been studied in this manner, Russian has rarely been extensively examined, especially from a cross-linguistic perspective.

The purpose of the L2 studies to date has traditionally been to try to set down how languages are learned, that is, which aspects human languages owe to innate ability and which to learned behaviors. Although this work is not done with language teaching in

mind, an applied study of L2 Russian would have pedagogical implications, even though pedagogy in and of itself is not the main focus of the experiment.

4.5   L2 EXPERIMENT BACKGROUND

The experiment and its format are based on Bennett and Progovac (1993: 79-86), Bennett (1994), and White et al (1997). However, the experiment has been adapted to Russian as the L2, as opposed to English as the L2. This change in format will lead to different predictions and some different sentence types, but a concerted effort has been made to imitate sentences that have already been tested in other L1 and L2 studies. For this reason, the test battery sentences are not exhaustive in their extent. However, a full examination of all possibilities concerning reflexives and their specific properties exceeds the scope of the normal thesis. Therefore, sentences most useful to make an incremental contribution to the literature on this topic have been used in this particular study.

As far as the acquisition of anaphoric binding in an L2 is concerned, this thesis examines the following questions:

I.   Do native English speakers transfer their L1 AGR parameter setting to L2 Russian?

II.   Do native English L2 learners of Russian initially transfer their L1 anaphor type to their interlanguage grammar?

III.   Can L2 learners of Russian learn to compute a new binding domain?

IV.   Are there differences in binding across a range of anaphors?

V.   Are there differences in binding across a range of sentence types?

The operating hypotheses of the experiment are:

A. *Native English speakers learning L2 Russian will initially apply the +AGR parameter setting that already exists in their L1.* One of the most basic assumptions of this study is that the English speakers will have no reason to adjust the AGR parameter setting that already exists in their L1. They should bring this parameter with them to the L2 acquisition, rather than beginning with a new parameter setting, which they have never encountered before. This assumption is based on findings by Bennett (1994), Bennett and Progovac (1993), and Schwartz and Sprouse (1996).

B. *Native English speakers learning L2 Russian should initially transfer the L1 X^{max} reflexive anaphor type to their interlanguage grammar.* Many studies have been conducted in which the L2 is English. This study is one of the first that attempts to experiment using English as the L1 and Russian as the L2. Bennett (1994) used Serbo-Croatian as the L1 and English as the L2 to study anaphora. This study attempts to reverse the roles of the languages in Bennett's experiment. As most of the studies to date have concerned themselves with a highly marked language as the L2 and an unmarked language as the L1, it is hoped that this study will lend a broader base to those data already in existence.

C. *Native English speakers learning L2 Russian who assimilate the $+AGR/X^{0}$ reflexive will be able to compute new binding domains in the interlanguage grammar.* This thesis assumes that, as per Chomsky (1981a), binding theory allows parameters to exist, and allows for the resetting of these parameters in L2 acquisition.[20] Assuming that the English speakers maintain their +AGR setting, they should theoretically need only to be confronted with positive evidence of a new binding parameter setting to begin to acquire said parameter. Evidence for this hypothesis exists in Finer and Broselow (1986) and Thomas (1991). It is not

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[20] Note that the resetting of parameters question is still controversial, with Hirakawa (1990) arguing for resetting and Smith and Tsimpli (1995) and Clahsen and Felser (2006) arguing against the question.

expected that parameters will be reset during this short study; however the viability of instruction and its usefulness will be processed.

D. *There will be differences at least in the binding of the possessive and object reflexive pronouns versus the binding of the post-verbal affix.* Given the suggested anaphor types, the former should, at times, have the ability to bind both LD and L, while the latter should always bind to its closest antecedent.

E. *There will be differences across tensed and infinitival, mono- and biclausal sentences, and these differences will be related to the anaphor type as well, again split across the possessive and object reflexive pronouns versus the post-verbal affix.* L1 research has already established differences across more than two sentence types (Solan 1987). L2 research has most often looked at most at two different sentence types (tensed and infinitival clauses (Finer 1991, Thomas 1989). Few studies have considered three sentence types (Bennett and Progovac 1993). In using as many sentence types as feasible, this thesis seeks to explore the possibility that certain sentence types may present more or less difficulty for binding, reflecting variation in the governing category.

5.0   CHAPTER FIVE: EXPERIMENT

5.1   INTRODUCTION

This chapter describes a study of L2 learners' binding interpretations of Russian reflexive structures.[21]   The five hypotheses under investigation (from pages 102-104 of chapter 4) are restated here for convenience.

A. *Native English speakers learning L2 Russian will initially apply the +AGR parameter setting. That is, they will show agreement between the subject and verb in the sentence and will not violate agreement principles.*

B. *Native English speakers learning L2 Russian should initially transfer the L1 X^{max} reflexive anaphor type to their interlanguage grammar. That is, English-speaking leaners of Russian will originally transfer their complex (himself/herself) anaphor type to Russian, which will affect the binding of said anaphor.*

C. *Native English speakers learning L2 Russian who assimilate the $+AGR/X^{0}$ reflexive will be able to compute new binding domains in the interlanguage grammar. If the L2 subjects retain their principles of agreement, but do not realize that certain anaphors in Russian are simple and can be bound LD, they will not be able to correct their Russian to the native norm.*

D. *There will be differences at least in the binding of the possessive and object pronouns versus the the binding of the post-verbal affix. That is, depending on the anaphor (-sja, sebja, or svoj) the binding pattern is expected to change.*

E. *There will be differences across a range of sentence type. That is, depending on which sentence type (mono-, or biclausal finite or non-finite) is used, the binding pattern is expected to change.*

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[21] As previously stated (13, 75-77), not all reflexive structures are examined in this dissertation. Examples of *svoj* 'one's own' that contain no antecedent, and non-reflexive uses of *–sja* 'self-enclitic' are not examined. The experiment was also restricted, as with previous experiments on this topic, to monoclausal, biclausal finite, and biclausal non-finite sentences.

A summary of the format of the experiment may aid in orienting the reader. The L2 participants are college-age learners of Russian as a second language. All L2 participants learned English as their native language, and all were between the ages of eighteen to twenty-four, with the average age being 19 years, two months.[22] The participants filled out a brief questionnaire, which elicited background information on their language histories. L2 learners completed a battery of tests that ascertained their ability to deal with Russian reflexive structures. Both the L1 and L2 groups then took a battery of tests on interpreting binding of reflexive structures in Russian. The battery consisted of a multiple-choice, text-driven test and a picture selection test based on the text-driven test. As the L2 study was actually a study with treatment,[23] the L2 learners then received a short training session on ambiguity possibilities, and later took the same two tests again, with questions in a different order, so that improvement possibilities could be obtained. The results of the tests were compiled into the SPSS statistical program, and significances ascertained.

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[22] Exact ages and professions of L2 subjects and native group subjects are not publishable, due to IRB restrictions with which the study had to comply in order to be approved. The publication of these pieces of information were not allowed by the IRB, as they were deemed "characteristics which could potentially point to the subjects' identities". From the consent forms, it is specified that they must be at least eighteen years of age.

[23] The subjects of the L2 group were tested, engaged in a training session, then were re-tested.

5.2   PARTICIPANTS

5.2.1   Native L1 Group

The native group consisted of five adults (age range of thirty-five to fifty-two) and five college participants (assumed ages of eighteen to twenty-four), who are native speakers of Russian (born and educated in Russia). Several were on work-related travel from Moscow, where they still live full-time. The participants filled out a short questionnaire and conversed with me prior to taking the test to make sure that they were native speakers, and that they did possess the background to set the comparison standard for the testing. A range of ages and educational backgrounds was ascertained, based on these conversations, so as to give a general picture of standard Russian usage. This range was purposefully broad so as to make sure there was no undue influence on the college-age students from their being part of the United States university system. All were screened with a pre-test to be sure that they were capable of participating.

5.2.2   Non-native L2 Group

The number of experimental participants at first exceeded thirty, but as many of these participants were eliminated by the pre-test or by admission of minor status on the consent form, only twenty students were included. The group was solicited with a recruitment script, and the ages and genders of the participants were non-discriminatory. The only prerequisites advertised were that the subject had to be a native speaker of

English only and studying at the intermediate-advanced level of Russian without extensive study abroad or Russian experience.[24]

The experimental group was drawn from three different local universities. These include the Johns Hopkins University, The University of Maryland, and Goucher College. Each university or college contributed approximately six to seven participants, who are at the intermediate ACTFL level of Russian as an L2, as determined by a pre-test. Although there was no direct correlation of the written placement test with ACTFL oral standards, the students have been grouped for reporting purposes based on their written performance on a Russian grammar test used by the University of Pittsburgh's Department of Slavic Languages and Literatures to place students at the beginning, advanced, and intermediate levels and what it would indicate on the oral ACTFL assessment. Six of the L2 participants placed into the low-intermediate rank. Seven of the remaining participants placed into the mid-intermediate rank and seven into the high-intermediate. The groups are observed at the college level, so the participants in the non-native experimental group are assumed to range in age from eighteen to twenty-four. Whereas the L1 group contained a greater spread of assumed age ranges, the L2 group consisted of near-contemporaries, as language level, not age, was deemed the determining factor for participation in the study. Exposure to Russian outside of the classroom is limited to videotapes, some Russian literature, Russian newspapers, and student interactions with friends and shopping areas. Classroom acquisition of Russian will not have been available to the participants prior to age fourteen. Students had not traveled to Russia for extensive stays.

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[24] The limited study abroad restriction was in place, as this was a blind recruitment, and students with extensive study abroad tend to be much closer to native norms.

5.3   TESTING INSTRUMENTS

The test packet consisted of two parts: a battery of proficiency tests (including both reflexive and general Russian knowledge assessments) and a battery of experimental tasks (a multiple-choice, text-only task, and a picture identification/sentence combination task).

5.3.1   Reflexive Proficiency Tests

The following tests were designed and administered in order to prequalify the participants in the study. Following the written grammar test for ability level, two additional tests were utilized for this purpose to assure that the participants were qualified to deal with the reflexive structures in question, in both non-contextual and context-driven forms.

5.3.1.1 Cloze Exercise

The cloze exercise consisted of ten items (two of each reflexive form as well as two pronoun distractors). The participants had fifteen minutes in which to fill in the blanks with the proper forms and endings. Questions took the format of a Russian sentence with a blank in which the subject was to place a reflexive structure. As illustrated in token (5.53), the reflexive was cued for the L2 group in English.

> 5.53.   Sobaka vidit _____ v reke.
> itself
> 'The dog sees itself in the river.'

Selection of the correct reflexive form alone was not enough to pass: the subject also had to respond with the correct gender, number, and case (as necessary) of the ending to be

awarded a full point for each token.[25] On the cloze test, the subject had to attain a 6/10 score to proceed to the discourse test. A copy of the cloze exercise may be found in Appendix A. Participants who passed the initial short test were then presented with a cloze story. The reasoning behind this test and the discourse test was that there would be no point in giving a test battery on reflexive binding preferences to participants who did not understand reflexives in Russian from the start.

5.3.1.2 Discourse Exercise

The second proficiency test consisted of a second cloze exercise, this time in a discourse-driven format. Having passed the cloze test on basic knowledge of anaphors, this test allowed the participants to perform with sentences that were given a context. A sample token from the exercise is given in sentence (5.54).

5.54. Odnaždy utrom dve sosedki, kotorye často razgovarivali _____
One morning, two neighbors, who often chatted **(with each other)**

vyšli vo dvor, gde šla stirka. Marina, kotoraja očenʼ
went out into the yard, where the laundry was done. Marina, who really

ljubila govoritʼ o _____ i o _____ semʼe,
loved to talk about **(herself)** and about **(her (own))** family

srazu načala govoritʼ Nataše o _____ syne,
immediately began to talk to Nataša about **(her(own))** son,

kotorogo zvali Konstantin.
who was named Constantine.

This test was designed to evaluate further the suitability of the participants for the experimental battery by assessing their performance on sentences similar to those of the experimental tasks (with more complex structures and vocabulary). The sentences were presented in a context-driven format to aid them in their selection of forms and grammatical endings. The participants had forty-five minutes to fill in fourteen blanks, presented in the context of a story, with proper forms and endings. The task used all reflexives, with distractor forms as well. Form alone was not enough to pass: the subject also had to respond with the correct gender, number and case of the ending (as necessary) to be awarded a point. On the discourse test, the subject had to obtain a 9/14 score minimum in order to advance to the experimental battery. A copy of the discourse test may be found in appendix A. The two prequalifying tests were given in different formats in order to allow the participants to demonstrate their familiarity with reflexives with both simple and then more complex structures and vocabulary.

5.3.2 Experimental Battery

5.3.2.1 Sentence Types

The sentences used in the battery of experimental tests included monoclausal sentences with reflexives in finite and infinitival constructions and biclausal sentences with reflexives in tensed and infinitival embedded. Table 4 gives examples of each sentence type. The syntactic roles of the possible antecedents for the reflexives and pronouns, as well as predicted control group responses, are indicated.

The expected group responses by which the tests were judged are based on patterns established through the previous research efforts of Klenin (1977), Rappaport (1986), and Timberlake (2004, 2006). Although these answers are still supported by Timberlake (2004, 2006), queries of several colleagues by Swan (2007) and the results of the first experiment indicate two distinct grammars of Russian.

The first grammar (found in the research to date and prominent in the second experiment) is indicative of native-speaking Russians who will LD bind but will not bind objects. The more recently noted grammar (expressed within the first experiment, in Swan's (2007) queries of his colleagues, and anecdotally noted in recent Russian Internet sources) is indicative of native-speaking Russians who will L bind and allow binding of objects, but who prefer to express LD reference with a personal pronoun instead of with a reflexive. These competing grammars bear most heavily on the Type 2 sentences of the first experiment, but at times are felt in the Type 1 sentences as well. However, as this dissertation and research were proposed and based on the theoretical standard answers expressed in the literature and these answers are a competitive response (several subjects exhibit the behavior) in the first experiment and a prominent response (the majority of subjects exhibit the behavior) in the second experiment, the thesis has tabulated responses through this standard. A much larger-scale research project covering a wider area of Russia should be conducted to establish for certain whether a single grammatical pattern is dominant at present in Russia or whether or not the two grammars coexist in a changing Russian language. At present, the theoretical standard is used to judge the sentence type responses, but this is not deemed a matter of correctness or incorrectness,

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so answers will be stated as either complying with or differing from the theoretical standard. The standard is based on the literature from prior studies.

Type 1A tested for reflexive type (simple or complex) in monoclausal finite structures; responses that differed from the theoretical answers on this type could indicate transfer of the incorrect reflexive type. Type 1B tested for reflexive type in monoclausal non-finite sentences; responses that differed from the theoretical answer on this type could indicate transfer of incorrect reflexive type. Type 2 tested for reflexive type in non-finite biclausal sentences; responses that differed from the theoretical answer on this type could indicate transfer of incorrect reflexive type. Type 3 tested for AGR and reflexive type in finite biclausal sentences; responses that differed from the theoretical answer here could indicate improper AGR, transfer of incorrect reflexive type, or both.

Table 4: Sentence Types

TYPE 1
Sentences with reflexives in complex noun phrases
 	
   TYPE 1A
   Complex noun phrases in tensed clauses
	Professor$_i$ čital [ego$_j$ stat'j-u o sebe$_{i/j}$]
	Professor read his article about self
	'The professor read his article about himself'
	   his-local NP
	   professor-LD NP
	   Predicted control response-self=professor or his
	
	Professor$_i$ čital [ego$_j$ stat'j-u o svojej$_{i/j}$ rabote]
	Professor read his article about his (own) work
	'The professor read his article about self's work'
	   his-local NP
	   professor-LD NP
	   Predicted control response-his own=professor or his

TYPE 1B
Complex noun phrases in infinitival clauses
 (Subject control verb)
	Ivan$_i$ xočet [IP PRO$_i$ čitat' [NP moj$_j$ doklad o sebje$_{i/j}$]]
	Ivan wants to read my report about self
	'Ivan wants to read my report about myself/himself'
	   my-local NP
	   Ivan-LD NP
	   Predicted control response-self=Ivan or me/mine
	
	Ivan$_i$ xočet [IP PRO$_i$ čitat' [NP moj$_j$ doklad o svojej$_{i/j}$ poezdke]]
	Ivan wants to read my report about his/my (own) trip
	'Ivan wants to read my report about his/my trip'
	   my-local NP
	   Ivan-LD NP
	   Predicted control response-his own=Ivan or my
	
	Ivan$_i$ xočet [IP PRO$_i$ kupat'-sja v ozere]
	Ivan wants to bathe-self in lake
	'Ivan wants to bathe himself in the lake
	   Ivan-local NP
	   Predicted control response-self=Ivan

Table 4 (continued)

TYPE 2
Infinitival biclausal sentences
 	
Sentences with object control verbs
	Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_j$ nalit' sebe$_{i/j}$ čaj-u]
	Nataša asked Marina to pour self some tea
	'Nataša asked Marina to pour her/herself some tea'
	    Marina-local NP (PRO)
	    Nataša-LD NP
	    Predicted control response-herself=Nataša or Marina
	
	Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_j$ myt' svoju$_{i/j}$ posud-u]
	Nataša asked Marina to wash her (own) dishes
	'Nataša asked Marina to wash her/(own) dishes'
	Nataša asked Marina to wash her (own) dishes.
	    Marina-local NP (PRO)
	    Nataša-LD NP
	    Predicted control response-her own=N. or M.
	
	Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_j$ myt'-sja$_{*i/j}$ pered obedom]
	Nataša asked Marina to wash-self before lunch
	'Nataša asked Marina to wash before lunch
	    Marina-local NP (PRO)
	    Nataša-LD NP
	    Predicted control response-herself=Marina

TYPE 3
 	
Tensed biclausal sentences
	Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda govorit o sebe$_{*i/j}$]
	Nataša said that Marina always talks about self
	'Nataša said that Marina always talks about herself'
	    Marina-local NP
	    Nataša-LD NP
	    Predicted control response-herself=Marina
	
	Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda govorit o svojej$_{*i/j}$ žizni]
	Nataša said that Marina always talks about her (own) life
	'Nataša said that Marina always talks about her (own) life'
	    Marina-local NP
	    Nataša-LD NP
	    Predicted control response-her own=Marina
	
	Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda zaščiščaet-sja$_{*i/j}$ ot zlyx sobak]
	Nataša said Marina always defends-self from vicious dogs
	'Nataša said Marina always defends herself against vicious dogs'
	    Marina-local NP
	    Nataša-LD NP
	    Predicted control response-self=Marina

5.3.2.2 Multiple-Choice Comprehension Task (MCC)

The Multiple-Choice Comprehension Task (MCC) required that the participants explicitly identify the antecedents of the reflexive structures given.[26] The MCC task consisted of eighty sentences containing reflexives. The following sentence types were included from Table 1: Type 1 sentences with reflexives in complex NPs (twenty-five tokens), Type 2 sentences with object control verbs with reflexives in infinitivals (twenty-five tokens),[27] Type 3 sentences with reflexives in tensed embedded clauses (twenty-five tokens), and pronoun distractors (five tokens). Tokens were presented in the format of sentence (5.55).

> 5.55. Valja xočet čitat' Nininu stat'ju o sebe.
> **'Valja wants to read Nina's article about her/herself'**
>
> _____ a. Nina
> _____ b. Valja
> _____ c. Nina or Valja
> _____ d. Don't Know
> _____ e. Can't Tell

The binding pattern that the participants adopted was clarified through the responses to different sentence types. Responses to Type 3 sentences provided feedback on the AGR parameter setting that the L2 learners had adopted because to cross the clause barrier

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[26] L2 subjects had, to this point, not been explicitly trained in recognizing ambiguity in Russian, other than items that may have come up in literature courses. They were fairly well-versed in reflexives from classroom teaching. Knowledge of ambiguity came from interaction with natives (limited), literature examples, and this basic knowledge of reflexives in general, as well as the subjects' L1. The idea was to observe how the subjects dealt with these examples when first encountered with this base.

[27] These sentences remain controversial. The theoretical result to them should be that they are ambiguous; however, they seem to generate a preference for L binding, as ascribed to by Swan's (2007) colleagues. The preferred LD reading in this case uses a personal pronoun in place of the reflexive.

would demonstrate a lack of AGR knowledge. Selection of the matrix subject involved

crossing a finite clausal barrier, a co-reference type that only exists in –AGR type

languages, like Chinese. Type 3 sentences would also provide information on morpheme

type selection, as to cross such a barrier, the reflexive would have to be an X^0 reflexive.

Responses to Type IA, IB, and 2 sentences provided feedback to morpheme type

selection only. Variants or preferences were expressed by choosing the long-distance

antecedent, the local antecedent, or an ambiguous combination of both (with either being

the possible interpreted antecedent). In addition, the participants were instructed that they

could choose option "d" if they could not understand the sentence (due to vocabulary or

syntax), and so could not determine an antecedent. If they understood the sentence, but

could not decide on an antecedent, due to non-clarity of the sentence or its picture (or

simply not finding the sentence natural or acceptable), the option "e" was required. It was

clarified that the "d" and "e" choices did NOT signify ambiguity or possible alternating

antecedents. Rather, these were for vocabulary/syntax problems or unclear/unacceptable

sentences. Response "c" was elucidated as the response if either of the choice of

antecedents was possible. A sample of the MCC test may be found in appendix A.

5.3.2.3 Picture/Sentence Test (PST)

The Picture/Sentence Test (PST) required that the participants match picture

representations to a sentence to construe their interpretation of the reflexive's possible

antecedent(s) (Chien, Wexler, Chang 1993). The PST task consisted of eighty sentences

containing reflexives. The following sentence types were included from Table 1: Type 1

sentences with reflexives in complex NPs (twenty-five tokens), Type 2 sentences with

object control verbs with reflexives in infinitivals (twenty-five tokens), Type 3 sentences

with reflexives in tensed embedded clauses (twenty-five tokens), pronoun distractors (five tokens). Tokens were presented as in token (5.56).

5.56.　　　Professor čital ego stat'j-u o sebe
　　　　　　'The professor read his article about (him)self.'

A. _____ _____　　　　　　　　　B. _____ _____

C. _____ _____　　　　　　　　　D. _____ _____

Figure 13: Sample Picture Sentence Task Question

The participants were asked to choose all possible pictorial representations of the sentence that made sense, i.e., that were acceptable representations of the action in the sentence. They were also asked to number their choices in order of preference, such that if one picture's interpretation was judged more acceptable than another, but both were

deemed possible, the first picture would be labeled (1) (for first choice), and the second (2), (for second choice). If two of the pictures were found to be equally acceptable, the subject simply placed a (1) in both of those pictures' blanks. The binding pattern that the participants adopted was clarified through the responses to different sentence types. Again, responses to Type 3 sentences provided feedback on the AGR parameter setting that the L2 learners had adopted because to cross the clause barrier would demonstrate a lack of AGR knowledge. Selection of the matrix subject involved crossing a finite clausal barrier, a co-reference type that only exists in –AGR type languages, like Chinese. Type 3 sentences would also provide information on morpheme type selection, as to cross such a barrier, the reflexive would have to be an X0 reflexive. Responses to Type IA, IB, and 2 sentences provided feedback to morpheme type selection only. Again, variants or preferences were expressed by numbering pictures in order of preference (the subject could label more than one as preference 1, or order pictures as 1, 2, and so on). In addition, the participants were instructed that they could choose option "e" if they could not understand the sentence (due to vocabulary or syntax), and so could not determine an antecedent. If they understood the sentence, but could not decide on an antecedent, due to non-clarity of the sentence or its picture (or simply not finding the sentence natural or acceptable), the option "f" was required. It was clarified that the "e" and "f" choices did NOT signify ambiguity or possible alternating antecedents. Rather, these were for vocabulary/syntax problems or unclear/unacceptable sentences. Ordering responses by number was elucidated as the response if either of the choice of antecedents was possible. Sample tokens from the PST may be found in Appendix A.

At this point, both the L1 and L2 groups had taken the experimental battery of tests. In taking the study one step further for the L2 participants, a treatment was given in the form of a short training session on reflexive ambiguity[28] (see below concerning the details of this training). The L2 participants then took the same two tests a second time, with the questions in a different order, to ascertain whether they might be able to learn about Russian parameters and apply them. Eventually, if this test were successful, a resetting of parameters would then be possible, but arguably not after such a short training session.

5.3.3 Training Session

Prior to the experimental test battery, students were introduced to the reflexives during class grammar instruction only as lexical items as the topics arose. The L2 students received a training session following the first experimental test battery. In highlighting the potential ambiguity of the sample sentences, it was intended that the participants would be aware of this potential when performing the second experimental test battery. Participants were directly informed that each sentence of the first task and picture of the second task should be judged separately, as an ambiguous sentence would correspond to the ambiguous selection "c" on the MCC task, and to two pictures (with preferences numbered) on the PST task. The training session attempted to make the participants aware that they could express more than one choice per token if they detected ambiguity. The participants were encouraged to identify all possible interpretations of the reflexives

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[28] The training session included a lesson on possible ambiguity and included the theoretical response, as the grammar difference had not yet come to light. As will be seen from the data, this session was somewhat detrimental, as those who had achieved near-L1 proficiency in this area already responded like the L1 group, while those who did not overgeneralized the training.

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(and the distractor pronouns) in the test items. In addition, the training attempted to reduce preferences and prejudices of the participants by demonstrating sample answers to sample questions not contained in the tests. The training session was also aimed at helping the participants to become familiar with this new test format, as most schools do not utilize such a format, due to its expense and preparation time.

Whereas such training sessions have proven to be of use, in that the participants do recognize more ambiguity, the training sessions are not so effective that they erase all preferences right away, as seen in Thomas (1991: 385) and cause overgeneralization. It was hoped that this sort of instruction would make the participants familiar with the test type, as well as demonstrate a potential for possible ambiguity, making such instruction viable over time (although no re-setting of parameters will occur during the study period).[29]

5.3.4   Re-Test of Experimental Battery

Following the training session, the MCC and PST tests were again administered. The tests contained the same material as the initial MCC and PST, but the sentences were placed in a different order.

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[29] Two of the subjects' schedules did not allow for this training session and for the re-test session. Therefore the number of subjects drops from 6 to 5 in the low group and from 7 to 6 in the mid group for the re-test session.

5.4 PROCEDURE

5.4.1 Reflexive Proficiency Tests

This experiment, as mentioned above, consisted of a battery of proficiency tests and experimental tasks, which were administered to the control and experimental groups separately. Participants[30] were first screened using the battery of proficiency tests in order to determine whether they were capable of completing the experimental tasks. The participants began with a cloze exercise, which focused on inserting correct forms into sentences with a prompt. The expected time required to complete the cloze exercise was fifteen minutes, and all participants complied with this limit. A minimal score of 3/5 (in this case, 6/10) was required to demonstrate proficiency with reflexives, so as to proceed to the next step.

The second proficiency test, the story completion, was expected to take a maximum of forty-five minutes, and all participants complied with this limit. This task used discourse, in the form of a story, to ascertain whether or not the students performed better with forms in context, and was used as a double-check measure to assure that the students were at a level where they could successfully take the required tests. Participants needed to score at least a 3/5 ratio (in this case, 9/14) to proceed to the experimental test battery.

Subjects placing in the 6-8.5 range on the cloze test and in the 9.5-10.5 range on the discourse test were placed in the low group. Subjects who placed in the 7.5-9.5 range on the cloze test and in the 10-12.5 range on the discourse test were placed in the mid group.

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[30] L2 participants also took a written grammar test, as previously mentioned, to sort them by ability level.

Subjects who placed in the 7.5-10 range on the cloze test and in the 11.5-13.5 range on the discourse test were placed in the high group.

5.4.2 Experimental Test Battery

The test battery consisted of two tests. The first, the sentence grammaticality judgments without pictures, was allotted one hour. In this task, participants were asked to identify the possible antecedents of reflexive structures from a multiple choice bank. They were allowed to answer that they did not know the answer (d), or that the answer was unclear to them from the sentence or the sentence was not acceptable (e).

The second test of the battery, the grammaticality judgments with pictures, was allotted one hour as well. Here, the students were asked to judge which pictures matched the sentence given. They were allowed to indicate preferences (if more than one picture worked for them), as well as to say that they did not know (e), or that the relationship between the sentence and pictures was unclear or the sentence unacceptable (f). The L1 control group took each of these tests as well, but completed both in one hour, instead of two.

5.4.3 Training Session and Re-Test

A second session for the L2 learners included a half-hour explanation of how reflexives work in Russian. Ambiguity was addressed and morpheme types and clause restrictions explained according to the theory. The participants were then scheduled to take the last two battery tests (the tokens of which had been re-ordered) within the next twenty-four hours to ascertain whether or not there was any improvement now that the participants

were aware of Russian reflexive parameters. These participants were then given five minutes to think and ask questions. Within the next twenty-four hours, the participants took the second battery of tests. In this manner, it is assumed that instruction, although brief, would be maximally effective. For parameter resetting, prolonged explanation, practice, and time lapse would likely be necessary.

Oral and written instructions for all parts of the test battery were given to the L1 control group in Russian and English, and to the experimental L2 group in English. Each non-native also took a level placement grammar test, as previously mentioned, so as to roughly establish his or her level of Russian, based on University of Pittsburgh standards used to evaluate students' abilities for the purpose of placing them in appropriate language courses. Again, although there was no direct correlation of this written placement test with ACTFL oral standards, the students were grouped for reporting purposes based on their written performance and what it would indicate on the oral ACTFL assessment. Six of the L2 participants placed into the low-intermediate rank. Seven of the participants placed into the mid-intermediate rank and seven into the high-intermediate.

5.5   RESULTS

5.5.1   Cloze Test

For the cloze experiment, twenty of the participants qualified to pass on to step two of the proficiency tests. Eight of the thirty participants were eliminated, based on this test.[31] Table 5 shows the results for the remaining twenty participants who passed it, ranked by level.

Table 5: Cloze Test Results L2 Group (maximum 10 points)

	Mean	Standard Deviation	Standard Error	Range
Low (n=6)	7.07	1.06	.40	6.00-8.50
Mid (n=7)	8.50	.89	.37	7.50-9.50
High (n=7)	8.79	1.19	.45	7.50-10.00
Non-Native Total[32] (n=20)	8.10	1.27	.28	6.00-10.00

As Table 5 demonstrates, the ranges for each group overlapped somewhat, as one might expect when a single ability level is being split into three distinct units. However, the mean test scores increased as the students' levels of Russian increased. No subject scored below a 6.00, with scores ranging from a 6.00 to a perfect 10.00.

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[31] Two were eliminated by age restrictions on the consent form.
[32] For analysis and significance purposes, a collapsed grouping of total non-natives is also given.

5.5.2 Discourse Test

Several of the participants did appear to perform better on the discourse test, although, in general, the percentage of correct answers by level actually dropped, due to grammatical forms being incorrect at times. No subject scored perfectly, being led astray at least once by a distractor-type sentence. All twenty participants who passed the cloze test also passed the discourse test. Results are shown in Table 6 for the twenty participants who passed the first and second tests.

Table 6: Discourse Test Results L2 Group (maximum 14 points)

	Mean	Standard Deviation	Standard Error	Range
Low (n=6)	10.14	.38	.14	9.50-10.50
Mid (n=7)	11.25	1.08	.44	10.00-12.50
High (n=7)	12.50	.96	.36	11.50-13.50
Non-Native Total (n=20)	11.30	1.29	.29	9.50-13.50

Table 6 confirms the results of Table 5. Again, the ranges for each group overlapped somewhat. However, the mean test scores again increased as the students' levels increased. All participants achieved the 8.5 minimum score required to move on to the experimental battery, with the range extending from 9.50 to 13.50.

5.5.3 Multiple Choice Test

The Multiple Choice Test answers given by each participant were scored against the theoretical native answers (based on Klenin 1977, Rappaport 1986, and Timberlake 2004, 2006) to obtain a percentage of correct answers.33 Table 7 tabulates the means and standard deviations of the Multiple Choice Task for native L134 participants and non-native L2 speakers.

Table 7: Multiple Choice Test I (T1 and T2) Results (Maximum 60 points)

	Mean[35]		Standard Deviation		Standard Error		Range	
	T1	T2	T1	T2	T1	T2	T1	T2
Low (n=6/5)	26.43	42.67	7.57	9.95	2.86	4.06	14.00-36.00	30.00-54.00
Mid (n=7/6)	43.17	46.40	13.33	12.99	5.44	5.81	28.00-60.00	30.00-59.00
High (n=7/7)	45.43	44.14	11.56	13.90	4.37	5.26	30.00-59.00	20.00-57.00
Non-Native Total (n=20/18)	38.10	44.28	13.61	11.81	3.04	2.78	14.00-60.00	20.00-59.00
Native (n=10)	41.90	--	6.01	--	1.90	--	33.00-50.00	--
Total (n=30/28)	39.37	--	11.65	--	2.13	--	14.00-60.00	--

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33 Here, as with all of the first experiment tests, the term "correct" is taken to mean "in accordance with the theory".

34 Henceforth for convenience, L1 will refer to native speakers of L1 Russian, and L2 will refer to native speakers of English who are learning L2 Russian.

35 It should be emphasized that the tabled results are means. This indicates that some of the speakers performed better, and others, worse. Two of the L2 subjects performed extremely well, while two of the L1 speakers performed quite differently from the other eight. Due to the small sample, the mean tends to mislead one into believing that all of the L2 speakers are outperforming all of the L1 speakers, which was not true.

As Table 7 demonstrates, the mean test scores improved with the students' levels except for the second MCC taken by the high group, where the scores actually fell below the first test and below the mid-level group's second mean test score. It appears that the mid and high groups outperformed the L1 subjects on the test. However, the table was compiled using the theoretical answers based on the research, with which the grammars of many of the L1 subjects conflicted. Their answers were not deemed incorrect, but rather judged as differing from the expected research-based answers that were available at the time. Again, as the theoretical answers were the basis of the thesis, are still supported, and occurred at a much higher rate in the second experiment, this is the perspective from which the data are analyzed. From Test I to Test II, the mean scores rose for each of the groups, with the greatest increase in score associated with the lowest-ranked students. This does not indicate that parameters were reset at this time or that the results of the training might have been permanent and lasting. However, the results do indicate that training does affect the L2 subjects. On the one hand, it causes the students to outperform the L1 subjects on sentence types 1A, 1B, and 2 by Test II. On the other hand, it adversely affects them by leading them to overgeneralize the responses to type 3 sentences.

5.5.4 Picture/Sentence Task Test

Table 8 tabulates the means and standard deviations of the Picture/Sentence Task for native L1 participants and non-native L2 speakers. Tests I and II (T1/T2) are included.

Table 8: Picture/Sentence Test Results (Maximum 60 points)

	Mean[36]		Standard Deviation		Standard Error		Range	
	T1	T2	T1	T2	T1	T2	T1	T2
Low (n=6/5)	35.57	42.67	6.29	9.11	2.38	3.72	28.00-46.00	33.00-55.00
Mid (n=7/6)	44.17	48.00	9.26	6.00	3.78	2.68	27.00-53.00	39.00-54.00
High (n=7/7)	38.71	46.29	11.15	9.78	4.21	3.70	25.00-52.00	28.00-55.00
Non-Native Total (n=20/18)	39.25	45.56	9.33	8.46	2.09	1.99	25.00-53.00	28.00-55.00
Native (n=10)	36.60	--	8.58	--	2.71	--	22.00-47.00	--
Total (n=30/28)	38.37	--	9.03	--	1.65	--	22.00-53.00	--

As Table 8 shows, the mean test scores improved with the students' levels from low to mid, but the high group's test scores fell below the mid group's scores for each test. It appears that the mid and high groups outperformed the L1 subjects on the test. However, the table was compiled using the theoretical answers based on the research, with which the grammars of many of the L1 subjects conflicted. Their answers were not deemed incorrect, but rather judged as differing from the expected research-based answers that were available at the time. Again, as the theoretical answers were the basis of the thesis, are still supported, and occurred at a much higher rate in the second experiment, this is the perspective from which the data are analyzed. Interesting here is the fact that the high-level group performed very close to the native group. From Test I to Test II, the

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[36] Again, comment must be made on the mean presented here. The L1 speakers did not perform as well on this test as the L2 speakers. The pictures seemed to confuse them more than the L2 speakers. The scores actually only vary by a few questions one way or the other.

mean scores rose for each of the non-native groups, this time with both the highest- and lowest-ranked students showing the greatest improvement. Also of note from Tables 7 and 8 is the fact that there was improvement from Test I to Test II for all groups, except for the fact that the high and native groups' test scores actually fell from the first MCC to the first PST. Also of note is that, although there is a general trend of improvement across groups from Test I to Test II in both the MCC and PST, the improvement from the second MCC to the second PST was minimal. It was not possible to administer Test II to the native speakers, as they were unable to comply with time constraints and it was unnecessary.

5.5.5   Data Analysis

5.5.5.1 Multiple Choice Test Percentage Analysis

The multiple choice test is the first experimental test in which both the L1 and L2 groups participated. Tables 9-13 present the results of this test, by individual sentence type (due to complexity of presentation), for the Russian speaking native L1 group as well as for the low-, mid-, and high-level L2 learners of Russian. These tables record the percentage of each group's responses, which establishes co-reference between the reflexive and the indicated candidate antecedent(s). Although no reliable significance can be established for the individual groups (due to the small number of participants per group), this data has been tabulated to support interesting observations. In addition, further tables and analyses combine all L2 Russian speakers into one group (nonnative) to contrast with the L1 Russian speakers (native) and do show some reliable differences.

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5.5.5.2 Picture/Sentence Test Analysis

The Picture/Sentence Test is the second experimental test in which both the L1 and L2 groups participated. Tables 14-23 present the results of this test, by sentence type (due to complexity of presentation), for the Russian speaking native L1 group as well as for the low-, mid-, and high-level L2 learners of Russian. These tables record the percentage of each group's responses, which establish coreference between the reflexive and the indicated candidate antecedent(s). Again, although no significance can be established using these small groups, interesting observations may be made, so the data have been tabulated and recorded. In addition, further tables and analyses combine all L2 Russian speakers into one group (nonnative) to contrast with the L1 Russian speakers (native) and do carry reliable significance when thus combined.

5.5.5.3 Multiple Choice Test by Sentence Type and Binding Pattern

Tables 9-13 report the data for the Multiple Choice Test by sentence type and binding pattern, with the expected responses (based on Klenin 1977, Rappaport 1986, and Timberlake 2004, 2006) emboldened. Although *svoj* and *sebja* should have patterned together, the actual data indicated that they were better analyzed separately.

In Table 9, Type 1A sentences (complex noun phases in tensed clauses) are exemplified by the sentences in (5.57) and (5.58), reproduced here for ease of access:

> 5.57. Professor$_i$ čital [ego$_j$ stat'j-u o sebje$_{i/j}$]
> Professor read his article about himself
> 'The professor read his article about himself'
> his-local NP
> professor-LD NP
> Predicted control response-self=professor or his

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5.58.   Professor$_i$ čital [ego$_j$ stat'j-u o svojej$_{i/j}$ rabote]
          Professor read his article   about his (own) work
          'The professor read his article about his work'
          his-local NP
          professor-LD NP
          Predicted control response-his own=professor or his

The expected theoretical response to (5.57) and (5.58) is that the reflexive pronoun would

be ambiguously bound both L and LD. These sentences illustrate the X0 morpheme type.

Table 9: Multiple Choice Test Result Percentages for Sentence Type 1A

Proficiency Level	Native L1 n/a $\underline{\mathbf{n}}$ = $\underline{\mathbf{10}}$	Non-Native L2 (I) Low $\underline{6}$	Mid $\underline{7}$	High $\underline{7}$	Low $\underline{5}$[37]	Non-Native L2 (II) Mid $\underline{6}$	High $\underline{7}$
Type 1A							
sebja 'oneself'							
LD[38]	20.00	46.67	28.57	0.00	0.00	16.67	0.00
L[39]	12.00	30.00	25.71	31.43	24.00	0.00	24.00
LD/L[40]	**66.00**	**13.33**	**45.71**	**68.57**	**76.00**	**83.33**	**76.00**
DN[41]	0.00	6.67	0.00	0.00	0.00	0.00	0.00
CT[42]	2.00	3.33	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD	33.33	5.56	28.57	0.00	6.67	16.67	0.00
L	20.00	66.66	28.57	42.85	20.00	5.55	20.00
LD/L	**46.67**	**16.66**	**42.86**	**57.14**	**73.33**	**77.78**	**80.00**
DN	0.00	5.56	0.00	0.00	0.00	0.00	0.00
CT	0.00	5.56	0.00	0.00	0.00	0.00	0.00

Table 9 demonstrates that, for Type 1A sentences on Test I, a few of the sentences were

unclear to the participants. Only one of the L1 participants questioned one of the

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[37] The number of subjects dropped by one in the low and mid groups as, due to time constraints, one person from each of these groups was unable to complete the second experimental battery.
[38] LD = reflexive only bound long distance
[39] L = reflexive only bound locally
[40] LD/L = reflexive bound either long distance or locally
[41] DN = vocabulary or syntax prohibited the subject from being able to respond to the token
[42] CT = subject understood the token, but could not tell which way to bind the reflexive

sentences. The slightly higher combined percentage in the DN column indicates that there might have been a vocabulary problem for the low group. Overall, however, no particular sentence or sentence type was targeted by these groups as being unintelligible. The L1 participants' responses show that they bound the majority of the first and second reflexive types in accordance with the theory as LD/L. Interesting to note, however, is that *svoj* was bound in this manner less frequently than *sebja*, and the second most common binding pattern was subject-oriented (a tendency that has been demonstrated in other experiments). However, a number of these sentences were bound L instead of LD. The ratio of responses for LD versus local was approximately 2:1 for *svoj* and 3:2 for *sebja.* Two of the participants tended to select the local binding pattern more often than the others, possibly indicating a misclassification of the morpheme type as complex, rather than simple.

The L2 participants' responses to the same reflexive types varied by level. The high group closely approximated the L1 response rate for selecting the LD/L response on Test I, but surpassed it on Test II. This shows that the L2 subjects can be taught. Interesting here is the fact that, when the high group bound the reflexive differently from the theoretical response, they seem to have relied on their L1 morpheme type (complex), tending to bind L, instead of binding the LD subject like the L1 subjects. The low group bound few of the reflexive types in accordance with the theory. Although when handled correctly these two reflexives were bound at nearly the same percentage rate on Test I (at a lower correct percentage) and Test II (at a higher correct percentage), the subjects treated the *svoj* and *sebja* types differently when bound differently from the theoretical response. *Svoj* tended to be bound differently from the theoretical L over both tests,

whereas *sebja* was bound LD more often on Test I and locally on Test II. The subjects seem to have relied on their L1 morpheme type (complex) when binding the *svoj* reflexive. However, when binding *sebja*, they bound LD more often than L, indicating a better feel for this reflexive as simple. This difference might be found in the fact that the reflexive *sebja* appears to the novice to have a less-complex inflection, which mimics that of nouns (and presents no number, but is marked for case). On the other hand, *svoj* appears to have a more complicated inflection, as it declines with adjectival endings through all genders and numbers, thereby possibly appearing to low-proficiency learners as complex, although morpheme type should definitely not depend on inflectional endings. The mid group followed the same pattern; however, they achieved a higher percentage of anaphors bound according to theory than the low group. In addition, the number of tokens bound differently from the theoretical was much more evenly split over LD and local on Test I, but already demonstrating the L1 tendency to bind LD by Test II. It bears investigating whether this pattern indicates a struggle to switch between the original L1 morpheme type and the required L2 type, or whether this is simply an expression of preference based on the particular sentence. Also of note is the fact that, from Test I to Test II, the number of correct responses increased for all three groups, but increased most dramatically for the low group, followed by the mid group, as expected.[43]

Where the binding pattern seems to have been at least temporarily adjusted (no claim to a resetting of parameters is made), each group's reaction differs. The low group clung to its L1 morpheme type more than to preferring the subject as an antecedent. The mid group, on the other hand, came closer to the native response of preferring the subject as

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[43] This is a short-term effect of the instruction, much of which is due to overgeneralization.

an antecedent, even though it caused a LD binding pattern. The high group, as mentioned previously, gained the highest accuracy in binding, but when binding differently from the theoretical, relied on their L1 morpheme type (complex), thus binding the responses L as in their L1. These data would indicate a misclassification of the morpheme type or generation of a rule not based on morpheme type that became less prominent with higher proficiency of the participants.

The results on this sentence type were as expected for *sebja*, but not for *svoj*. More recent observations (Timberlake 2006), however, indicate that this binding pattern is exactly what does happen in reality.[44] The rate of correct binding according to group level was expected, with those with lower proficiency binding the reflexives differently from the theoretical more often, but improving at least somewhat over the two tests. Interesting to note is that the responses bound differently from the theoretical seem to be attributable to reliance on the L1 English morpheme type in both cases.

In Table 10, the Type 1B sentences (complex noun phrases in infinitival clauses with subject control verbs) are exemplified by sentences (5.59), (5.60), and (5.61), reproduced here for ease of access:

5.59. $Ivan_i$ xočet [IP PRO_i čitat' [NP moj_j doklad o $sebje_{i/j}$]]
      Ivan wants   to read   my   report   about self
      'Ivan wants to read my report about myself/himself'
      my-local NP
      Ivan-LD NP
      Predicted control response-self=Ivan or my

---

[44] Timberlake (2006) asserts that Russian native speakers will not utilize *svoj* unless the context indicates that the item in question is really "one's own". Therefore, they tend to not allow LD binding of *svoj* as much as they do LD binding of *sebja*.

5.60.   Ivan$_i$ xočet [IP PRO$_i$ čitat' [NP moj$_j$ doklad o svojej$_{i/j}$ poezdke]]
        Ivan wants   to read   my   report about his/my own trip
        'Ivan wants to read my report about his/my trip'
        my-local NP
        Ivan-LD NP
        Predicted control response-his own=Ivan or my

5.61.   Ivan$_i$ xočet [IP PRO$_i$ kupat'-sja v ozere]
        Ivan wants   to bathe-self   in lake
        'Ivan wants to bathe himself in the lake
        Ivan-local NP
        Predicted control response-self=Ivan

The expected theoretical response to (5.59) and (5.60) is that the reflexive pronoun would

be ambiguously bound both L and LD, while the reflexive post-verbal affix in (5.61)

would only be bound L. These sentences illustrate different X^0 morpheme examples.

Table 10: Multiple Choice Test Result Percentages for Sentence Type 1B

Proficiency Level	Native L1 n/a n = 10	Non-Native L2 (I)				Non-Native L2 (II)	
		Low 6	Mid 7	High 7	Low 5	Mid 6	High 7
Type 1B							
sebja 'oneself'							
LD	30.00	26.67	40.00	0.00	8.00	20.00	0.00
L	12.00	46.67	20.00	42.86	36.00	0.00	16.00
LD/L	**54.00**	**16.66**	**40.00**	**57.14**	**56.00**	**80.00**	**84.00**
DN	0.00	10.00	0.00	0.00	0.00	0.00	0.00
CT	4.00	0.00	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD	21.43	9.52	18.37	4.08	5.71	19.05	0.00
L	28.57	66.67	36.73	40.82	42.86	11.90	17.14
LD/L	**47.14**	**11.90**	**44.90**	**55.10**	**51.43**	**69.05**	**82.86**
DN	0.00	9.52	0.00	0.00	0.00	0.00	0.00
CT	2.86	2.39	0.00	0.00	0.00	0.00	0.00
-sja 'post-verbal affix'							
LD	0.00	0.00	0.00	4.76	0.00	0.00	0.00
L	**100.00**	**100.00**	**100.00**	**95.24**	**100.00**	**100.00**	**100.00**
LD/L	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 10 demonstrates that, for Type IB sentences on Test I, a few of the sentences were again unclear to the participants, especially those in the low group. The higher percentage in the DN column indicates that there might have been a vocabulary problem again for the low group. The same L1 subject also had some questions about two of the sentences, indicating that he could not understand the reference of the reflexive. Overall, however, no particular sentence or sentence type was targeted by these groups as being unintelligible. The L1 participants bound the majority of the first two reflexive types correctly as LD/L. Interesting to note, however, is that, yet again, there was a slight drop in the percentage of correctly-bound *svoj* tokens, as opposed to *sebja* tokens, which Timberlake (2006) predicts.[45] In addition, the second most common binding pattern was subject-oriented (a tendency that has been demonstrated in other experiments) for *sebja*, although for *svoj*, the L binding pattern was the second most common (though not to an extreme degree). Again, two of the participants tended to select the L binding pattern more often than the others, possibly indicating a misclassification of the morpheme type as complex, rather than simple. Of particular note in the data is the fact that the L1 subjects bind the anaphor *sebja* LD/L or LD 84% of the time, while in English, LD binding in this situation is impossible.

The L2 participants' responses to the *svoj* and *sebja* reflexive types varied by level. The high group equaled or surpassed the L1 group's performance on Test I on both Test I and Test II. The low group, in direct contrast, bound few of the reflexive types in accordance with the theory on Test I and seem to have relied on their L1 morpheme type

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[45] Timberlake (2006) asserts that Russian native speakers will not utilize *svoj* unless the context indicates that the item in question is really "one's own". Therefore, they tend to not allow LD binding of *svoj* as much as they do LD binding of *sebja*.

(complex) when binding. Thus, they can identify the form/meaning of the morpheme, but have not yet acquired the morphosyntactic properties of the morpheme. The mid group split these reflexives, however, binding *sebja* more to the LD subject, but binding *svoj* more often locally, as with their L1 morpheme type on Test I. However, this trend was reversed, although with lower binding percentages, on Test II. Again, this may be due to a perceived complexity of the *svoj* reflexive, as opposed to that of the *sebja* reflexive. The pattern that emerges over all of the L2 subjects is that when they bound the reflexive differently from the theoretical prediction, they seem to have again relied on their L1 morpheme type (complex), tending to bind L, instead of binding the LD subject as would be expected. Also of note is the fact that, from Test I to Test II, the number of correct responses increased for all three groups, but it increased most dramatically for the low group. The low group clung to its L1 morpheme type more than to preferring the subject as an antecedent. The mid group, on the other hand, approached closer to the native response of preferring the subject as an antecedent, even though it caused a LD binding. The high group, as mentioned previously, gained the highest accuracy in binding, but when binding differently from the theoretical, relied on their L1 morpheme type (complex), thus binding the responses L as in their L1.

The post-verbal reflexive affix –*sja*, which should have been bound L only by all groups, was bound correctly by the L1 participants with one-hundred percent accuracy. One token for –*sja* was bound LD by one member of the high group on Test I (most likely a performance error). Otherwise, the predominant binding pattern was the correctly L one for -*sja*.

These results were not absolutely as expected based on past research. It was proposed that the lower proficiency level participants would cling to their L1 English parameter setting and bind fewer tokens in accordance with the theory, which did occur. Again, based on the simple/complex morpheme theory, the most unexpected finding of this sentence type was the apparently different treatment of the two reflexive pronouns. There is definitely a prejudice toward mistaking the morpheme type of *svoj*, which was unexpected and indicates a problem with morpheme type recognition or indicates generation of a rule not based on morpheme type, both of which are a problem for this theory. More recently, Timberlake (2006) indicates that this pattern is expected, which confirms a problem for the theory under investigation.

In Table 11, the Type 2 sentences (infinitival biclausal sentences) are exemplified by sentences (5.62), (5.63), and (5.64), reproduced here for ease of access:

5.62. Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_j$ nalit' sebe $_{i/j}$ čaj-u]
Nataša asked Marina to pour self tea
'Nataša asked Marina to pour her/herself some tea'
Marina-local NP (PRO)
Nataša-LD NP
Predicted control response-herself=Nataša or Marina

5.63. Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_j$ myt' svoju$_{i/j}$ posud-u]
Nataša asked Marina-ACC to wash her (own)-ACC dishes-ACC
'Nataša asked Marina to wash her/(own) dishes'
Nataša asked Marina to wash her (own) dishes.
Marina-local NP (PRO)
Nataša-LD NP
Predicted control response-her own=Nataša or Marina

5.64. Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_{*i/j}$ myt'-sja pered obedom]
Nataša asked Marina to wash-self before lunch
'Nataša asked Marina to wash before lunch
Marina-local NP (PRO)
Nataša-LD NP
Predicted control response-herself=Marina

The expected theoretical response to (5.62) and (5.63) is that the reflexive pronoun svoj

and sebja would be ambiguously bound both L and LD, while the reflexive post-verbal

affix in (5.64) would only be bound L. These sentences illustrate the different X0

reflexives, as well as AGR.

Table 11: Multiple Choice Test Result Percentages for Sentence Type 2

Proficiency Level	Native L1 n/a n = 10	Non-Native L2 (I) Low 6	Mid 7	High 7	Low 5	Non-Native L2 (II) Mid 6	High 7
Type 2							
sebja 'oneself'							
LD	14.00	43.33	11.43	0.00	4.00	3.34	0.00
L	68.00	23.33	42.86	62.86	36.00	63.33	36.00
LD/L	**18.00**	**20.00**	**45.71**	**34.29**	**56.00**	**33.33**	**64.00**
DN	0.00	6.67	0.00	2.85	4.00	0.00	0.00
CT	0.00	6.67	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD	12.00	3.33	0.00	0.00	0.00	0.00	0.00
L	78.00	73.33	62.86	62.86	48.00	46.67	36.00
LD/L	**10.00**	**16.67**	**37.14**	**37.14**	**52.00**	**53.33**	**64.00**
DN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT	0.00	6.67	0.00	0.00	0.00	0.00	0.00
-sja 'post-verbal affix'							
LD	0.00	3.33	0.00	0.00	4.00	0.00	0.00
L	**96.00**	**90.01**	**97.14**	**97.14**	**64.00**	**96.67**	**100.00**
LD/L	4.00	3.33	2.86	2.86	28.00	3.33	0.00
DN	0.00	0.00	0.00	0.00	4.00	0.00	0.00
CT	0.00	3.33	0.00	0.00	0.00	0.00	0.00

Table 11 demonstrates that, for Type 2 tokens, the sentences were clear to the L1 group.

However, the low group struggled the most with vocabulary and structure. Overall, no

particular sentence or sentence type was targeted by these groups as being unintelligible.

The L1 participants bound the majority of the first two reflexive types differently from

the theoretical as L. However, for the first time, we also see a split between the L1

binding pattern types with the majority of the binding different from the theoretical,

indicating that there is a good deal of diversity as to how these sentences are interpreted for binding reflexives.

The L2 participants' responses to the same reflexive types varied by level. The high group patterned after the L1 group, tending to bind the majority of these tokens L on Test I. By Test II, the high group switched its primary binding pattern to the correct LD/L option; however, a large number of tokens were still bound L, as expected of the L2 subjects. The low group, on the other hand, bound the *sebja* reflexive predominantly LD, while allowing L or LD/L binding in otherwise equal percentages. They bound the *svoj* reflexive type predominantly locally on Test I. The binding pattern of both reflexives was switched by Test II to a primary LD/L pattern, still with a large percentage of L-bound tokens. The mid group showed the same tendency as the low group, although to a lesser degree. Again, there is a problem with these sentence types on this test, as patterning is extremely varied.

The reflexive post-verbal affix *–sja*, which should have been bound L only by all groups, was bound in accordance with the theory by most of the L1 participants. Again, one of the participants did allow a few instances of LD/L binding, but maintained a predominant L-only pattern. This performance is comparable to that of the high group, one of whom made the same mistake on Test I. This pattern is also reflected among the low and mid groups, but to a slightly higher degree, with the low group allowing two tokens to be bound LD. Here, a secondary preference emerged in the LD/L pattern again, indicating difficulty for the L2s in dealing with this particular sentence type. This noise in the data is within acceptable limits; however, there is a definite interpretation skewed

toward L binding for *svoj* and *sebja*, while allowing minimal LD binding in addition to the L binding for -*sja*.

The results here were unexpected, given the theory. The fact that the L2 subjects clung to their L1 binding pattern was hypothesized. Such variance among the binding patterns for the L1 and L2 subjects overall is the result of different perspectives among the subjects. The low degree of patterning indicates that opinions were widely spread for these sentences, and although the correct pattern is present, other patterns compete with it to a higher degree than on any other sentence type.

In Table 12, the Type 3 sentences (tensed biclausal sentences) are exemplified by sentences (5.65), (5.66), and (5.67), reproduced here for ease of access:

5.65.　Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda govorit o sebe$_{*i/j}$]
　　　　Nataša said that Marina always talks about self
　　　　'Nataša said that Marina always talks about herself'
　　　　Marina-local NP
　　　　Nataša-LD NP
　　　　Predicted control response-herself=Marina

5.66.　Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda govorit o svojej$_{*i/j}$ žizni]
　　　　Nataša said that Marina always talks about her own life
　　　　'Nataša said that Marina always talks about her own life'
　　　　Marina-local NP
　　　　Nataša-LD NP
　　　　Predicted control response-her own=Marina

5.67.　Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda zaščiščaet-sja$_{*i/j}$ ot zlyx sobak]
　　　　Nataša said Marina always defends-self from vicious dogs
　　　　'Nataša said Marina always defends herself against vicious dogs'
　　　　Marina-local NP
　　　　Nataša-LD NP
　　　　Predicted control response-self=Marina

The expected theoretical response to (5.65), (5.66), and (5.67) is that the reflexive pronouns as well as the reflexive post-verbal would be bound L only. These sentences illustrate control and recognition of the [+AGR]/[-AGR] parameter.

Proficiency Level	Native L1 n/a n = 10	Non-Native L2 (I)			Non-Native L2 (II)		
		Low 6	Mid 7	High 7	Low 5	Mid 6	High 7
Type 3							
sebja 'oneself'							
LD	0.00	30.00	11.43	0.00	4.00	0.00	0.00
L	**100.00**	**63.33**	**88.57**	**100.00**	**80.00**	**86.67**	**92.00**
LD/L	0.00	6.67	0.00	0.00	16.00	13.33	8.00
DN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD	0.00	20.00	8.57	0.00	0.00	0.00	0.00
L	**100.00**	**66.67**	**82.86**	**100.00**	**84.00**	**73.33**	**76.00**
LD/L	0.00	6.67	8.57	0.00	12.00	26.67	24.00
DN	0.00	3.33	0.00	0.00	4.00	0.00	0.00
CT	0.00	3.33	0.00	0.00	0.00	0.00	0.00
-sja 'post-verbal affix'							
LD	0.00	0.00	0.00	0.00	0.00	0.00	0.00
L	**100.00**	**88.10**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
LD/L	0.00	2.38	0.00	0.00	0.00	0.00	0.00
DN	0.00	7.14	0.00	0.00	0.00	0.00	0.00
CT	0.00	2.38	0.00	0.00	0.00	0.00	0.00

Table 12 demonstrates that, for Type 3 tokens, the sentences here, as opposed to those in Table 11, were clear in interpretation to the L1 subjects. However, the low group again struggled the most with vocabulary and structure. Overall, no particular sentence or sentence type was targeted by these groups as being unintelligible. The L1 participants bound the reflexive types in accordance with the theory as L. This indicates that the L1 did recognize AGR as a factor and bound the reflexives accordingly. The difference in patterning from Table 11 to Table 12 shows clearly that Russian L1 subjects treat reflexive sebja and svoj differently from –sja, and that the tense of the embedded verb affects the coreference of these two morphemes.

The L2 participants' responses to the same reflexive types varied by level. The high group patterned after the L1 group, tending to bind the majority of these tokens L on Test

I. However, by Test II, the high group had switched some of its binding pattern to the LD/L option. There may also have been errors in the timing of the training session, which may have led the participants to overgeneralize by associating all uses of the *sebja* and *svoj* reflexives to the L/LD pattern. Clearly, direct instruction on this topic leads the L2 subjects to overgeneralize in their responses (with the high group assimilating this overgeneralization most quickly). Participants unfamiliar with linguistics and binding in particular more likely found it difficult to assimilate so much information so quickly across so many sentence and reflexive types. The low group bound all of the reflexives predominantly locally, while allowing a greater percentage of the tokens to be bound LD/L. This would indicate that they did not recognize the closest phrase that contained AGR in the L2, although they recognized AGR in a significant number of tokens. The mid group showed the same tendency as the low group, although to a lesser degree in LD binding and with an increase in the accuracy of the correct L binding. Thus, most of the participants were already assimilating the L1 Russian AGR pattern that prohibited any other binding pattern.

Again, most of these results were expected according to the hypotheses. However, the allowance of a LD/L pattern here, especially by the lower proficiency participants, remains an unexpected result. The test again fails to distinguish whether there is something about the sentences themselves or their structure that contributes to this error, whether morpheme type or agreement is being confused, or whether the theory breaks down at this point.

Table 13 demonstrates the binding patterns for the pronouns. The pronoun sentences are represented by sentences like (5.68), reproduced here for ease of access:

5.68.   Nataša$_i$ znaet, čto Marina$_j$ ee$_{i/*j}$ ne ljubit.
         Nataša knows that Marina her doesn't love
         Nataša knows that Marina doesn't love her.
         Marina-local NP
         Nataša-LD NP
         Predicted control response-ejo=Nataša

These distractor type sentences establish that the participants realize the difference

between a pronoun and an anaphor.

Table 13: Multiple Choice Test Result Percentages for Pronouns

Proficiency Level	Native L1 n/a	Non-Native L2 (I)				Non-Native L2 (II)	
		Low	Mid	High	Low	Mid	High
	n = 10	**6**	**7**	**7**	**5**	**6**	**7**
Pronoun							
LD	100.00	73.33	74.29	94.29	84.00	86.66	96.67
L	0.00	6.67	25.71	0.00	12.00	6.67	0.00
LD/L	0.00	16.67	0.00	0.00	4.00	6.67	0.00
DN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT	0.00	3.33	0.00	5.71	0.00	0.00	3.33

Table 13 shows that all pronouns were bound in accordance with the theory as LD by all

L1s. There were a few tokens that were unclear to the L2s, wherein they felt that a few of

the sentences were confusing. The majority of the levels bound the pronouns

predominantly LD, but demonstrated some L binding among the low and mid groups. In

addition, the low group allowed some LD/L binding. Whereas this indicates that the

levels have separated the pronoun types sufficiently from the reflexive binding pattern

types, there is still some overlap and confusion regarding this separation.

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5.5.5.4 PST Test Results by Percentage

Tables 14-23 show binding patterns for the text test sentences when preferences were able to be expressed. In Table 14, Type 1A sentences (complex noun phrases in tensed clauses) are exemplified by the sentences in (5.69) and (5.70), reproduced here for ease of access:

> 5.69. Professor$_i$ čital [ego$_j$ stat'j-u o sebe$_{i/j}$]
> Professor read   his article about self
> 'The professor read his article about himself'
>   his-local NP
> professor-LD NP
> Predicted control response-self=professor or his

> 5.70. Professor$_i$ čital [ego$_j$ stat'j-u o svojej$_{i/j}$ rabote]
> Professor read his article about his (own) work
> 'The professor read his article about his work'
> his-local NP
> professor-LD NP
> Predicted control response-his own=professor or his

The expected theoretical response to (5.69) and (5.70) is that the reflexive pronoun would be ambiguously bound both L and LD. These sentences illustrate the difference between the X^0 reflexives.

Proficiency Level	Native L1 n/a	Non-Native L2 (I)			Non-Native L2 (II)		
	n = 10	Low **6**	Mid **7**	High **7**	Low **5**	Mid **6**	High **7**
Type 1A							
sebja 'oneself'							
LD-1[46]	47.69	26.83	39.66	9.80	20.00	39.22	21.67
LD-2	10.77	7.32	8.61	25.49	22.22	7.84	25.00
L-1	35.38	48.78	39.66	56.87	44.44	21.57	40.00
L-2	4.62	9.75	12.07	7.84	6.67	21.57	13.33
LD/L-1	**0.00**	**0.00**	**0.00**	**0.00**	**6.67**	**9.80**	**0.00**
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	7.32	0.00	0.00	0.00	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	1.54	0.00	0.00	0.00	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD-1	45.00	22.22	38.46	8.70	22.73	35.00	23.08
LD-2	10.00	5.56	7.69	26.09	18.18	5.00	23.08
L-1	37.50	55.56	38.46	60.87	40.91	25.00	38.46
L-2	2.50	5.56	15.39	0.00	9.09	20.00	15.38
LD/L-1	**0.00**	**0.00**	**0.00**	**0.00**	**9.09**	**15.00**	**0.00**
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	11.10	0.00	0.00	0.00	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	5.00	0.00	0.00	4.34	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 14 demonstrates that there are, indeed, preferences expressed by the participants of the study on Type IA sentences. The doubt concerning a few of the sentences persists, but is more resolved for the first two reflexives of the Type 1A sentences. In addition, some vocabulary problems persisted for the low group. For the L1 group, there is still a strong tendency to bind the subject as antecedent; however, a relatively strong allowance of local binding also presents itself as a possibility for the first two reflexive types. The L2 responses vary by level. The data are, at first, misleading in that it appears that the expected binding pattern is almost never selected. The groups, as a whole, split the LD/L

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[46] The number following the choices indicates the preference pattern. For example, LD-1 means that the subject preferred the long distance binding of the anaphor, whereas LD-2 would indicate that long distance binding of the reflexive was thought possible, but was a secondary preference binding pattern.

expected pattern among the L and LD options, demonstrating a stronger first preference by the high group to bind L, with a strong secondary preference to allow LD binding as well. The low group tends to have a very strong preference to bind L, no matter the test, while allowing some LD binding as well. The mid group is a true transition, hovering at an almost even split between the L and LD interpretations for binding.

These results, while clarifying the binding preferences of the participants, took an unexpected turn. It appeared that the high group had transitioned from a L only L1 English view of L2 Russian to a more native-like L1 Russian view of binding. While it does appear that the high L2 Russian participants do respond much more as the L1 Russian speakers do, there is clearly a much larger preference for L binding (the pattern in the English L1) than originally illustrated by the Text test alone.

As concerns the lack of an LD/L pattern, the results of Table 15 seem surprising until the data are combined so as to express those sentences where two preferences were allowed, but ordered, versus those sentences where only one reading of the sentence was permitted.[47]

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[47] Here, LD means tokens where only a LD interpretation was allowed; L means tokens where only a L interpretation was allowed; LD/L means those tokens where both LD and L were selected as the primary function or where LD was selected as a primary preference and L simultaneously as a secondary preference or L was selected as the primary preference, with LD as the simultaneous secondary preference. DN remains as a vocabulary problem indicator and CT as an unacceptable/unclear reference problem indicator.

Proficiency Level	Native L1	Non-Native L2 (I)				Non-Native L2 (II)	
	n/a	Low	Mid	High	Low	Mid	High
	n = 10	**6**	**7**	**7**	**5[48]**	**6**	**7**
Type 1A							
sebja 'oneself'							
LD	43.07	17.08	27.59	1.96	13.33	17.65	8.34
L	24.61	41.46	31.05	31.38	22.22	13.73	15.00
LD/L	**30.78**	**34.14**	**41.36**	**66.66**	**64.45**	**68.62**	**76.66**
DN	0.00	7.32	0.00	0.00	0.00	0.00	0.00
CT	1.54	0.00	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD	42.50	16.66	23.07	8.70	13.64	15.00	7.70
L	27.50	50.00	30.77	34.78	22.73	20.00	15.38
LD/L	**25.00**	**22.24**	**46.16**	**52.18**	**63.63**	**65.00**	**76.92**
DN	0.00	11.10	0.00	0.00	0.00	0.00	0.00
CT	5.00	0.00	0.00	4.34	0.00	0.00	0.00

Using this combined data, it is clear that the L1 subjects have not diverged from their original pattern for svoj and sebja of binding LD most often. However, equally as clear is that there is some LD/L binding, but clear preferences exist. Not quite as strong for svoj, but still fairly dominant is a tendency to bind some of the tokens L.

The L2 subjects behave differently. Across all levels, LD binding is least preferred. The low group is the only group to hold a L primary preference across both reflexives. The mid and high groups both start with a LD/L preference that increases with ability level and from Test I to Test II.

Interesting here is the fact that different subjects bound the same sentence differently, indicating that more work on determining preferences and their reasons might be in order. The PST does, however, pinpoint more accurately how L1 and L2 subjects view these sentences and how they prefer to bind overall.

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[48] The number of subjects dropped by one in the low and mid groups as, due to time constraints, one person from each of these groups was unable to complete the second experimental battery.

In Table 16, the Type 1B sentences (complex noun phrases in infinitival clauses with subject control verbs) are exemplified by sentences (5.71), (5.72), and (5.73), reproduced here for ease of access:

5.71. Ivan$_i$ xočet [IP PRO$_i$ čitat' [NP moj$_j$ doklad o sebje$_{i/j}$]]
Ivan wants   to read   my   report   about self
'Ivan wants to read my report about myself/himself'
my-local NP
Ivan-LD NP
Predicted control response-self=Ivan or my

5.72. Ivan$_i$ xočet [IP PRO$_i$ čitat' [NP moj$_j$ doklad o svojej$_{i/j}$ poezdke]]
Ivan wants   to read   my   report about his/my own trip
'Ivan wants to read my report about his/my trip'
my-local NP
Ivan-LD NP
Predicted control response-his own=Ivan or my

5.73. Ivan$_i$ xočet [IP PRO$_i$ kupat'-sja v ozere]
Ivan wants   to bathe-self   in lake
'Ivan wants to bathe himself in the lake
Ivan-local NP
Predicted control response-self=Ivan

The expected theoretical response to (5.71) and (5.72) is that the reflexive pronoun would be ambiguously bound both L and LD, while the reflexive post-verbal affix of (5.73) would only be bound L. These sentences illustrate the different X^0 reflexives.

Table 16: Picture/Sentence Test Results for Sentence Type 1B

Proficiency Level	Native L1 n/a	Non-Native L2 (I)			Non-Native L2 (II)		
	n = 10	Low **6**	Mid **7**	High **7**	Low **5**	Mid **6**	High **7**
Type 1B							
sebja 'oneself'							
LD-1	43.93	33.33	40.00	15.69	28.21	38.00	28.33
LD-2	10.61	5.56	5.46	21.57	10.26	8.00	20.00
L-1	34.85	47.22	36.36	49.02	53.85	22.00	30.00
L-2	7.58	5.56	18.18	13.73	2.56	22.00	21.67
LD/L-1	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**10.00**	**0.00**
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	5.56	0.00	0.00	5.13	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	3.03	2.77	0.00	0.00	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD-1	27.38	18.18	0.00	4.55	35.85	40.00	21.79
LD-2	11.90	10.91	3.85	24.24	5.66	6.15	24.36
L-1	50.00	52.73	92.30	62.11	50.94	29.23	41.03
L-2	4.77	10.91	0.00	4.55	5.66	13.85	12.82
LD/L-1	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**10.77**	**0.00**
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	7.27	0.00	0.00	1.89	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	5.95	0.00	3.85	4.55	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-sja 'post-verbal affix'							
LD-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LD-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
L-1	**100.00**	**100.00**	**100.00**	**95.24**	**93.33**	**100.00**	**100.00**
L-2	0.00	0.00	0.00	4.76	0.00	0.00	0.00
LD/L-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	0.00	0.00	0.00	6.67	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 16 demonstrates that, again, preferences are exhibited by the different participants for Type 1B sentences. The L1 participants showed an interesting pattern here, akin to that of the Text test. On the first reflexive, sebja, they chose the subject as the antecedent predominantly, while still allowing L binding as a second choice. However, on the second reflexive type svoj, they switched patterns, binding L predominantly, while

allowing LD binding as a second major preference. A few of the pictures were unclear in their relationship to the sentence for the L1 participants as well. However, again, the binding pattern seems to show a separation and dominance of preferences. The L1 participants did not choose the combined pattern as their primary preference in any instance here, indicating that, whereas they will allow L and LD binding, the binding pattern they prefer is related to the reflexive, and possibly, to the sentence itself. The L2 participants also rarely selected the LD/L option, but, rather, expressed a series of preferences when given the option. Interesting, again, is the fact that the low group centered on the local binding pattern, while still allowing some LD binding. The high group centered more on the local binding pattern, but when the first and second preferences are tallied together, they are almost evenly split between L and LD binding. The mid group at first appears to be focused on LD binding, but again, if the preferences are tallied, they show a L preference, followed closely by a LD preference.

As far as the post-verbal affix is concerned, the L1 participants were confused by a few of the pictures, but otherwise bound the reflexives locally. The low and mid groups of the L2 group had some vocabulary difficulties and were confused by several of the pictures, but all group levels showed a preference for L binding. In the rare occasion, the groups allowed a small amount of LD binding, and it would be interesting to test this idea further to observe whether the pictures had an unclear interpretation (the more likely case given participant comments) or whether the participants really felt that the reflexives could be LD bound.

The results here are again unexpected for the theory. The Text test demonstrated that the L2 participants feel a difference between the reflexives *sebja* and *svoj*, and this is

borne out again on the Picture Sentence Task. However, again, the actual preferences, and the tendency of all of the groups to avoid the ambiguous L/LD choice as a first preference, while binding LD or L only at almost equal frequencies, would seem to indicate that, although both bindings are possible, there is a preference toward subject-oriented binding by most L1 participants, but object-oriented binding by lower-ability L2 subjects, and the binding preference seems to relate not only to the anaphor type, but also to pragmatics as well.

A combination of the binding preferences can be found in Table 17.

Table 17: Combined Picture/Sentence Test Results for Sentence Type 1B

Proficiency Level	Native L1 n/a **n = 10**	Non-Native L2 (I) Low **6**	Mid **7**	High **7**	Low **5**	Non-Native L2 (II) Mid **6**	High **7**
Type 1B							
sebja 'oneself'							
LD	36.35	27.77	21.82	1.96	25.64	16.00	6.64
L	24.24	41.66	30.90	27.45	43.59	14.00	10.00
LD/L	**36.38**	**22.24**	**47.28**	**70.59**	**25.64**	**70.00**	**83.36**
DN	0.00	5.56	0.00	0.00	5.13	0.00	0.00
CT	3.03	2.27	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD	22.61	7.27	0.00	0.00	30.19	26.15	8.97
L	38.10	41.82	88.45	37.87	45.28	23.08	16.67
LD/L	**33.34**	**43.64**	**7.70**	**57.58**	**22.64**	**50.77**	**74.36**
DN	0.00	7.27	0.00	0.00	0.00	0.00	0.00
CT	5.95	0.00	3.85	4.55	0.00	0.00	0.00
-sja 'post-verbal affix'							
LD	0.00	0.00	0.00	0.00	0.00	0.00	0.00
L	**100.00**	**100.00**	**100.00**	**100.00**	**93.33**	**100.00**	**100.00**
LD/L	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN	0.00	0.00	0.00	0.00	6.67	0.00	0.00
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00

In Table 17, the L1 subjects treat svoj and sebja differently. They bind primarily LD/L or LD only, with L being a very close secondary pattern for sebja. On the other hand, svoj

is most often bound L, followed closely by LD/L. Again, a large number of tokens are still bound LD, but only about two-thirds of the amount bound in the primary pattern.

The L2 subjects in the low group tend to bind L, but also treat svoj and sebja differently. *Svoj* is actually bound at a slightly higher percentage rate as LD/L on Test I, with LD taking a far third in the binding patterns. *Sebja* is bound L, but LD/L and LD patterns are relatively close secondary patterns. By Test II, however, the low group is binding both reflexives as L primarily, with LD/L and LD as close secondary binding patterns. The mid group binds *sebja* L, with a close secondary pattern of L on Test I. They bind *svoj* as LD/L, with an extremely close secondary pattern of L on Test I. By Test II, both reflexives are bound predominantly L, with an almost even percentage of LD/L and LD as a secondary preference. The high group binds predominantly LD/L across both tests as a primary preference. While L binding is the next highest preference, it falls far behind the LD/L preference.

As far as *–sja* is concerned, there is no change in binding preferences over groups through the combination of the data preferences.

In Table 18, the Type 2 sentences (infinitival biclausal sentences) are exemplified by sentences (5.74), (5.75), and (5.76), reproduced here for ease of access:

> 5.74.   Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_j$ nalit' sebe $_{i/j}$ čaj-u]
> Nataša asked Marina to pour self tea
> 'Nataša asked Marina to pour her/herself some tea'
> Marina-local NP (PRO)
> Nataša-LD NP
> Predicted control response-herself=Nataša or Marina

5.75. Nataša_i poprosila Marin-u_j[IP PRO_j myt' svoju _{i/j}   posudu]
      Nataša asked Marina to wash her dishes
      'Nataša asked Marina to wash her (own) dishes'
      Marina-local NP (PRO)
      Nataša-LD NP
      Predicted control response-her own=Nataša or Marina

5.76. Nataša poprosila Marin-u [IP PRO myt'-sja pered obedom]
      Nataša asked Marina to wash-self before lunch
      'Nataša asked Marina to wash before lunch
      Marina-local NP (PRO)
      Nataša-LD NP
      Predicted control response-herself=Marina

The expected theoretical response to (5.74) and (5.75) is that the reflexive pronoun would

be ambiguously bound both L and LD, while the reflexive post-verbal affix in (5.76) and

the reciprocal pronoun tokens would only be bound L. These sentences illustrate the

different X^0 morphemes.

Table 18: Picture/Sentence Test Results for Sentence Type 2

Proficiency Level	Native L1 n/a n = 10	Non-Native L2 (I) Low 6	Mid 7	High 7	Low 5	Non-Native L2 (II) Mid 6	High 7
Type 2							
sebja 'oneself'							
LD-1	11.11	18.42	26.08	12.77	25.00	10.00	21.73
LD-2	0.00	13.16	8.70	12.77	5.56	20.00	15.22
L-1	85.19	60.53	65.22	57.45	58.33	57.50	47.83
L-2	1.85	7.89	0.00	12.77	8.33	0.00	15.22
LD/L-1	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**12.50**	**0.00**
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	0.00	0.00	2.12	2.78	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	1.85	0.00	0.00	2.12	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD-1	4.08	19.35	20.51	2.38	28.12	15.38	4.55
LD-2	4.08	3.23	10.26	19.05	3.13	15.38	20.45
L-1	89.80	70.97	69.23	76.19	65.62	51.29	75.00
L-2	0.00	6.46	0.00	2.38	0.00	2.57	0.00
LD/L-1	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**15.38**	**0.00**
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	0.00	0.00	0.00	3.13	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	2.04	0.00	0.00	0.00	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-sja 'post-verbal affix'							
LD-1	0.00	0.00	0.00	0.00	4.00	6.25	2.94
LD-2	0.00	3.33	0.00	0.00	0.00	0.00	0.00
L-1	**98.00**	**90.01**	**100.00**	**97.14**	**96.00**	**84.36**	**97.06**
L-2	0.00	3.33	0.00	0.00	0.00	6.25	0.00
LD/L-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	3.33	0.00	0.00	0.00	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	2.00	0.00	0.00	2.86	0.00	3.14	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 18 demonstrates that for Type 2 sentences, there is a predominant pattern of L binding by the L1 participants. Although some LD binding is allowed, the participants prefer the object as antecedent in most cases for the first two reflexive types, binding the reflexive L. The L2 participants exhibit this same tendency, but allow more LD binding here as a first or second preference.

For the post-verbal affix –*sja*, the L1 participants bind predominantly in a L pattern. They do not allow LD binding here, but are confused by a few of the pictures. The L2 participants follow this general pattern, but allow a few instances of LD binding as well. Again, further investigation would be required to observe whether this is true LD binding, or whether the participants were confused by the content of the pictures for certain of these tokens, as several of the sentences were difficult to illustrate with a clear picture.

   In Table 19, the combination of the binding data shows nearly the same pattern, although more LD/L binding is evident.

Table 19: Combined Picture/Sentence Test Results for Sentence Type 2

Proficiency Level	Native L1 n/a n = 10	Non-Native L2 (I) Low 6	Mid 7	High 7	Low 5	Non-Native L2 (II) Mid 6	High 7
Type 2							
sebja 'oneself'							
LD	9.26	10.53	26.08	0.00	16.67	10.00	6.51
L	85.19	47.37	56.52	44.68	52.77	37.50	32.61
LD/L	**3.60**	**42.10**	**17.40**	**25.54**	**27.78**	**52.50**	**60.88**
DN	0.00	0.00	0.00	2.12	2.78	0.00	0.00
CT	1.86	0.00	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD	4.08	12.89	20.51	0.00	28.12	12.81	4.55
L	85.72	67.73	58.97	57.14	62.49	35.91	54.55
LD/L	**8.16**	**19.38**	**20.52**	**42.86**	**6.26**	**51.28**	**40.90**
DN	0.00	0.00	0.00	0.00	3.13	0.00	0.00
CT	2.04	0.00	0.00	0.00	0.00	0.00	0.00
-sja 'post-verbal affix'							
LD	0.00	3.33	0.00	0.00	4.00	6.25	2.94
L	**98.00**	**93.34**	**100.00**	**97.14**	**96.00**	**90.61**	**97.06**
LD/L	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN	0.00	3.33	0.00	0.00	0.00	0.00	0.00
CT	2.00	0.00	0.00	2.86	0.00	3.14	0.00

Here, one can see that the predominant pattern for *svoj* and *sebja* is L binding for the L1 subjects. There is some LD and LD/L binding, but it is minimal. A grammar that is clearly different from the theoretical is being expressed here.

The L2 subjects bind similarly on Test I, although they allow more LD/L and LD binding. By Test II, however, although the low group maintains this pattern, and the high group maintains it on *svoj,* the mid group turns to a LD/L pattern on Test II for both reflexives, while the high group only does so for *sebja.*
The percentages are virtually identical for the *–sja* reflexive type.

The results on this portion of the test are again the most theoretically unexpected of all sentence types. The first two reflexive types should have been bound ambiguously as L/LD, with a prejudice toward subject (LD) binding, as exhibited with the other sentence types. Clearly, there is something happening with this particular sentence type that does not occur among the other sentence types at the same rate and that does not support the simple/complex morpheme theory. Although the expected patterns are present, there are other varied patterns competing with the expected pattern at a much higher rate. This seems to indicate, in conjunction with the second experiment, a second grammar of Russian that is directly at odds with the theoretical as far as LD binding is concerned.

In Table 20, the Type 3 sentences (tensed biclausal sentences) are exemplified by sentences (5.77), (5.78), and (5.79), reproduced here for ease of access:

> 5.77.   Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda govorit o sebe$_{*i/j}$]
> Nataša said that Marina always talks about self
> 'Nataša said that Marina always talks about herself'
> Marina-local NP
> Nataša-LD NP
> Predicted control response-herself=Marina

5.78. Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda govorit o svojej$_{*i/j}$ žizni]
Nataša said that Marina always talks about her own life
'Nataša said that Marina always talks about her own life'
Marina-local NP
Nataša-LD NP
Predicted control response-her own=Marina

5.79. Nataša$_i$ skazala, čto [IP Marina$_j$ vsegda zaščiščaet-sja$_{*i/j}$ ot zlyx sobak]
Nataša said Marina always defends-self from vicious dogs
'Nataša said Marina always defends herself against vicious dogs'
Marina-local NP
Nataša-LD NP
Predicted control response-self=Marina

The expected theoretical response to (5.77), (5.78), and (5.79) is that the reflexive pronouns as well as the reflexive post-verbal affix would be bound L only. These sentences illustrate control and recognition of the [+AGR]/[-AGR] parameter.

Table 20: Picture/Sentence Test Results for Sentence Type 3

Proficiency Level	Native L1 n/a **n = 10**	Non-Native L2 (I) Low **6**	Mid **7**	High **7**	Low **5**	Non-Native L2 (II) Mid **6**	High **7**
Type 3							
sebja 'oneself'							
LD-1	2.33	0.00	0.00	0.00	0.00	3.57	0.00
LD-2	0.00	3.70	0.00	2.94	4.35	0.00	0.00
L-1	**97.67**	**81.48**	**96.88**	**94.12**	**91.30**	**89.29**	**100.00**
L-2	0.00	7.41	0.00	0.00	0.00	0.00	0.00
LD/L-1	0.00	7.41	0.00	0.00	0.00	7.14	0.00
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	0.00	0.00	0.00	4.35	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	0.00	0.00	3.12	2.94	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
svoj 'one's own'							
LD-1	2.13	16.13	11.43	3.33	3.70	3.03	0.00
LD-2	0.00	3.23	8.56	6.67	3.70	21.21	5.88
L-1	**93.63**	**74.18**	**74.29**	**90.00**	**88.91**	**63.64**	**94.12**
L-2	2.13	3.23	2.86	0.00	3.70	3.03	0.00
LD/L-1	0.00	3.23	0.00	0.00	0.00	6.06	0.00
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	2.13	0.00	2.86	0.00	0.00	3.03	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-sja 'post-verbal affix'							
LD-1	0.00	2.38	2.08	0.00	0.00	0.00	0.00
LD-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
L-1	**94.20**	**88.10**	**91.67**	**100.00**	**94.12**	**97.56**	**97.96**
L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LD/L-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	9.52	4.17	0.00	5.88	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	5.80	0.00	2.08	0.00	0.00	2.44	2.04
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 20 demonstrates that, for Type 3 sentences, there is a predominant pattern of L binding for the L1 participants. Again, a few of the tokens' pictures were confusing. However, in tallying preferences, L binding dominates, with only one instance of LD binding being allowed. For the low and mid L2 groups, there were some vocabulary problems and confusing pictures for them as well. However, their dominant pattern is

also L binding. Interesting here is that the reflexive svoj shows the greatest ability to be considered as LD bound by the L2 participants, possibly in error. They appear to miss the AGR parameter in several instances when considering this sentence type. At times, the percentages of correct answers tend to fall slightly from Test I to Test II for the L2 participants, indicating that the subjects are struggling to interpret the photographs in accordance with the theory, but may be overgeneralizing the rules that they have learned, especially after the brief training session.

These results are in line with expected theoretical results. Although there was some LD binding allowed by both the L1 and L2 participants, the fact that this pattern concerns the exact same photographs and sentences for the same participants suggests that a few of the sentence/photograph correspondences were unclear. The alternative interpretation is that several of each groups' participants are missing the AGR, which limits binding to the local clause only. This instance is more unlikely, as there seems to be more confusion on these sentences and their picture correspondences in general, as compared to the other sentence types.

Table 21 combines the binding preferences for a clearer picture.

Table 21: Combined Picture/Sentence Test Results for Sentence Type 3

Proficiency Level	Native L1 n/a **n = 10**	Non-Native L2 (I)			Non-Native L2 (II)		
		Low **6**	Mid **7**	High **7**	Low **5**	Mid **6**	High **7**
Type 3							
sebja 'oneself'							
LD	2.33	3.70	0.00	2.94	4.35	3.57	0.00
L	**97.67**	**88.89**	**96.88**	**94.12**	**91.30**	**89.29**	**100.00**
LD/L	0.00	7.41	0.00	0.00	0.00	7.14	0.00
DN	0.00	0.00	0.00	0.00	4.35	0.00	0.00
CT	3.03	0.00	3.12	2.94	0.00	0.00	0.00
svoj 'one's own'							
LD	2.13	19.36	19.99	10.00	7.40	24.24	5.88
L	**95.76**	**77.41**	**77.15**	**90.00**	**92.61**	**66.67**	**94.12**
LD/L	0.00	3.23	0.00	0.00	0.00	6.06	0.00
DN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT	2.13	0.00	2.86	0.00	0.00	3.03	0.00
-sja 'reflexive verb ending'							
LD	0.00	2.38	2.08	0.00	0.00	0.00	0.00
L	**94.20**	**88.10**	**91.67**	**100.00**	**94.12**	**97.56**	**97.96**
LD/L	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN	0.00	9.52	4.17	0.00	5.88	0.00	0.00
CT	5.80	0.00	2.08	0.00	0.00	2.44	2.04

From Table 21, it is clear that the predominant pattern for all reflexive types is L. There is a good deal more confusion over the sentence/picture correspondence and vocabulary items, especially for –sja. There also seems to be a good deal more noise on this sentence type. Although no one participant classified any one of the reflexives differently overall, several differences from the theoretical occurred in binding. Again, this seems to be more the result of problems with vocabulary and sentence/picture correspondence than it does a problem with AGR.

Table 22 demonstrates the binding patterns for the pronouns. The pronoun sentences are represented by sentences like (5.80), reproduced here for ease of access:

5.80. Nataša$_i$ znaet, čto Marina$_j$ ee$_{i/*j}$ ne ljubit.
Nataša knows that Marina her doesn't love
Nataša knows that Marina doesn't love her.
Marina-local NP
Nataša-LD NP
Predicted control response-ejo=Nataša

These distractor type sentences establish that the participants realize the difference between a pronoun and an anaphor.

Table 22: Picture/Sentence Test Results for Pronouns

Proficiency Level	Native L1 n/a	Non-Native L2 (I)			Non-Native L2 (II)		
	n = 10	Low **6**	Mid **7**	High **7**	Low **5**	Mid **6**	High **7**
Pronoun							
LD-1	**95.45**	**88.90**	**89.29**	**100.00**	**95.65**	**84.00**	**96.77**
LD-2	0.00	3.70	0.00	0.00	0.00	0.00	0.00
L-1	0.00	0.00	3.57	0.00	0.00	0.00	3.23
L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LD/L-1	0.00	0.00	0.00	0.00	0.00	16.00	0.00
LD/L-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DN-1	0.00	3.70	0.00	0.00	4.00	0.00	0.00
DN-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CT-1	4.55	3.70	7.14	0.00	0.00	0.00	0.00
CT-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 22 shows that, although several of the sentences or pictures were confusing to the L1 participants and L2 participants, the only pattern allowed by the L1 participants is LD binding. The L2 participants show this as a predominant pattern as well. However, there are a few instances of L binding allowed across the groups. More inexplicable and worrisome is the allowance by the mid level group on Test II of some LD/L binding allowances. One possible explanation is that they are still confused regarding the difference between pronouns and anaphors, as the initial tests demonstrated, and thus are confusing binding domains as well.

Table 23 shows the combined preferences for the pronouns.

Table 23: Combined Picture/Sentence Test Results for Pronouns

Proficiency Level	Native L1 n/a n = 10	Non-Native L2 (I) Low 6	Mid 7	High 7	Non-Native L2 (II) Low 5	Mid 6	High 7
Pronoun							
LD	**95.45**	**88.90**	**89.29**	**100.00**	**95.65**	**84.00**	**96.77**
L-1	0.00	0.00	3.57	0.00	0.00	0.00	3.23
LD/L-1	0.00	0.00	0.00	0.00	0.00	16.00	0.00
DN-1	0.00	3.70	0.00	0.00	4.00	0.00	0.00
CT-1	4.55	3.70	7.14	0.00	0.00	0.00	0.00

Table 23 demonstrates that that LD binding is the primary pattern. There appears to be some noise on this section as well, again, more likely due to problems with sentence/picture correspondence than with actual misinterpretation of the pronouns.

5.5.5.5 Multiple Choice Test by Binding Pattern

Tables 24 and 25 refine the data even further, honing the distinction to that of how the reflexive should have been theoretically bound, as opposed to how it was actually bound by the participants. Table 24 illustrates the differences in binding assumptions across different group levels by giving percentages for the number of tokens bound in accordance with the theory for each binding category for each group. Interesting here is that, as ability level in Russian increases, the approximation to native binding patterns becomes stronger across the categories.

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Table 24: Text Test By Binding Possibilies Only

Test I		Expected		
	Actual	**LD**	**L**	**LD/L**
Native	LD	**100.00**	0.00	21.35
n=10	L	0.00	**99.20**	37.63
	LD/L	0.00	0.80	**41.02**
Low	LD	**75.86**	15.33	25.47
n=6	L	6.90	**80.67**	57.14
	LD/L	17.24	4.00	**17.39**
Mid	LD	**74.29**	4.00	20.47
n=7	L	25.71	**93.71**	36.67
	LD/L	0.00	2.29	**42.86**
Hi	LD	**100.00**	0.57	0.96
n=7	L	0.00	**98.86**	47.37
	LD/L	0.00	0.57	**51.67**
Test II				
Low	LD	**84.00**	1.63	4.03
n=5	L	12.00	**86.99**	36.24
	LD/L	4.00	11.38	**59.73**
Mid	LD	**86.67**	0.00	12.77
n=6	L	6.67	**91.33**	21.67
	LD/L	6.67	8.67	**65.56**
Hi	LD	**100.00**	0.00	0.00
n=7	L	0.00	**93.60**	24.67
	LD/L	0.00	6.40	**75.33**

Table 24 shows the MCC responses by binding type only. As one reads from top to bottom for each group, one can observe what percentages were actually bound for each binding category, with the correct category bolded. L/LD sentences include those with sebja and svoj in sentence types 1A, 1B, and 2, as in (5.81) and (5.82), reproduced here for ease of access:

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5.81. Professor$_i$ čital [ego$_j$ stat'j-u o svojej$_{i/j}$ rabote]
Professor read his article about his (own) work
'The professor read his article about his work'
his-local NP
professor-LD NP
Predicted control response-his own=professor or his

5.82. Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_j$ nalit' sebe $_{i/j}$ čaj-u]
Nataša asked Marina to pour self tea
'Nataša asked Marina to pour her/herself some tea'
Marina-local NP (PRO)
Nataša-LD NP
Predicted control response-herself=Nataša or Marina

Those sentences that have L binding only include *sebja* and *svoj* from sentence type 3, and *–sja* from sentence types 1A, 1B, 2, and 3, as in (5.83) reproduced here for ease of access:

5.83. Nataša$_i$ poprosila Marin-u$_j$ [IP PRO myt'-sja$_{*i/j}$ pered obedom]
Nataša asked Marina to wash-self before lunch
'Nataša asked Marina to wash before lunch
Marina-local NP (PRO)
Nataša-LD NP
Predicted control response-herself=Marina

Those sentences with a LD only pattern are represented by the sentence (5.84):

5.84. Nataša$_i$ znaet, čto Marina$_j$ ee$_{i/*j}$ ne ljubit.
Nataša knows that Marina her doesn't love
Nataša knows that Marina doesn't love her.
Marina-local NP
Nataša-LD NP
Predicted control response-ejo=Nataša

The L1 participants bound those reflexives that could have theoretically been bound LD as LD with one-hundred percent accuracy. The low and mid groups bound these tokens at about the same accuracy relative to each other (but at a lower percentage than the L1s or high group), with an increase in accuracy from Test I to Test II. The high group was the

most accurate of the L2 groups, approaching the native L1 accuracy, with highest accuracy for the group achieved on Test II.

The L1 participants bound those reflexives that could have been bound L with a slight drop in theoretical accuracy. The low group did slightly better on L binding on Test II (relative to Test I). The mid group performed with high accuracy when binding L; however, they experienced a slight drop from Test I to Test II. The high group responded with the greatest accuracy for the L2 groups, approaching the native level and increasing in accuracy from Test I to Test II.

The L1 participants bound those reflexives that should have theoretically been bound L/LD as L/LD less than fifty percent of the time. The L2 participants' success at binding L/LD increased across group levels and from Test I to Test II. On Test I, the low group showed a weak tendency to bind in this manner. The mid group bound L/LD about as often as the L1 Russian group did. The high group surpassed fifty percent on this type of binding. By Test II, all groups had surpassed the L1 Russian group for this type of binding, an indication that the training session caused them to be more successful than the L1 subjects on most sentence types, but to overgeneralize on Type 3.

Most of these results were expected, as it was predicted that the lower the proficiency of the L2 Russian learner, the more L binding s/he would attempt. Interesting here is that the L1 participants tend to show preferences split between L and LD binding for the tokens that should be bound L/LD. This tendency is expected when ambiguity is present. It is not odd that they should show these preferences, but, rather, that they have different preferences for the same sentence types. Some of these preference differences seem to be related to pragmatics, however, which should not be a factor in the theory. The L2

Russian learners clearly overadapted to the L/LD pattern, but this would be expected as they are learning this pattern through the introduction of rules, are not considering personal experiential preferences, and tend to either successfully adapt to training or overgeneralize it.

5.5.5.6 Picture Sentence Test by Binding Pattern

Table 25, on the other hand, shows actual preferences for binding. Interesting to note here is that although there is not immediately apparent a tendency to bind L/LD those reflexives that should be bound in that manner, there is a clear tendency to have a preference when the reflexive is open to L/LD binding. There is a significant tendency toward binding these reflexives L, although there are a significant number of LD preferences as well. If one adds the primary and secondary preferences for L/LD binding together, the L and LD binding percentages are fairly close. However, most participants, when allowed to suggest a preference, tend to avoid primary preference for both L/LD binding. These tendencies are reflected in Table 25.

Table 25: Picture Sentence Task Test By Binding Possibilities Only

Test I			Expected	
	Actual	**LD**	**L**	**LD/L**
Native	LD-1	**100.00**	0.86	31.50
	LD-2	0.00	0.00	8.67
n=10	L-1	0.00	**98.71**	55.78
	L-2	0.00	0.43	4.05
	LD/L-1	0.00	0.00	**0.00**
	LD/L-2	0.00	0.00	0.00
Low	LD-1	**96.00**	4.20	24.15
	LD-2	4.00	2.10	8.70
n=6	L-1	0.00	**88.80**	58.45
	L-2	0.00	2.80	8.70
	LD/L-1	0.00	2.10	**0.00**
	LD/L-2	0.00	0.00	0.00
Mid	LD-1	**96.15**	3.02	30.12
	LD-2	0.00	1.82	7.62
N=7	L-1	3.85	**94.55**	53.82
	L-2	0.00	0.61	8.44
	LD/L-1	0.00	0.00	**0.00**
	LD/L-2	0.00	0.00	0.00
Hi	LD-1	**100.00**	0.60	9.12
	LD-2	0.00	1.81	21.90
N=7	L-1	0.00	**96.99**	61.32
	L-2	0.00	0.60	7.66
	LD/L-1	0.00	0.00	**0.00**
	LD/L-2	0.00	0.00	0.00

Table 25 (continued)

Test II		Expected		
	Actual	**LD**	**L**	**LD/L**
Low	LD-1	**100.00**	1.67	27.93
	LD-2	0.00	1.67	10.81
n=5	L-1	0.00	**95.83**	53.60
	L-2	0.00	0.83	5.41
	LD/L-1	0.00	0.00	**2.25**
	LD/L-2	0.00	0.00	0.00
Mid	LD-1	**84.00**	2.68	30.94
	LD-2	0.00	4.70	10.20
n=6	L-1	0.00	**87.92**	33.58
	L-2	0.00	2.02	13.58
	LD/L-1	16.00	2.68	**11.70**
	LD/L-2	0.00	0.00	0.00
Hi	LD-1	**96.77**	0.60	20.70
	LD-2	0.00	1.18	21.66
n=7	L-1	3.23	**98.22**	44.26
	L-2	0.00	0.00	13.38
	LD/L-1	0.00	0.00	**0.00**
	LD/L-2	0.00	0.00	0.00

Table 25 shows the PST Test by Binding type only. L/LD sentences include those with

sebja and svoj in sentence types 1A, 1B, and 2, as in (5.85) and (5.86), reproduced here

for ease of access:

5.85.   Professor$_i$ čital [ego$_j$ stat'j-u o svoje$_{i/j}$ rabote]
Professor read his article about his (own) work
'The professor read his article about his work'
his-local NP
professor-LD NP
Predicted control response-his own=professor or his

5.86.   Nataša$_i$ poprosila Marin-u$_j$ [IP PRO$_j$ nalit' sebe $_{i/j}$ čaj-u]
Nataša asked Marina to pour self tea
'Nataša asked Marina to pour her/herself some tea'
Marina-local NP (PRO)
Nataša-LD NP
Predicted control response-herself=Nataša or Marina

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Those sentences that have L binding only include *sebja* and *svoj* from sentence type 3, and *–sja* from sentence types 1A, 1B, 2, and 3, as in (5.87), reproduced here for ease of access:

> 5.87.   Nataša$_i$ poprosila Marin-u$_j$ [IP PRO myt'-sja$_{*i/j}$ pered obedom]
> Nataša asked Marina to wash-self before lunch
> 'Nataša asked Marina to wash before lunch
> Marina-local NP (PRO)
> Nataša-LD NP
> Predicted control response-herself=Marina

Those sentences with a LD only pattern are represented by the sentence (5.88):

> 5.88   Nataša$_i$ znaet, čto Marina$_j$ ee$_{i/*j}$ ne ljubit.
> Nataša knows that Marina her doesn't love
> Nataša knows that Marina doesn't love her.
> Marina-local NP
> Nataša-LD NP
> Predicted control response-ejo=Nataša

For the L1 participants, LD reflexive types were bound LD in accordance with the theory with no difficulty. The L2 low and mid group bound these types with approximately the same accuracy relative to these two groups on Test I, but this percentage went up for the low group and down for the mid group by Test II, indicating that the mid group experienced some overgeneralization after the training session. The high group bound with one-hundred percent accuracy on Test I, but this percentage fell slightly by the second test; however, the number of tokens bound differently from the theoretical are so few in this case as to indicate noise as opposed to misapplication of the binding.

Reflexives that were supposed to be bound L were bound with almost the same accuracy by the L1 participants as those that were supposed to be bound LD. The mid and high groups performed at about the same level as the L1 participants on Test I. This accuracy was maintained by the high group on Test II, but fell slightly for the mid group

test by Test II in the same pattern as for the LD binding, indicating again some success from the training session. The low group scored the lowest on Test I here, but surpassed the mid group by a slight margin on Test II.

For those reflexives that could have been bound LD/L, the L1 participants never selected this preference on the PST as a primary preference for both L and LD. Instead, they showed a range of preferences for L in some sentences of a particular type, but LD for others in the same type. In general, the L1 subjects preferred the L interpretation to the LD interpretation on roughly a 3:2 basis.

None of the L2 groups bound the reflexives in this manner on Test I, and only slight improvement on Test II was shown for the low group by Test II. Instead, the low group bound these reflexives L to LD on a 2:1 basis on both Test I and Test II. The mid group bound these same types L to LD on a 3:2 basis on Test I and a virtual 1:1 basis on Test II. The high group bound these types L to LD on a 3:1 basis on Test I and a 2:1 basis on Test II. In other words, none of the groups preferred to bind these reflexives primarily ambiguously, but instead, preferred one interpretation over the other to varying degrees, but always more L preference than LD.

These results are somewhat unexpected, in that they differ greatly from the percentages for those tokens that were supposed to be theoretically bound L or LD only. It seems that in the L/LD pattern, neither the L1 Russian nor the L2 Russian participants tend to favor a L/LD ambiguous pattern, preferring to resolve the pattern one way or another. It is also theoretically unexpected that, for the same sentence type, the L1 Russian and L2 Russian participants would bind different tokens differently. It is expected that the lower proficiency L2 Russian learners would bind more tokens L, as in

their L1 English, but surprising is the fact that the higher level proficiency participants also seemed to favor a L binding pattern in these instances, although when preferences were not expressed on Test I, this did not appear to be the case. These findings are similar to those for the L1 group.

At this first glance, the experiment appears to have failed, until the data are reorganized. In Table 26, those tokens for which more than one preference was indicated are combined.

Table 26: Combined Picture Sentence Task By Binding Possibilities Only

Test I		Expected		
	Actual	**LD**	**L**	**LD/L**
Native	LD	**100.00**	0.86	27.46
n=10	L	0.00	**98.71**	47.11
	LD/L	0.00	0.43	**25.43**
Low	LD	**100.00**	6.29	15.46
n=6	L	0.00	**91.61**	49.76
	LD/L	0.00	2.10	**34.78**
Mid	LD	**96.18**	4.85	21.69
n=7	L	3.85	**95.15**	46.18
	LD/L	0.00	0.00	**32.13**
Hi	LD	**100.00**	7.83	1.46
n=7	L	0.00	**97.59**	39.42
	LD/L	0.00	0.00	**59.12**
Test II				
Low	LD	**100.00**	3.33	22.53
n=5	L	0.00	**96.67**	42.79
	LD/L	0.00	0.00	**34.68**
Mid	LD	**84.00**	7.38	17.36
n=6	L	0.00	**89.94**	23.40
	LD/L	16.00	2.68	**59.24**
Hi	LD	**96.77**	1.77	7.32
n=7	L	3.23	**98.23**	22.62
	LD/L	0.00	0.00	**70.06**

From Tables 25 and 26, several conclusions can be reached. First, it is expected that, in situations that generate ambiguity, there will be an expression of preferences based on how the subject interprets the sentence at the time. Therefore, although it seems that the subjects never select the proper binding pattern, when those tokens with more than one preference are combined, this binding pattern does appear: the subjects are simply stating a preferential interpretation.

Second, there appears to be a second grammar of Russian, evident also in the second experiment, which directly opposes the theoretical LD binding, especially in Type 2 sentences. Although some of the subjects in this experiment are not following this pattern, the majority clearly are.

Finally, the fact that the L2 subjects appear confused and cling to their L1 binding pattern is also predictable. When in doubt, the subjects appear to invoke their L1 rules for binding. Obviously, ambiguous situations would be expected to create the most confusion, and it is in exactly this scenario that the L1 subjects have the most difficulty achieving the native pattern.

In fact, when one looks at the combined data,[49] the data show a pattern that is remarkably similar to the Text Test, with only minor variation. From the comments left on the test, some of the sentence/picture correspondences were unclear. In addition, some of the subjects consistently interpreted a certain set of pictures that were intended to show L binding as LD. These facts demonstrate a problem with the task itself, as opposed to a misinterpretation of binding patterns.

Looking at Table 23, all groups of L1 and L2 subjects, with the exception of the mid group on Test II, bound in accordance with the theory as LD with little background noise in the data. The same pattern holds for the L binding percentages. The LD/L percentages, however, show a dramatic difference from the expected results. Although there is clearly some ambiguity felt in these sentences, there is a tendency by all groups to favor local binding in general. Again, problems with the testing instrument are evident, as well as an

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[49] Here again, LD means that only a LD binding pattern was selected; L means that only a L binding pattern was selected; LD/L means that a LD/L pattern was indicated as primary preference, a LD preference was indicated as primary with L as secondary on the same token, or a L preference was indicated as primary with LD as secondary on the same token.

expression of preferences in most instances. Only the high group has assimilated the grammar rules for this token type. By Test II, the mid group joins them, but with a clear confusion that would be expected in an ambiguous situation.

Table 23, then, shows a higher tendency of the L2 lower-ability groups to rely on their L L1 binding pattern when in doubt. As proficiency increases, the tendency toward more evenly divided percentages for L and LD binding patterns also increases. There remains a tendency on the PST to bind more L, whereas the MCC shows a pattern closer to that of the research (a preference to bind LD to the subject). This particular fact would indicate serious problems with the PST as far as possible interpretation of the pictures is concerned. Finally, the question of a second grammar is clear and will be investigated further in the second experiment.

5.5.6 ANOVA and Repeated Measures Analysis

All analyses were run on the data using the SPSS 15.0 program. A mixed-design Analysis of Variance (ANOVA) test was run on the data for language and sentence type differences, followed by a Repeated Measures and t-test on those data that were significant.

5.5.6.1 Mixed-Design ANOVA for Text I. Text II, Picture I, and Picture II Tests

The Mixed-Design ANOVA is a repeated measures ANOVA which extends the basic ANOVA procedure to a within subjects independent variable (subjects provide data for more than one level of an independent variable). This one-way repeated measures

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ANOVA was calculated comparing the language and sentence types for Text Test I, Text Test II, Picture Test I, and Picture Test II. This procedure uses a General Linear Model, a powerful command, to demonstrate the significance of *within-subject effects*. The results for the analysis of the Text and Picture tasks are presented in Table 27, with significances of interest bolded. Only those significances for language and/or sentence type are of interest at this point in the analysis. The Sum of Squares is Type III.

Table 27: Mixed Design Within-Subjects ANOVA for Text and Picture Tests

Test	Source	Type	Sum of Squares	df	Mean Square	F	Significance
Text I	**type**	**Linear**	253.920	1	253.920	10.157	**.004[50]**
		Quadratic	294.817	1	294.817	50.052	.000
		Cubic	1573.230	1	1573.230	455.152	.000
	type*lang	**Linear**	3.000	1	3.000	.120	.732
		Quadratic	30.817	1	30.817	5.232	.030
		Cubic	60.750	1	60.750	17.575	.000
	Error (type)	**Linear**	700.015	28	25.001		
		Quadratic	164.925	28	5.890		
		Cubic	96.785	28	3.457		
Text II[51]	**type**	**Linear**	1102.500	1	1102.500	32.590	**.000**
		Quadratic	14.222	1	14.222	1.532	.233
		Cubic	840.278	1	840.278	303.142	.000
	Error (type)	**Linear**	575.100	17	33.829		
		Quadratic	157.778	17	9.281		
		Cubic	47.122	17	2.772		
Picture I	**type**	**Linear**	478.803	1	478.803	29.769	**.000**
		Quadratic	126.150	1	126.150	16.090	.000
		Cubic	1212.030	1	1212.030	203.574	.000
	type*lang	**Linear**	17.763	1	17.763	1.104	.302
		Quadratic	2.817	1	2.817	.359	.554
		Cubic	11.603	1	11.603	1.949	.174
	Error (type)	**Linear**	450.345	28	16.084		
		Quadratic	219.525	28	7.840		
		Cubic	166.705	28	5.954		
Picture II	**type**	**Linear**	1141.336	1	1141.336	52.895	**.000**
		Quadratic	15.125	1	15.125	1.742	.204
		Cubic	801.025	1	801.025	241.765	.000
	Error (type)	**Linear**	366.814	17	21.577		
		Quadratic	147.625	17	8.684		
		Cubic	56.325	17	3.313		

[50] $p < .0125$, as the typical p is $< .05$, but as there are four sentence types, p is divided by a factor of four.
[51] As the L1 subjects were unable to take either Test II, there is no language comparison data.

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Table 27 clearly shows that a significant effect was found for the sentence types and how they were handled on the Text and Picture tests. On the other hand, no significant effect was found for the language comparison of the L1 and L2 subjects. In other words, language was not significant for the subjects, but sentence type was in binding the tokens of both tests.

In examining language further to assure that no significance was obtained, a Mixed-Design ANOVA between subjects was run for language effects. Table 28 presents the results, with significances of interest bolded.

Table 28: Mixed Design Between-Subjects ANOVA for Text and Picture Tests: Language

Test	Source	Type III Sum of Squares	df	Mean Square	F	Significance
Text Test I	**Intercept**	10613.400	1	10613.400	375.375	.000
	Language	26.667	1	26.667	.943	.340[52]
	Error	791.675	28	28.274		
Text Test II	**Intercept**	9800.000	1	9800.000	390.164	.000
	Error	427.000	17	25.118		
Picture Test I	**Intercept**	9500.417	1	9500.417	473.057	.000
	Language	14.017	1	14.017	.698	.411
	Error	562.325	28	20.083		
Picture Test II	**Intercept**	9270.681	1	9270.681	505.021	.000
	Error	312.069	17	18.357		

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[52] $p < .0125$ here, as four sentence types caused the usual $p < .05$ to be divided by a factor of four.

Table 28 demonstrates that no significance was found between subjects for the L1 and L2 participants on Test I or between subjects for the L2 participants on Test II. Therefore, there was definitely no significance found between the languages.

5.5.6.2 Mixed-Design ANOVA for Text Tests I and II and Picture Tests I and II

As significance was found on all four tests for sentence type, a post-hoc analysis was run. For the Mixed-Design ANOVA, a repeated measures analysis was calculated to examine the significance of sentence type between Test I and Test II. Table 29 reports the data for the comparison of sentence type across the Text Tests and then picture Tests.

Table 29: Repeated Measures Analysis for Sentence Type between Test I and Test II

Test	Source	Type III Sum of Squares	df	Mean Square	F	Significance
Text I/II	Intercept	16426.694	1	16426.694	766.625	.000
	Type	2857.250	3	952.417	44.449	**.000[53]**
	Error	1457.056	68	21.427		
Picture I/II	Intercept	16171.361	1	16171.361	827.187	.000
	Type	3140.250	3	1046.750	53.543	**.000**
	Error	1329.389	68	19.550		

Table 29 demonstrates that, indeed, significance was found across Test I and Test II for the effect of sentence type on the Text and Picture Tests.

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[53] $p < .0125$ as there are four sentence types, the usual $p < .05$ was divided by a factor of four.

5.5.6.3 T-Test Paired Subjects Analysis

Given that significances were obtained for each test and across tests for sentence type, paired t-tests were run on the individual sentence types across Test I and Test II for the Text and Picture tasks in order to ascertain which sentence types showed a significant difference. Paired t-tests are the only sort of post-hoc analysis allowed by the limitations of the SPSS program. Therefore, protected dependent t-tests were calculated. The results of this analysis are reported in Table 30.

Table 30: T-Test Paired Subjects Analysis

| | | | | | Paired | Differences | | | |
| | | | | | 95% Interval of Lower | Confidence the Upper | | | Sig. (2- |
Test	Type	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	tailed)
Text I/II	Mono	-6.778	9.723	2.292	-11.613	-1.943	-2.958	17	**.009**
	Biclausal Non-Finite	-.833	5.067	1.194	-3.353	1.687	-.698	17	.495
	Biclausal Finite	.167	3.073	.724	-1.361	1.695	.230	17	.821
	Pronoun Distractor	-.444	1.580	.372	-1.230	.341	-1.193	17	.249
Picture I/II	Mono	-4.333	7.452	1.756	-8.039	-.628	-2.467	17	.025
	Biclausal Non-Finite	-1.056	3.152	.743	-2.623	.512	-1.421	17	.174
	Biclausal Finite	-.333	2.223	.524	-1.439	.772	-.636	17	.533
	Pronoun Distractor	-.278	1.074	.253	-.812	.256	-1.097	17	.288

Table 30 demonstrates that a significant effect was found across the Text Tests I and II for monoclausal sentences only. Interesting to note is that this effect was nearly-significant across Picture Tests I and II, and probably is significant, although not by the factored p value used.

5.5.6.4 One-Way ANOVA for Sentence Type on Text Test I, II, and Picture Test I/II
Finally, a one-way ANOVA was conducted to calculate whether or not the sentence types differed from each other within each test as far as how they were handled relative to the other three sentence types. The results of this analysis are presented in Table 31.

Table 31: One-Way ANOVA: Sentence Type Comparison Within Each Test

Dependent Variable	Sentence Type (I)	Sentence Type (J)	Mean Diff.	Std. Error	95% Confidence Interval		Signif.
					Lower Bound	Upper Bound	
Text I	Monoclausal	Biclausal NF	4.067	1.038	1.28	6.85	.001[54]
		Biclausal Finite	-4.233	1.038	-7.02	-1.45	.001
		Pron. Distractor	7.200	1.038	4.41	9.99	.000
	Biclausal NF	Monoclausal	-4.067	1.038	-6.85	-1.28	.001
		Biclausal Finite	-8.300	1.038	-11.09	-5.51	.000
		Pron. Distractor	3.133	1.038	.35	5.92	.019
	Biclausal Finite	Monoclausal	4.233	1.038	1.45	7.02	.001
		Biclausal NF	8.300	1.038	5.51	11.09	.000
		Pron. Distractor	11.433	1.038	8.65	14.22	.000
	Pron. Distractor	Monoclausal	-7.200	1.038	-9.99	-4.41	.000
		Biclausal NF	-3.133	1.038	-5.92	-.35	.019
		Biclausal Finite	-11.433	1.038	-14.22	-8.65	.000
Text II	Monoclausal	Biclausal NF	8.722	1.404	4.91	12.54	.000
		Biclausal Finite	3.056	1.404	-.76	6.87	.198
		Pron. Distractor	13.556	1.404	9.74	17.37	.000
	Biclausal NF	Monoclausal	-8.722	1.404	-12.54	-4.91	.000
		Biclausal Finite	-5.667	1.404	-9.48	-1.85	.001
		Pron. Distractor	4.833	1.404	1.02	8.65	.006
	Biclausal Finite	Monoclausal	-3.056	1.404	-6.87	.76	.198
		Biclausal NF	5.667	1.404	1.85	9.48	.001
		Pron. Distractor	10.500	1.404	6.68	14.32	.000
	Pron. Distractor	Monoclausal	-13.556	1.404	-17.37	-9.74	.000
		Biclausal NF	-4.833	1.404	-8.65	-1.02	.006
		Biclausal Finite	-10.500	1.404	-14.32	-6.68	.000

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[54] $p < .0125$ due to four sentence types, usual $p < .05$ is divided by a factor of four.

Table 31 Continued

Dependent Variable	Sentence Type (I)	Sentence Type (J)	Mean Diff.	Std. Error	95% Confidence Interval		Signif. [55]
					Lower Bound	Upper Bound	
Picture I	Monoclausal	Biclausal NF	5.567	.911	3.12	8.01	**.000**
		Biclausal Finite	-1.167	.911	-3.61	1.28	1.000
		Pron. Distractor	8.967	.911	6.52	11.41	**.000**
	Biclausal NF	Monoclausal	-5.567	.911	-8.01	-3.12	**.000**
		Biclausal Finite	-6.733	.911	-9.18	-4.29	**.000**
		Pron. Distractor	3.400	.911	.95	5.85	**.002**
	Biclausal Finite	Monoclausal	1.167	.911	-1.28	3.61	1.000
		Biclausal NF	6.733	.911	4.29	9.18	**.000**
		Pron. Distractor	10.133	.911	7.69	12.58	**.000**
	Pron. Distractor	Monoclausal	-8.967	.911	-11.41	-6.52	**.000**
		Biclausal NF	-3.400	.911	-5.85	-.95	**.002**
		Biclausal Finite	-10.133	.911	-12.58	-7.69	**.000**
Picture II	Monoclausal	Biclausal NF	8.611	1.201	5.35	11.88	**.000**
		Biclausal Finite	3.222	1.201	-.04	6.49	.055
		Pron. Distractor	13.667	1.201	10.40	16.93	**.000**
	Biclausal NF	Monoclausal	-8.611	1.201	-11.88	-5.35	**.000**
		Biclausal Finite	-5.389	1.201	-8.65	-2.12	**.000**
		Pron. Distractor	5.056	1.201	1.79	8.32	**.000**
	Biclausal Finite	Monoclausal	-3.222	1.201	-6.49	.04	.055
		Biclausal NF	5.389	1.201	2.12	8.65	**.000**
		Pron. Distractor	10.444	1.201	7.18	13.71	**.000**
	Pron. Distractor	Monoclausal	-13.667	1.201	-16.93	-10.40	**.000**
		Biclausal NF	-5.056	1.201	-8.32	-1.79	**.000**
		Biclausal Finite	-10.444	1.201	-13.71	-7.18	**.000**

The results in Table 31 demonstrate that a significant effect was found between every sentence type and every other sentence type on all four tests, except for monoclausals

[55] $p < .0125$ due to four sentence types, usual $p < .05$ is divided by a factor of four.

compared to biclausal finites, for which a significant effect was only found on text Test I. On the Text Test II, Picture Test I, and Picture Test II, no significant effect was found between monoclausals and biclausal finites. In other words, the monoclausal sentences and biclausal finite sentences were bound with approximately the same accuracy to the theoretical result. There was a noticeable difference in the binding of biclausal non-finite sentences across subjects (which is expected due to the presence of an apparent second grammar) and across the pronoun distractor sentences (unexpected and possibly due to the smaller number of pronoun distractor sentences relative to the number of sentences total).

The conclusion to be reached then is that there were significant binding differences across different sentence types, but not across language types, that cannot be explained using Chomsky's Binding Theory, in its current form, even with the addition of X^0 and X^{max} anaphor typologies of Bennett and Progovac (1993).

6.0   CHAPTER SIX: FOLLOW-UP SURVEY STUDY

6.1 TEST BACKGROUND

Following the administration and analysis of the experimental tests, several questions arose pertaining to the data. Specifically, they concern the accuracy of the claims relative to the nature of reflexive binding in the grammars of Russian native speakers. These questions are elaborated below.

A. *Can Russian L1 speakers bind objects in monoclausal sentences?*

B. *Can Russian L1 speakers bind LD in biclausal non-finite sentences?*

C. *Is there a difference in binding in biclausal non-finite and finite sentences?*

D. *Do certain verbs that express power cause different anaphors to behave abnormally in binding?* These verbs include *velet'* 'to command, order, bid, recommend', *poprosit'* 'to ask, request', and *prikazat'* 'to order, command, bid'.

E. *Is there a difference between the post-verbal affix '-sja' and the full reflexive 'sebja'?*

Pertaining to question D, semantics appeared to be playing an active role in binding preference for sentences that contained verbs of power. The situation was such that the use of these verbs appeared to influence binding pattern choices to a LD read if the LD subject was viewed as a person with power over the apparently subordinate L entity. This

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phenomenon was briefly noted in research written after the main experimental tests were conducted (Timberlake 2006). As Chomsky's Binding Theory (1986a), and generative grammar in general, would discount any such influence, it was decided that this question was worth investigating for the purposes of the dissertation.

The main experiment results suggested that an established truth judgment task (White et al 1997) might shed more light on binding patterns elicited through the main battery of experimental tests. In addition, one further question that remained to be clarified was whether there is a difference in treatment of binding based on the anaphor itself with verb of power usage, as was already established by the main experimental battery. The truth-value judgment task was to be limited to the anaphor *sebja* for the testing purposes, with several examples of the other anaphors and verbs of power used in the additional ten sentences that were attached to the truth-value task.

6.1.1 Truth-Value Judgment Task

White et al (1997) found that analysis of binding patterns in ambiguous English sentences usually resulted in a preference being expressed by the subjects, as opposed to all binding possibilities being exposed. In an attempt to resolve this problem, the research team created a truth-value judgment task. The task consisted of forty short stories, each of which was followed by a conclusion. The stories presented a discourse background, while the conclusions forced an interpretation of the ambiguity of the sentence in a particular direction. The sixteen monoclausal sentences took into account male subjects, female subjects, male objects, and female objects, with two examples of each being true and two false. The eight biclausal finite sentences and eight biclausal non-finite sentences took

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into account male and female subjects, with two examples of each being true, and two false. In addition, eight sentences investigated c-command and took into account male and female gender, with two examples of each being true, and two false. Thus, White et al (1997) attempted to discern actual binding possibilities, as opposed to preferences, leading to a more accurate description of the subjects' grammar.

For this dissertation work, the judgment task created by White et al (1997) was translated from English into Russian and added to several sentences from Timberlake (2004) and from the December, 2006 committee meeting at the University of Pittsburgh. The task was then evaluated by native speakers who would not be test subjects. Several slight contextual corrections were made to the sentences.[56] The sentences were then tested in Moscow, Russia on ten L1 Russian subjects. In addition, ten L2 Russian learners at the intermediate level from Baltimore, Maryland were tested with the same task. The task itself and the raw data collected are available in Appendix D (Truth-Value Judgment Task).

Sentences 1-32 investigated three main issues for Russian. Question A asks whether or not Russian L1 subjects can/do bind objects in monoclausal sentences. The answer to this question is gained through an investigation of sentences 9-16 of the original task and exemplified by sentences like (6.96-6.97).

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[56] These adaptations were mainly cultural, as in the substitution of a perfume in place of a hairspray.

6.96. Bill vstretil druga, kotorogo on davno ne videl. Drug zaxotel uznat' vse o

Bille. On sprosil Billa, gde tot byval, čto on delal, kak on sebja čuvstvoval.

Bill met a friend, whom he had not seen in a long time. The friend wanted to know everything about Bill. He asked Bill where he had been, what he had done, and how he was.

Vyvod:

Conclusion:

Drug sprosil Billa o sebe. _____Verno _____Neverno

The friend asked Bill about himself.   T   F

6.97. Vanja – student. V prošluju subbotu Vanja čital gazetu i uvidel stat'ju o

Prem'er-Ministre. Vanja rešil, čto stat'ja zainteresuet ego učitelja. Učitel'

dejstvitel'no očen' zainteresovalsja stat'jej.

Johnny is a student. Last Saturday, Johnny was reading the newspaper and saw a report about the Prime Minister. Johnny thought his teacher would be interested. The teacher was very interested indeed when he saw it.

Vyvod:

Conclusion:

Vanja pokazal uchitel'ju stat'ju o sebe. _____Verno _____Neverno

Johnny showed the teacher the article about himself.   T   F

The answer to sentence (6.96) should be false for an L1 Russian, as the X^0 anaphor should not bind to the object, although the story forces this interpretation. The answer to question (6.97) should be also be false, as the article is about the Prime Minister. Thus interpretations of ambiguous sentences can be forced through the information imparted in the stories for each question.

Question B asks whether or not Russian can bind LD in biclausal non-finite sentences. The answer to this question is gained through an investigation of sentences 25-32 of the original task and exemplified by sentences like (6.98-6.99).

6.98. Anja ela šokolad za šokoladom. Ona udivilas', kogda vse vokrug načali ulybat'sja. Mat' velela ej posmotret' v zerkalo na svoe lico, kotoroe bylo vse v šokolade.

Annie had been eating chocolate after chocolate. She was surprised when everyone around her began to smile. Her mother told Annie to look at her face, which was covered in chocolate, in the mirror.

Vyvod:

Conclusion:

Mat' velela Ane posmotret' na sebja v zerkalo. _____Verno _____Neverno

Mother asked Anja to look at herself in the mirror.   T   F

6.99. Anja ljubila poizdevat'sja nad svoej podružkoj. Ona sprjatalas' v garderobe i ugovorila podružke zakryt' dver' snaruži na zamok. Kogda devočka eto sdelala, Anja zakričala i stala zvat' svoju mamu.

Annie loved to get her friend in trouble (lit. to make a fool of her friend). Annie went into the closet and suggested that her friend close the door and lock it from outside. When her friend had done this, Annie started to shout and call for her mother.

Vyvod:

Conclusion:

Anja poprosila podrugu zakryt' sebja v garderobe. ____Verno ____Neverno

 Annie asked her friend to lock herself in the closet.   T   F

Sentences (6.98) and (6.99) should be true in Russian, while the latter sentence will be false in English.

Question C asks whether there is a difference in binding biclausal finite and non-finite sentences. The answer to this question is gained through a comparison of sentences 17-24 and 25-32 of the original task. The biclausal non-finite sentences are demonstrated in (6.98-6.99), while biclausal finite sentences are exemplified by (6.100-6.101).

6.100   Posle trex let vojny v "gorjačix točkax" soldat tronulsja rassudkom I vyprygnul iz okna. On pogib mgnovenno. Vraču prišlos' peredat' sem'e pečal'nyju vest'.

After three years at the front, the soldier finally went crazy and jumped out of a window. He died instantly. The doctor had to tell the soldier's family the sad news.

Vyvod:

Conclusion:

Vrač skazal, čto soldat pokončil s soboj.   _____ Verno _____ Neverno

The doctor said the soldier killed himself   T   F

6.101   Osmatrivaja odin iz pistoletov Mistera Robinsa, mal'čik slučajno nažal spuskovyj krjučok, i pistolet vystrelil. Pulja popala Misteru Robinsu v ruku.

A young boy was looking at one of Mr. Robins' guns. The young boy accidentally pulled the trigger and the gun fired. The bullet hit Mr. Robins in the arm.

Vyvod:

Conclusion:

Mister Robins rešil, čto mal'čik ranil sebja slučajno.

Mr. Robins concluded that the boy shot himself accidentally.

_____ Verno _____ Neverno

T   F

Sentence (6.100) is true, while sentence (6.101) is false. Table 32 shows the data collected for this task by sentence type and answer.

Table 32: Truth Judgment Task by Sentence Type (2 tokens/category)

Sentence Type	Native L1 n = 10		Non-Native L2 10	
	True	False	True	False
Monoclausal				
Responses MS-T[57]	17	3	16	4
MS-F	1	19	2	18
FS-T[58]	15	5	13	7
FS-F	0	20	3	17
MO-T[59]	12	8	2	18
MO-F	0	20	0	20
FO-T[60]	11	9	5	15
FO-F[61]	0	20	4	16
Biclausal Nonfinite				
Responses MS-T	20	0	16	4
MS-F	3	17	10	10
FS-T	20	0	15	5
FS-F	10	10	5	15
Biclausal Finite				
Responses MS-T	20	0	14	6
MS-F	1	19	6	14
FS-T	20	0	16	4
FS-F	2	18	6	14

In answer to question A, Table 32 demonstrates that several L1 subjects do bind objects in monoclausal sentences, but that other subjects are less likely to accept object binding than they are subject binding. The L2 subjects' data indicates that they are not allowing binding to the object, although the data are noisy.

In answer to question B, Table 34 demonstrates that several L1 subjects more often bind L in biclausal non-finite sentences, but that other subjects will bind LD as well. The data in conjunction with the task show that this LD binding occurs more frequently when

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[57] MS indicates a male subject referent; in addition *T* means the sentence should have been true and *F,* that the sentence should have been false.
[58] FS indicates a female subject referent.
[59] MO indicates a male object referent.
[60] FO indicates a female object referent.
[61] FO indicates a female object referent.

the LD subject clearly demonstrates some sort of authority over the L entity in the sentence. L2 subjects LD bound more often with male subjects, but again, their data were noisy.

In answer to question C, there is a definite difference between the binding patterns on biclausal non-finite and biclausal finite sentences. The L1 subjects are fairly regular in their response to the biclausal finite sentences, but show a split on biclausal non-finite sentences, as with the main body of testing. The L2 subjects show almost no difference between their accuracy in binding biclausal non-finite and finite sentences, although they do enjoy a slightly higher success rate on the finite sentences, relative to the non-finite ones.

Table 33 demonstrates students' recognition of c-command structures. These sentences demonstrate whether subjects are simply binding the closest NP as the antecedent, or whether they are actually selecting a structurally-available antecedent. These sentences are exemplified by tokens like (6.102-6.103).

6.102. Medsestre často stalkivat'sja s tjaželymi pacientami. Samoe užasnoe proizošlo s odnoj umališennoj. Umališennaja vystrelila sebe v visok I momental'no pogibla na glazax u medsestry. Kak ona mogla ne uvidet', kogda ženščina stojala rjadom s medsestroj?

The nurse often has to deal with difficult patients. Her worst experience was with a crazy old woman. The crazy woman shot herself in the head and died instantly right in front of the nurse. How could she not see, when the woman was standing right next to the nurse?

Vyvod:

Conclusion:

Ženščina, kotoraja stojala rjadom s medsestroj pokončila s soboj.

The woman standing next to the nurse shot herself. _____Verno _____ Neverno
                                                              T   F

6.103.   Vanja zažeg spičku, i spička upala emu na ruku. Teper' on sidit v
          koridore i ždet vrača. Rjadom s nim sidit očen' milovidnyj čelovek.
          Johnny lit a match and the match fell on his hand. Now he is in the hall waiting for a
          doctor. A very pleasant man is sitting next to him.
          Vyvod:
          Conclusion:
          Čelovek rjadom s Vanej obžeg sebja.   _____Verno _____ Neverno
          The man sitting next to Johnny burned himself.   T   F

Table 33 reports the results of the c-command sentences.

Table 33: C-Command Control (2 tokens/category)

	Native L1 **n = 10**		Non-Native L2 **10**	
Response	**True**	**False**	**True**	**False**
Male-T	17	3	13	7
Male-F	1	19	10	10
Female-T	20	0	15	5
Female-F	0	20	12	8

As Table 33 demonstrates, the L1 subjects are not simply reaching for the nearest NP. Rather, they are binding structurally-available NPs.

The L2 subjects, on the other hand, seem to be focusing on the nearest NP, whether it is available or not. This effect is interesting, as L2 subjects tend to bind similar anaphors in their L1 as L.

These results are, again, in line with the main body of experimental tests. The L1 subjects have c-command, while the L2 subjects do not.

One interesting result of this truth-value judgment is not at first apparent from the data. Generative grammar states that those subjects who allow LD binding should not allow object binding. On the other hand, if subjects disallow LD binding, they may allow object

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binding. In a direct comparison of the data for each individual subject, it was found that three of the subjects allowed object binding (as expected) and disallowed LD binding. Four of the subjects disallowed object binding, but allowed LD binding. The final three subjects fell somewhere in between those at the polarized ends of the responses, not allowing object binding or LD binding one-hundred percent of the time, but allowing both to some degree.

From the results of the main experimental battery, it seemed that LD binding in biclausal non-finite sentences was controversial, in that it was expected as part of the theoretical results, but did not occur to a high degree; instead a range of preferences was recorded. From this truth-value judgment, the picture seems a bit clearer. It appears that this point in Russian may be undergoing change. Some of the subjects appear to have one grammar, where LD binding is allowed, while object binding is not. This is a very different situation when compared to English, as English will allow object binding, but not LD binding in the same situation. Other L1 Russian subjects seem to have a grammar where LD binding is not allowed, or at the very least, not preferred, and object binding is allowed. There also seems to be a range in between of subjects who are transitioning between the two grammars. The results of the tests, therefore, depended on which grammar the subjects were operating with, and there was no way to select for one or the other in the recruitment. Further investigation with recruitment of Russian natives from different parts of the country taking this theory into account might prove interesting.

6.1.2 Additional Sentences: Different Anaphora and Verbs of Power

In addition to the task of White et al (1997), ten sentences attached to the truth judgment task examined the relationship of –*sja* 'reflexive', *sebja* 'self', and *svoj'* 'one's own' and the verbs of power[62] *velet'* 'to command' and *prikazat'* 'to order'. As previously mentioned, these sentences were taken from examples in Timberlake (2004) and from a December, 2006 committee meeting, where the topic first arose. The first two sentences examined whether or not there exist differences between the clitic –*sja* and its non-contracted form *sebja* 'self', as in sentences (6.104-6.105).

> 6.104. Otec učit syna zaščiščat' <u>sebja</u> ot zlyx mal'čikov.
> Father is teaching (his) son to defend himself against bad boys.
> _____ otec _____ syn _____ ili otec ili syn
>   father   son   either father or son
> _____ smysl' predloženija ne jasen
>   sentence is unclear

> 6.105. Otec učit syna zaščiščat'sja ot zlyx mal'čikov.
> Father is teaching (his) son to defend himself against bad boys.
> _____ otec _____ syn _____ ili otec ili syn
>   father   son   either father or son
> _____ smysl' predloženija ne jasen
>   sentence is unclear

The second pair of sentences examined whether or not there exist differences between these same reflexives when used as a request instead of an order, in this case with *poprosit'* 'to ask'. These sentences are exemplified by sentences (6.106-6.107).

> 6.106. Vrač poprosil medsestru pomyt'<u>sja</u> pered operaciej.
> The doctor asked the nurse to wash herself before the operation.
> _____ vrač _____ medsestra _____ ili vrač ili medsestra
>   doctor   nurse   either doctor or nurse
> _____ smysl' predloženija ne jasen
>   sentence is unclear

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[62] The term "verb of power" is Swan's (2007) phrasing of a phenomenon to which Timberlake (2004) also refers.

6.107. Vrač poprosil medsestru pomyt' <u>sebja</u> pered operaciej.
The doctor asked the nurse to wash him/herself before the operation.
_____ vrač _____ medsestra _____ ili vrač ili medsestra
     doctor   nurse   either doctor or nurse
_____ smysl' predloženija ne jasen
     sentence is unclear

The third pair of sentences examined whether there existed any difference between use of

the verbs *velet'* 'to command' and *prikazat'* 'to order' in conjunction with *sebja* 'self'.

These sentences are exemplified by sentences (6.108-6.109).

6.108. Mama prikazala dočeri ne brat' <u>sebe</u> sliškom mnogo konfet.
Mama commanded (her) daughter not to take too much candy for herself.
_____ mama _____ doč' _____ ili mama ili doč'
     mama   daughter   either mama or daughter
_____ smysl' predloženija ne jasen
     sentence is unclear

6.109. Babuška velela vnučke nalit' <u>sebe</u> slivki v čaj.
Grandmother bid her granddaughter to pour herself some cream into her tea.
_____ babuška _____ vnučka _____ ili babuka ili vnučka
     grandmother   granddaughter   either grandmother or granddaughter
_____ smysl' predloženija ne jasen
     sentence is unclear

The final two pairs of sentences examined whether or not there existed any difference

between use of the verbs *velet'* 'to command' and *prikazat'* 'to order' in conjunction with

sebja 'self' and *svoj* 'one's own'. These sentences are exemplified by sentences (6.110-

6.113).

6.110. Polkovnik prikazal rjadovomu podat' <u>sebe</u> konja.
The colonel ordered the soldier to give him his horse.
_____ polkovnik _____rjadovoj _____ ili polkovnik ili rjadovoj
     colonel   soldier   either colonel or soldier
_____ smysl' predloženija ne jasen
     sentence is unclear

6.111. Babuška velela vnučke vzjat' <u>sebe</u> prjanikov.
Grandmother bid (her) granddaughter to take some gingerbread for herself.
_____ babuška _____ vnučka _____ ili babuška ili vnučka
     grandmother   granddaughter   either grandmother or granddaughter
_____ smysl' predloženija ne jasen

sentence is unclear

6.112. General prikazal poručiku podat' <u>svoj</u> pistolet.
The general ordered the lieutenant to give him his pistol.

_____ general   _____ poručik   _____ ili general ili poručik
    general   lieutenant   either general or lieutenant

_____ smysl' predloženija ne jasen
    sentence is unclear

6.113. Vladelec kompanii velel uborščice zakryt' <u>svoe</u> okno.
The head of the company ordered the cleaning lady to close his/her window.

_____ vladelec   _____ uborščica   _____ ili vladelec ili uborica
    head   cleaning lady   either head or cleaning lady

_____ smysl' predloženija ne jasen
    sentence is unclear

Table 34 shows the data for the sentences that tested for differences between the verbal

affix –sja and the full reflexive pronoun sebja.

Table 34: Differences in –*sja* and *sebja* in Conjunction with Power Verbs (1 token/category)

Binding Pattern

Response	Native L1 $n = 10$			Non-Native L2 10		
- Power Verb	**LD**	**L**	**L/DL**	**LD**	**L**	**L/DL**
-sja	0	10	0	3	6	0[63]
sebja	0	10	0	2	6	2
+ Power Verb						
-sja	0	10	0	0	10	0
sebja	4	6	0	5	1	4

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[63] Sums per sentence of < 10 indicate that the remaining responses were "sentence unclear".

Table 34 demonstrates that, without a power verb like prikazat' 'to order', there is no apparent difference in the treatment of –sja and sebja in sentences like (6.104-6.105) reproduced below.

> 6.104. Otec učit syna zaščiščat' <u>sebja</u> ot zlyx mal'čikov.
> Father is teaching (his) son to defend himself against bad boys.
> _____ otec   _____ syn   _____ ili otec ili syn
>   father   son   either father or son
> _____ smysl' predloženija ne jasen
>   sentence is unclear

> 6.105. Otec učit syna zaščiščat'sja ot zlyx mal'čikov.
> Father is teaching (his) son to defend himself against bad boys.
> _____ otec   _____ syn   _____ ili otec ili syn
>   father   son   either father or son
> _____ smysl' predloženija ne jasen
>   sentence is unclear

Here, the L1 subjects bind L one-hundred percent of the time. The L2 subjects bind LD about one-third of the time, but the pattern is the same over both reflexives.

However, even when a verb like *poprosit'* 'to ask' is present in the token, there appears to be a difference between *–sja* and *sebja.* These tokens are represented by sentences (6.106-6.107) reproduced below.

> 6.106. Vrač poprosil medsestru pomyt'<u>sja</u> pered operaciej.
> The doctor asked the nurse to wash herself before the operation.
> _____ vrač   _____ medsestra   _____ ili vrač ili medsestra
>   doctor   nurse   either doctor or nurse
> _____ smysl' predloženija ne jasen
>   sentence is unclear

> 6.107. Vrač poprosil medsestru pomyt' <u>sebja</u> pered operaciej.
> The doctor asked the nurse to wash him/herself before the operation.
> _____ vrač   _____ medsestra   _____ ili vrač ili medsestra
>   doctor   nurse   either doctor or nurse
> _____ smysl' predloženija ne jasen
>   sentence is unclear

In sentences like (6.106), there is not a possibility for LD binding, whereas in sentences like (6.107), that possibility occurs, although more infrequently. The L2 subjects

demonstrate a different split, tending to bind LD/L and L instead of LD and L as the L1

subjects do in this instance.

These results are in line with the main experimental tests, which also showed a

tendency for split binding patterns when a verb of power was present.

Table 35 demonstrates differences between the use of different power verbs *velet'* 'to

command' and *prikazat'* 'to order' with the reflexive pronoun *sebja* 'self'. These tokens

are represented by sentences like (6.108-6.109) reproduced below.

6.108. Mama prikazala dočeri ne brat' <u>sebe</u> sliškom mnogo konfet.
   Mama commanded (her) daughter not to take too much candy for herself.
   _____ mama _____ doč'   _____ ili mama ili doč'
    mama   daughter   either mama or daughter
   _____ smysl' predloženija ne jasen
     sentence is unclear

6.109. Babuška velela vnučke nalit' <u>sebe</u> slivki v čaj.
   Grandmother bid her granddaughter to pour herself some cream into her tea.
   _____ babuška _____ vnučka   _____ ili babuka ili vnučka
    grandmother   granddaughter either grandmother or granddaughter
   _____ smysl' predloženija ne jasen
     sentence is unclear

Table 35: *Prikazat'* and *Velet'* in Conjunction with *sebja* (1 token/category)

Binding Pattern

Response	Native L1 n = 10			Non-Native L2 10		
sebja	LD	L	L/DL	LD	L	L/DL
prikazat'	1	9	0	1	8	0[64]
velet'	1	9	0	2	6	0

[64] Sums per sentence of < 10 indicate that the remaining responses were "sentence unclear".

Table 35 demonstrates that there is no perceived difference between the two power verbs. In these sentences, the L1 and L2 subjects both bound L the majority of the time. This result agrees with the results for power verb with sebja and –sja in Table 34.

Table 36 demonstrates differences between the use of different power verbs *velet'* 'to command' and *prikazat'* 'to order' with the reflexive pronoun *sebja* 'self' and the reflexive possessive *svoj* 'one's own'. These tokens are represented by sentences like (6.110-6.113) reproduced below.

6.110. Polkovnik prikazal rjadovomu podat' <u>sebe</u> konja.
   The colonel ordered the soldier to give him his horse.
   _____ polkovnik _____ rjadovoj _____ ili polkovnik ili rjadovoj
    colonel   soldier   either colonel or soldier
   _____ smysl' predloženija ne jasen
    sentence is unclear

6.111. Babuška velela vnučke vzjat' <u>sebe</u> prjanikov.
   Grandmother bid (her) granddaughter to take some gingerbread for herself.
   _____ babuška _____ vnučka _____ ili babuška ili vnučka
    grandmother   granddaughter   either grandmother or granddaughter
   _____ smysl' predloženija ne jasen
    sentence is unclear

6.112. General prikazal poručiku podat' <u>svoj</u> pistolet.
   The general ordered the lieutenant to give him his pistol.
   _____ general _____ poručik _____ ili general ili poručik
    general   lieutenant   either general or lieutenant
   _____ smysl' predloženija ne jasen
    sentence is unclear

6.113. Vladelec kompanii velel uborščice zakryt' <u>svoe</u> okno.
   The head of the company ordered the cleaning lady to close his/her window.
   _____ vladelec _____ uborščica _____ ili vladelec ili uborica
    head   cleaning lady   either head or cleaning lady
   _____ smysl' predloženija ne jasen
    sentence is unclear

Table 36: *Prikazat'* and *Velet'* in Conjunction with *sebja* and *svoj* (1 token/category)

<u>**Binding Pattern**</u>

<u>**Response**</u>	<u>**Native L1**</u> <u>**n = 10**</u>			<u>**Non-Native L2**</u> <u>**10**</u>		
<u>*sebja*</u>	<u>LD</u>	<u>L</u>	<u>L/DL</u>	<u>LD</u>	<u>L</u>	<u>L/DL</u>
prikazat'	7	3	0	5	3	2
velet'	5	5	0	2	5	3
<u>*svoj*</u>						
prikazat'	6	4	0	5	3	2
velet'	8	2	0	3	6	1

The verb of power in these sentences seemed to induce a LD binding pattern for the majority of the L1 speakers, regardless of the verb of power used. These results are in direct contrast to those of Tables 34 and 35.[65]

The L2 subjects tend to bind *sebja* and *svoj* LD more often with *prikazat'*, but as L more often with *velet'*. These data lead the researcher to believe that L1 speakers do not have the same sense of hierarchy that native speakers do in relation to these verbs.

These results at first appear to contradict the main experiment; however, as only two tokens were tested on the truth value judgment test, and neither of these were the verb *poprosit'*, these results are subject to more speculation. Also, as previously mentioned, the results seem to be overshadowed by the pragmatic constraint of whether or not the

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[65] One logical explanation seems to be that pragmatics appears to play a role here, in that the LD subject is perceived to have the power to order a subordinate to perform a logical action for him or her (instead of for the subordinate himself or herself) in these instances. A general, for instance, can exert power that forces others to act on his behalf. In contrasting sentences (6.109 and 6.111) it is not as clear-cut whether a grandmother would order or command a granddaughter to act in the same manner.

LD subject is deemed to have official power to command (like a general) over the L referent. The results on this last section, although inconclusive and somewhat contradictory, do demonstrate once again that L and LD binding are possible, if not always a first preference, with biclausal non-finite sentences.

7.0   CHAPTER SEVEN : CONCLUSION

7.1   UG AND INTERPRETATION OF REFLEXIVES

The results of the experiment fell into expected theoretical values for sentence types 1A, 1B, 3, and 4. Unexpected were the results from the type 2 sentences. Where the subjects from the L1 were supposed to detect and indicate ambiguity, they were successful to a degree. Where they were not successful, they responded with L binding in most instances. Although some LD binding was allowed, the clear preference was to bind these sentences as L. Swan (2007) has pointed out that the colleagues that he has questioned indicated a clear dislike of sentence binding to the LD subject, preferring to utilize a personal pronoun for clarity, as demonstrated in sentences (6.114-6.115).

> 6.114.   Professor$_i$ poprosil studenta$_j$ myt' sebja$_{*i/j}$.
> 'The professor$_i$ asked the student$_j$ to wash himself$_{*i/j}$'

> 6.115.   Professor$_i$ poprosil studenta$_j$ myt' EGO$_{i/*j}$.
> 'The professor$_i$ asked the student$_j$ to wash him$_{i/*j}$'

This certainly seems to be the case in the main battery of tests. However, the truth-value judgment task indicates that this particular aspect of Russian grammar may be undergoing change. Whereas the main test battery indicates that those Russians investigated follow the pattern in sentences (6.114-6.115), further investigation could prove interesting.

The results of the remainder of the experiment generally support the proposal that L2 language learners of Russian consult principles and parameters of UG in determining the referential properties of Russian reflexives. Of note is the fact that the lower the ability level of the subject, the more the subject seems to rely on the L1 as a guide for principles and parameters (Schwartz and Sprouse 1996). As proficiency advances, the speakers at first appear to allow more LD binding on the MCC test, preferring subject antecedents (as the L1 participants do). However, also of note is the fact that, given a preference, even the higher-proficiency participants have a tendency to bind as L those sentences that allow a LD/L interpretation. Coincidentally, almost all tokens that should be bound L are bound L, suggesting a tendency for strict L binding pervading all of the group levels not only when it is predicted, but also when LD binding should be permitted as an alternative.

Although there are dominant patterns exhibited by both the L1 and L2 participants, there are aberrations that bind differently than the expected norm. In the case of the L1 participants, this seems to be a demonstration of preference. The testing materials were adequate, in that they were able to show this preference, but inadequate in that they do not explain the reason(s) for these preferences. Further study should be done with a modified preference test that would allow the participants to comment as to why they choose one selection over another. The testing materials at the very least clarify that there are three distinct binding patterns: L, LD, L/LD. However, the tests fail in that they demonstrate that preferences are used in making the selections, but do not explain what prompts one preference over another when both are allowed.

As expected, there also appears to be a continuum along which the L2 participants bind. This could indicate a movement from their L1 (Local only) binding parameter setting to the L2 (Local and Long-Distance) binding parameter setting. This idea seems somewhat problematical from the point of view of parameter resetting, in that participants are supposed to have one or the other setting in the L2. Here, it appears that both parameter settings are operating at the same time; however, this controversy is more likely a demonstration of binding preferences over a range of sentences and anaphors. It makes sense that certain sentence types are more difficult for participants to deal with, and that perhaps parameter resetting is a process that proceeds across different difficulty levels of syntax. In addition, given the brevity of the training and the short period that the participants had to adjust to the information, no parameter resetting is going to occur here. The possibility that it could occur, however, seems to be suggested by the results. In fact, it looks promising that parameters for AGR, case, gender, and number are being used and that they may indeed eventually be reset to the L2 setting, but without a longer elapsed time and repeated trials of the L2 participants, this claim cannot be made within this thesis.

In fact, the success of the L2 subjects on all sentence types where the post-verbal affix –*sja* was involved as well as those sentences where pronouns were involved demonstrates that the subjects are able to adjust to the native pattern. One reason for this success is likely that the L2 subjects are introduced to these two particular structures in their first semester of study, while at the intermediate level (fourth semester), they have had only one semester of dealing with the reflexive object pronoun *sebja* and the reflexive possessive pronoun *svoj*.

One of the problems for this study for UG is the apparent deviation of all groups from the expected dominant binding pattern on the Type 2 sentences. The same subjects, L1 and L2, who were clear on the binding of Type 3 and pronoun distractor sentences showed a controversial pattern on the Type 2 sentences. It should be further investigated whether some element in the clausal structure directs a L-only interpretation even of those reflexives that should be ambiguous, or whether, again, this deviation is due to a strong preference being expressed by the subjects.

Therefore, whereas this study has taken steps to ascertain whether UG applies to this particular topic, several topics still need to be considered in order to draw pertinent and significant conclusions. In addition, the number of participants in each group needs to be expanded, a fact that should also aid in clarifying whether deviations are rare or the norm.

7.2   HYPOTHESES

7.2.1   Hypothesis A

In the study, Type 2 and Type 3 sentences tested for L1 and L2 application of AGR. The hypothesis presented prior to the study proposed that the L1 English speakers learning L2 Russian would apply a +AGR parameter setting. As this parameter does not differ from the Russian, it was expected that the L2 Russian participants would apply +AGR successfully. In the majority of cases, this is exactly what did occur. However, when tokens whose L or LD antecedent had the same agreement rules (both singular and male, for example), the low group of the L2 participants tended to ignore binding restrictions in a few instances and allow LD binding where it should not have been possible. Although

these instances might point to a problem with the proposed binding of Russian, it is much more likely that these particular participants, being weaker in Russian grammar to begin with, would make a grammatical error here due to a vocabulary problem or misread of the sentence. Further work in this area might look at whether the participants of the next study actually have AGR under control before entering the testing stage.

7.2.2 Hypothesis B

Hypothesis B proposed that the L1 English learners of L2 Russian would initially transfer the L1 X^{max} reflexive anaphor type to their interlanguage grammar. The sentences that would test this particular item are those of the Type 1A, 1B, 2, and 3, the first three of which should have allowed ambiguous binding possibilities. The reflexives concerned are the *svoj* and *sebja* reflexives in this instance. According to the set-up of the tests, if the L2 participants bound the potentially ambiguous reflexives as L only, then this hypothesis would be supported. On the MCC test, the hypothesis did not look promising until the data was split by level groupings. At this point, the low and mid groups appeared to have transferred their L1 X^{max} reflexive type to the L2, binding tokens that were ambiguous as L only, with very few instances of LD or LD/L binding. The high group, on the other hand, appeared to act as the L1 Russian group, allowing some subject (LD) antecedents instead. This pattern reflects that of the native group and is expected, as the higher the proficiency of the L2 subject becomes, the closer s/he should mimic actual L1 usage.

However, once preferences were allowed on the PST test, even the high level group demonstrated a tendency for L binding as a first preference in a majority of the tokens.

Also interesting is that, for this group level, the percentage of the tokens bound LD and L as separate preferences was similar, possibly showing a move toward accepting the actual LD/L pattern that should have theoretically occurred.

Also interesting here is that the L1 participants appeared to give a general preference to the LD/L reading of the sentences on the MCC sentence types 1A and 1B, although the answers were well split between LD/L, LD, and L. However, on the PST, those same participants allowed both LD and L binding to occur as primary and secondary preferences, but would rarely admit a LD/L binding pattern as a primary preference. In addition, the results demonstrated a more equal division between the three categories for these sentences when preferences were allowed. This result can be explained as an issue of pragmatics. As the subjects interpreted the text test sentences, one interpretation created a strong impression and they held to that interpretation. However, the picture test allowed them to see the possibility of a second interpretation, and whereas that interpretation was not as popular, it did register.

Across the range of answers, by ability level, it looks as though the L2 participants show a movement away from their L1 X^{max} type as their proficiency increases. The low group clings to the L1 X^{max} type, preferring to bind L across both test. The mid group wavers, at times clinging to the L1 X^{max} type, and at times, the L2 X^0 type. The high group, which initially looks as though it has completed the move to the X^0 reflexive type, demonstrates, through preferences, a slightly lower, but still strong tendency toward the L1 XP reflexive type. Again, the selection of the L-only binding pattern begins to fade as one progresses through the data from the low L2 group to the high L2 group.

As a continuum, then, it appears that the L2 Russian participants start out using their L1 X^{max} reflexive type, but already show good progress, as ability level advances, toward the L2 X^0 reflexive type.

7.2.3 Hypothesis C

Hypothesis C proposed that the L1 English speakers learning L2 Russian who maintained the $+AGR/X^0$ reflexive would be able to compute new binding domains in the interlanguage grammar. This hypothesis was included as a starting point for investigating this ability of students to reset their parameters, and the data show that this possibility does exist. One may cautiously observe that between Tests I and II the participants did show improvement in the accuracy of their binding, although one cannot say for sure that this change would have continued to occur, or even that it would have been permanent. On the other hand, as it does look promising in this early study that parameters might indeed be reset with some permanence, a further study should be embarked upon to ascertain the full truth, or lack thereof, of the preliminary results, which suggest that parameter resetting may, indeed, be a possibility. Clear, however, is that those L2 subjects who maintain a $+AGR/X^{max}$ setting (do not recognize the X^0 reflexive type) will not be able to reset their parameters for binding.

7.2.4 Hypothesis D

Hypothesis D proposed that there would be differences in binding across anaphor types. The hypothesis claimed that there would at least be differences in the binding of the possessive and object reflexive pronouns versus the post-verbal affix *–sja*. Indeed, the

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post-verbal affix *–sja* was bound to the agent of its verb. However, the binding of *svoj* and *sebja* was dependent upon the sentence type as well as the anaphor type and will therefore be addressed further in the context of hypothesis E.

7.2.5   Hypothesis E

Hypothesis E proposed that there would be differences across the range of sentence types, and that those differences would be related to anaphor type as well. This did, indeed, prove true. Whereas the reflexive reciprocal and reflexive verbal ending remained rather constant in their binding over all sentence types, the reflexive pronouns did not.

In Type I sentences, both *sebja* and *svoj* tended to be bound LD/L on the MCC, but L or LD on the PST. The reflexives bound in Type 2 sentences also patterned together, this time as overwhelmingly L. Interesting to note here is that there was a weak percentage for *svoj* as LD or LD/L on the tests that did not occur for *sebja*, indicating that this reflexive is viewed somewhat differently from *sebja,* as predicted in current research.

In Type IB sentences, *sebja* tended to be bound LD/L on the MCC, with a strong secondary percentage for LD. On the PST, *sebja* was more often bound with an L preference, also with a strong secondary percentage of LD binding. *Svoj*, on the other hand, was bound (as was *sebja*) as LD/L on the MCC, but with a strong secondary percentage of L binding this time. On the PST, *svoj* was bound L (by all but the high and mid groups on Test II only), with a strong secondary percentage of L binding, and a weak LD binding percentage. Again, it might be interesting to investigate whether this difference in reaction to the two reflexives might not be associated with the sensitivity of

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svoj to gender and number (which results in what looks like a more complex morpheme, which might then be confused with an X^max type, akin to *her* versus *herself* in English).

Perhaps the most interesting case, however, is the Type 2 sentences. The participants seemed confused regarding *sebja*, at times binding it strongly as LD, at times as L, and yet at other times as LD/L on the MCC. On the PST, it was bound almost consistently as L, with weak percentages of LD also present across the board. On the other hand, *svoj* was almost exclusively bound as L on the first MCC, with weak percentages for L/LD. By the second MCC test, the reflexive was bound LD/L, but still with a strong secondary percentage for L binding. On the PST, the binding pattern was almost exclusively L, with weak percentages of LD binding across all groups. Again, there is some evidence that the two reflexives are felt to be similar in certain circumstances, but different in others.

One result that occurred from the study is that the training session caused the L2 subjects to rapidly outperform their L1 counterparts. Between Time 1 and Time 2 on the tests, their improvement was rapid, but their ability to adapt to the training was so widespread that in many instances, the L1 subjects actually appear to outperform the native L1 subjects. The final conclusion is that direct instruction on this topic leads to outperformance of the L1 subjects on most sentence types, or overgeneralization on the Type 3 sentences, while a natural acquisition process shows that the L2 subjects actually begin to attain native-like competency without direct interference, thus rendering training ineffective.

A conclusion brought about through a comparison of experiments I and II (the main experimental battery and the truth-value task) points to the idea that this area of Russian grammar may actually be transitioning from an older (now minority) grammar based on

the literature to a more recent, but majority grammar now found in Russian L1 judgments and Internet references. The older grammar allows LD binding, but not binding of object, especially on Type 2 sentences. The newer grammar allows L binding and object binding, especially on Type 2 sentences. The first experiment seems to represent a majority of representatives of this latest grammar, while the second experiment seems to represent a majority of representatives of the earlier grammar. In light of this information, the L2 subjects can be seen as having actually been trained to adjust to the earlier grammar, although training is still inadvisable as first, it trains the students to a grammar that appears to be disappearing, and second, students tend to overgeneralize parts of the training. Allowing subjects to acquire the knowledge gradually without training is the better pedagogical technique.

7.3 CURRENT AND PAST EXPERIMENT COMPARISON

Information from the present study should be useful for further study in the field of second-language acquisition of Russian; however, several remarks should be made regarding the current findings with regards to past experiments. The current study examined the hypothesis that the theory of X^0 and X^{max} anaphor types would allow Binding Theory to work as an explanation for Russian. The results conclude that L1 subjects tend to prefer a particular binding pattern when ambiguity is possible. Some L1 subjects also have a preference to bind to the subject, as opposed to the object of a sentence. The results also indicate that L2 subjects tend to rely on their L1 English

binding pattern until their ability level approaches that of the L1 Russians. In addition, there is a difference that was not expected in the binding of *sebja* and *svoj*.

Whereas Finer's and Thomas's studies exhibited flaws, with Thomas's study being less flawed, Thomas's study is able to compete against the current study. Both are flawed (Thomas's in that she does not show preferences and Czeczulin's in that the picture test was not absolutely clear, there were some errors in sentence construction, and a grammar other than the theoretical one based in the literature failed to be recognized until after the second experiment was examined alongside the first). The current study does not show support for Chomsky's current Binding Theory as an explanation for Russian reflexive binding, but does add a certain amount of insight into the binding of anaphors in L2 Russian. A comparison of past studies with the present experiment is presented in Table 37.

Table 37: Comparison of Past Studies with Current Experiment

Linguist	Focus	Findings	Faults
Bennett[66] (1994)	*Anaphors in English in relation to the X^0 and X^{max} anaphor types	*Students of the L2 initially transferred the L1 anaphor type	*No explanation of incorrect responses that fits with theory
Bennett and Progovac (1993)	*Readdress Bennett's 1994 study; hones in on AGR and anaphor type	*Students had morphological AGR, but transferred the incorrect anaphor type to the L2	*Only Serbo-Croatian, thereby assuming anaphor types are common to all languages
Finer (1991) First Experiment	*Anaphors in English bound in limited governing category	*UG constrains range of L2 learner hypotheses *Compromise between L1 & L2	*GC range too limited *Few participants *Fails to explain subject choices *False 'rogue grammar'
Finer (1991) Second Experiment	*Enlarged study (a) to include Japanese and Hindi	*SUBJ binding greater than OBJ binding *Japanese/Koreans bind OBJ more *Hindis bind SUBJ more	*Hindis had too much English contact *Variations unaccounted for *Complex theory
Thomas (1989)	*Pragmatic vs. syntactic influence on reflexive interpretation *Neutral vs. biased sentences	*Majority of reflexives bound to SUBJ in neutral sentences *Pragmatics favored over ambiguity *Biased favor SUBJ	*Complex *Confusing *Not all variation accounted for
Hirakawa (1990)	*GCP and PCP examination and transfer from L1 to L2	*Transfer does occur from the L1 to the L2 *Some students are able to reset the parameters in question	*Does not explain why some can reset parameters, while others cannot
Thomas (1991) First Experiment	*Reexamined Finer's work on Japanese and Korean	*Defends Finer *Claims preferences over ambiguous reference	*Never states how preference noted *Complex/Restrictive
Thomas (1991) Second Experiment	*Pragmatic & syntactic constructs	*Explicit training does not reset parameters	*Ignores overall incidence to view binding preference
White et al (1997)	*Task type can affect researchers' judgment of learners' competence	*Task type does affect the demonstrated competence of the learners *Responses on potentially ambiguous sentences may present a preference	*Unable to conclude which task actually better represents learner competence

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[66] All studies conducted by Bennett, Progovac, Bennett and Progovac, Hirakawa, and White were used as the basis of the dissertation experiment.

Table 37 (continued)

Czeczulin (2007)	*X^0 and X^{max} anaphor types examined across different sentence types * Study of effects of gender, subject, object, c-command, anaphor, and power verbs	*L1 subjects tend to bind preferentially one way or another when presented with ambiguity *L1 subjects have a preference for SUBJ binding, but bind objects *L2 subjects tend to rely on their L1 English binding pattern until their ability level approaches that of the L1 Russians *Difference in binding patterns exists between *svoj* and *sebja* *Verbs of power affect binding patterns *Two possible grammars *UG Binding Theory does not work, as is, for Russian	*Errors in sentence construction *Picture test clarity/reliability in question on certain tokens *Majority grammar does not agree with grammar tested based on literature

7.4   FINAL CONCLUSIONS CONCERNING BINDING AND UG

This thesis made a first attempt at including Russian in the arena of SLA research in the area of reflexive binding. General conclusions are that, first and foremost, further, more detailed and prolonged study is required to answer with any certainty several of the questions raised within the thesis. The check for the acquisition of [+AGR] (present in English and Russian, but absent in Chinese), for example, could be examined more closely through an additional apparatus, such as a true/false judgment test. Additionally, the number of participants would need to be increased to examine whether significance found at the ability group level would hold over a larger study. In general, though, the

study is methodologically sound if slight modifications are made and did begin the quest into SLA research of Russian reflexive structures.

The testing apparatus showed several faults, including a vocabulary problem that needs to be eliminated for lower-ability participants. In addition, given more time to work on the picture tests, more native speakers should preview them for clarity prior to their administration to test participants, so as to gain the most information from them. Perhaps in the future *Revolution* or *Flash* software might be better utilized, as this test was particularly cumbersome and unwieldy both to give and to tabulate. Finally, although these tests completed adequately the task for which they were meant, they by no means explored all potential usages of the anaphors in question. Anaphors that appear to have no antecedent, but are nevertheless common usage in Russian, such as *svoj dom milee čužogo* 'one's house is dearer than another's' require a proper explanation. In addition, as many of the sentences used in the testing were taken from studies of other languages in order to provide a crosslinguistic bookmark, several of them were not absolutely natural for Russian structure. In further study, it might be more profitable to look at sentences that include reflexives in wholly natural Russian, perhaps even gathering token examples from real speech, time permitting. Many of the tokens would not be heard in colloquial Russian, so sentences would still need to be composed, but they could take a structure and vocabulary more fitting for the Russian language in particular. Finally, certain sentence types appear to differ on these tests from the expected responses for native speakers. A design better equipped at rating preferences might clarify the position not only of L1 Russian speakers, but also of the L2 Russian learners, as well as ascertain the

extent to which two different grammars of reflexives coexist in the present Russian language.

As a whole, this thesis has taken a first step in bringing Russian reflexive research into the UG and SLA arenas. Although several aspects of UG appear to be operating, the fact that there are some unaccounted-for differences between expectations and actual data would indicate that UG does not yet cover Russian reflexive acquisition without question. There may be other parameters operating, either individually or as a cluster, that affect the final outcome. Once a valid preference rating scale test has been utilized and sentences more naturally Russian in nature used, the theory of UG may actually prove to explain all examples of Russian reflexives.

APPENDIX A

MATERIALS FOR SUBJECT SELECTION

Included within Appendix A are testing materials used to select participants for testing. The Cloze and Discourse tests have been included in their entirety. All tests were originally glossed as shown.

A.1 CLOZE EXERCISE

Part I: Please fill in the proper form required.

1.   Собака видит _____ в реке.
                  itself
   'The dog sees itself in the river'

2.   Она часто получает письма от _____ матери.
                                      her
   'She often receives letters from her mother'

3.   Он любит _____ жену.
                 his
   'He loves his wife'

4.   Они любят _____ _____.
                 each   other
   They love each other'

5.   Мы любим купать_____.
                     ourselves
   'We love to bathe (ourselves)'

6.   _____ подруга ничего не знает.
         Their
   'Their friend doesn't know anything'

7.   Я купила _____ красивую сумку.
                 myself
   'I bought myself a pretty purse'

8.   Я знаю _____ друга.
                 our
   'I know our friend'

9.   Они учат_____ в московском университете.
                 themselves
   'They study (themselves) in a Moscow university'

10.   Они говорили _____ о _____.
                  each   other
    'They talked about each other'

A.1   DISCOURSE TEST

Part II: Fill in the blanks with the correct form of the personal pronoun or reflexive structure.

Жестокий урок
A Cruel Lesson

Однажды утром две соседки, которые часто разговаривали _____

 One morning, two neighbors, who often chatted   **(with each other)**

вышли во двор, где шла стирка. Марина, которая очень

went out into the yard, where the laundry was done. Marina, who really

любила говорить о _____ **и о** _____ **семье,**

loved to talk about   **(herself)**   and about **(her (own))** family,

сразу начала говорить Наташе   о _____ **сыне, которого звали**

immediately began to talk to Nataša about   **(her (own))**   son, who was named

Константин. -Он у меня такой умный, _____ **учитель говорит…**

Constantine.   "He is so smart,   **his**   teacher says…

Марина говорила десять минут о подвигах сына, потом

Marina talked for ten minutes about the exploits of (her) son, then

перешла на мужа, которого звали Иван и который работал врачом.

switched over to her husband, who was named Ivan and who worked as a doctor.

\- _____ **Иван такой практичный, только вообрази, он вчера купил**

       "My   Ivan is so practical, just imagine, yesterday he bought

_____ **машину. И мы так хорошо понимаем** _____ **…**

(himself)   a car.   And we understand   **(each other)**   so well...

У Наташи разболела_____ **голова. Она хотела прикрыть**

Nataša's head began to ache   **(reflexive)**   badly. She wanted to cover

уши, но вдруг увидела пчелу. Пчела летела прямо

(her) ears, but suddenly she saw a bee. The bee flew straight

на Марину. –Закрой _____ **рот! вскрикнула Наташа. Но Марина**

at Marina. "Close   **(your, sg, (own))** mouth!" shouted Nataša. But Marina

ее не слышала. Она увлекла_____ **семейным романом.**

didn't hear her. She carried on   **(reflexive)**   with (her) family saga.

Пчела покружила_____ **Марине над головой и влетела**

 The bee flew around   **(reflexive)**   Marina's head and then flew

ей прямо в рот. Марина закричала во весь голос. Она бросила

right into her mouth. Marina began to shout at the top of her lungs. She threw down

стирку и побежала прямо домой. Дома муж посмотрел

(her) laundry and ran straight home. At home, (her) husband looked in

жене в рот и покачал головой. Он нежно попросил Марину

(his) wife's mouth and shook (his) head. He tenderly asked Marina

держать язык за зубами. Они посмотрели _____ в глаза

to hold (her) tongue.   They looked into   **(each other)**   's eyes

молча, так как бедная Марина не могла ничего сказать. Ведь она

silently because poor Marina could not say anything.   You see,

плохо _____ чувствовала.

didn't   **(herself)**   feel well.

APPENDIX B

DATA COLLECTION TESTS

The data collection tests are presented here with one sample sentence from each of the sentence types. The tests have been glossed for ease of reading, but were not glossed originally.

B.1 MULTIPLE CHOICE COMPREHENSION TASK

Part III: Sentence Task: Check the blank next to the possible antecedent(s) for each underlined structure. If both a. and б. are possible antecedents (even though you may prefer one over the other) check в. If you do not understand the sentence, check г. If you do not know the reference, check д.

1. **Профессор читал его статью о <u>себе</u>.**
    'The professor read his story about (him)self'

    _____ **а. Профессор 'Professor'**

    _____ **б. Он 'He'**

    _____ **в. Профессор и он 'Professor and he'**

    _____ **г. Не знаю 'Don't know'**

    _____ **д. Не ясно 'Can't tell'**

2. **Профессор читал его статью о <u>своей</u> работе.**
    'The professor read his article about his (own) work'

    _____ **а. Профессор 'Professor'**

    _____ **б. Он 'He'**

    _____ **в. Профессор и он 'Professor and he'**

    _____ **г. Не знаю 'Don't know'**

    _____ **д. Не ясно 'Can't tell'**

3. **Профессор читал их жалобы <u>друг</u> на <u>друга</u>.**
    '**The professor read their complaints about one another**'

    _____   **а. Профессор** '**Professor**'

    _____   **б. Они** '**They**'

    _____   **в. Профессор и они** '**Professor and they**'

    _____   **г. Не знаю** '**Don't know**'

    _____   **д. Не ясно** '**Can't tell**'

4. **Иван хочет читать его письмо о <u>себе</u>.**
    '**Ivan wants to read his letter about (him)self**'

    _____   **а. Иван** '**Ivan**'

    _____   **б. Он** '**He**'

    _____   **в. Иван и он** '**Ivan and he**'

    _____   **г. Не знаю** '**Don't know**'

    _____   **д. Не ясно** '**Can't tell**'

5. **Иван хочет читать его письмо о <u>своей</u> поездке.**
    '**Ivan wants to read his letter about his (own) trip**'

    _____   **а. Иван** '**Ivan**'

    _____   **б. Он** '**He**'

    _____   **в. Иван и он** '**Ivan and he**'

    _____   **г. Не знаю** '**Don't know**'

    _____   **д. Не ясно** '**Can't tell**'

6. **Иван хочет читать их доклад <u>друг</u> о <u>друге</u>.**
    '**Ivan wants to read their report about each other**'

    _____   **а. Иван** '**Ivan**'

    _____   **б. Они** '**They**'

    _____   **в. Иван и они** '**Ivan and they**'

    _____   **г. Не знаю** '**Don't know**'

    _____   **д. Не ясно** '**Can't tell**'

7. Иван хочет побрить<u>ся</u>.
   'Ivan wants to shave'

   _____ **а.** **Иван** 'Ivan'

   _____ **б.** **Он** 'He'

   _____ **в.** **Иван и он** 'Ivan and he'

   _____ **г.** **Не знаю** 'Don't know'

   _____ **д.** **Не ясно** 'Can't tell'

8. Наташа попросила Марину налить <u>себе</u> чаю.
   'Nataša asked Marina to pour (her)self some tea'

   _____ **а.** **Наташа** 'Nataša'

   _____ **б.** **Марина** 'Marina'

   _____ **в.** **Наташа и Марина** 'Nataša and Marina'

   _____ **г.** **Не знаю** 'Don't know'

   _____ **д.** **Не ясно** 'Can't tell'

9. Наташа попросила Марину закрыть <u>свой</u> рот.
   'Nataša asked Marina to close her (own) mouth'

   _____ **а.** **Наташа** 'Nataša'

   _____ **б.** **Марина** 'Marina'

   _____ **в.** **Наташа и Марина** 'Nataša and Marina'

   _____ **г.** **Не знаю** 'Don't know'

   _____ **д.** **Не ясно** 'Can't tell'

10. Наташа попросила их налить <u>друг другу</u> чаю.
   'Nataša asked them to pour each other some tea'

   _____ **а.** **Наташа** 'Nataša'

   _____ **б.** **Они** 'Them'

   _____ **в.** **Наташа и они** 'Nataša and them'

   _____ **г.** **Не знаю** 'Don't know'

   _____ **д.** **Не ясно** 'Can't tell'

11. Наташа попросила Марину умыть<u>ся</u> перед обедом.
   '**Nataša asked Marina to wash up before lunch**'

   _____ **а. Наташа** '**Nataša**'

   _____ **б. Марина** '**Marina**'

   _____ **в. Наташа и Марина** '**Nataša and Marina**'

   _____ **г. Не знаю** '**Don't know**'

   _____ **д. Не ясно** '**Can't tell**'

12. Иван сказал, что Еремей всегда говорит о <u>себе</u>.
   '**Ivan said that Eremej always talks about himself**'

   _____ **а. Иван** '**Ivan**'

   _____ **б. Еремей** '**Eremej**'

   _____ **в. Иван и Еремей** '**Ivan and Eremej**'

   _____ **г. Не знаю** '**Don't know**'

   _____ **д. Не ясно** '**Can't tell**'

13. Иван сказал, что Марина всегда говорит о <u>своей</u> жизни.
   '**Ivan said that Marina always talks about her own life**'

   _____ **а. Иван** '**Ivan**'

   _____ **б. Марина** '**Marina**'

   _____ **в. Иван и Марина** '**Ivan and Marina**'

   _____ **г. Не знаю** '**Don't know**'

   _____ **д. Не ясно** '**Can't tell**'

14. Марина сказала, что они всегда говорят <u>друг</u> о <u>друге</u>.
   '**Marina said that they always talk about each other**'
   _____ **а. Марина** '**Marina**'

   _____ **б. Они** '**They**'

   _____ **в. Марина и они** '**Marina and they**'

   _____ **г. Не знаю** '**Don't know**'

   _____ **д. Не ясно** '**Can't tell**'

15. Наташа сказала, что Еремей всегда защища<u>ется</u> от злых собак.
'Nataša said that Eremej always defends himself against vicious dogs'

_____ а. **Наташа** 'Nataša'

_____ б. **Еремей** 'Eremej'

_____ в. **Наташа и Еремей** 'Nataša and Eremej'

_____ г. **Не знаю** 'Don't know'

_____ д. **Не ясно** 'Can't tell'

16. Наташа сказала, что Еремей <u>её</u> знает.
'Nataša said that Eremej knows her'

_____ а. **Наташа** 'Nataša'

_____ б. **Еремей** 'Eremej'

_____ в. **Наташа и Еремей** 'Nataša and Eremej'

_____ г. **Не знаю** 'Don't know'

_____ д. **Не ясно** 'Can't tell'

Part IV: Check the blank next to the picture that best describes what is happening in the picture. If more than one interpretation is possible, check more than one picture, and number your preference order (1= best interpretation for me, 2 = possible, but not as good an interpretation …).

The cast:

Иван 'Ivan'   Еремей 'Eremej'   Наташа 'Nataša'

Марина 'Marina'   Профессор 'Professor'   Александр "Alexander'

1. Профессор читал его статью о себе.

'The professor read his article about (him)self'

A. _____ _____   B. _____ _____

_____ E. Не знаю 'Don't know'
_____ F. Не ясно 'Can't tell'

C. _____ _____   D. _____ _____

2. Профессор читал его статью о своей работе.
'The professor read his article about his (own) work'

A. _____ _____   B. _____ _____

_____ E. Не знаю 'Don't know'
_____ F. Не ясно 'Can't tell'

C. _____ _____   D. _____ _____

3. Профессор читал их жалобы друг на друга.

   'The professor read their complaints about one another'

_____ E. Не знаю 'Don't know'

A. _____ _____   B. _____ _____   _____ F. Не ясно 'Can't tell'

C. _____ _____   D. _____ _____

4. Иван хочет читать его письмо о себе.

   'Ivan wants to read his letter about (him)self'

_____ E. Не знаю 'Don't know'

A. _____ _____   B. _____ _____   _____ F. Не ясно 'Can't tell'

C. _____ _____   D. _____ _____

5. Иван хочет читать его письмо о своей поездке.

   'Ivan wants to read his letter about his (own) trip'

___ E. Не знаю 'Don't know'

A. _____ _____   B. _____ _____   __ F. Не ясно 'Can't tell'

C. _____ _____   D. _____ _____

6. Иван хочет читать их доклад друг о друге.

   'Ivan wants to read their report about each other'
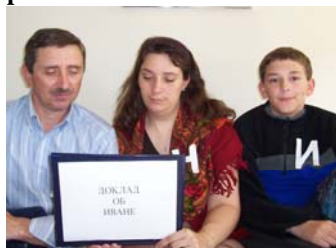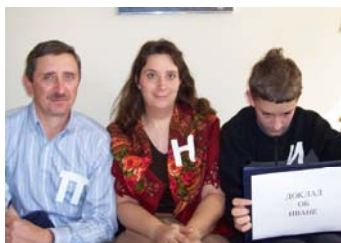
___ E. Не знаю 'Don't know'

A. _____ _____   B. _____ _____   ___ F. Не ясно 'Can't tell'

C. _____ _____   D. _____ _____

7. Иван хочет побриться.
'Ivan wants to shave'

A. _____ _____
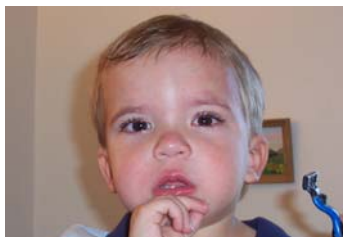
_____ E. Не знаю 'Don't know'

B. _____ _____ _____ F. Не ясно 'Can't tell'

C. _____ _____

D. _____ _____

8. Наташа попросила Марину налить себе чаю.

'Nataša asked Marina to pour (her)self some tea'

A. _____ _____

_____ E. Не знаю 'Don't know'

B. _____ _____ _____ F. Не ясно 'Can't tell'

C. _____ _____

D. _____ _____

9. Наташа попросила Марину закрыть свой рот.
  'Nataša asked Marina to close her (own) mouth'

_____ **E. Не знаю 'Don't know'**

A. ____ ____   B. ____ ____   ____ **F. Не ясно 'Can't tell'**

C. ____ ____   D. ____ ____

10. Наташа попросила их налить друг другу чаю.
  'Nataša asked them to pour each other some tea'

__E. Не знаю 'Don't know'

A. ____ ____   B. ____ ____   __ **F. Не ясно 'Can't tell'**

C. ____ ____   D. ____ ____

11. Наташа попросила Марину умыться перед обедом.

'Nataša asked Marina to wash up before lunch'

___ E. Не знаю 'Don't know'

A. ____ ____

B. ____ ____

___ F. Не ясно 'Can't tell'

C. ____ ____

D. ____ ____

12. Иван сказал, что Еремей всегда говорит о себе.

'Ivan said that Eremej always talks about himself'

__E. Не знаю 'Don't know'

A. ____ ____

B. ____ ____

__ F. Не ясно 'Can't tell'

C. ____ ____

D. ____ ____

13. Иван сказал, что Марина всегда говорит о своей жизни.
   'Ivan said that Marina always talks about her own life'

_E. Не знаю 'Don't know'

A. ____ ____   B. ____ ____   _ F. Не ясно 'Can't tell'

C. ____ ____   D. ____ ____

14. Марина сказала, что они всегда говорят друг о друге.
   'Marina said that they always talk about each other'

__E. Не знаю 'Don't know'

A. ____ ____   B. ____ ____   __ F. Не ясно 'Can't tell'

C. ____ ____   D. ____ ____

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15. Наташа сказала, что Еремей всегда защищается от злых собак.
  'Nataša said that Eremej always defends himself against vicious dogs'

____ **E. Не знаю 'Don't know'**

A. ____ ____   **B.** ____ ____   ____ **F. Не ясно 'Can't tell'**

C. ____ ____   **D.** ____ ____

16. Наташа сказала, что Еремей её знает.
  'Nataša said that Eremej knows her'

____ **E. Не знаю 'Don't know'**

A. ____ ____   **B.** ____ ____   ____ **F. Не ясно 'Can't tell'**

C. ____ ____   **D.** ____ ____

APPENDIX C

TRUTH VALUE JUDGMENT TASK AND RAW DATA

Included within Appendix D are the Anecdotal Judgment Task and the raw data collected from the task.

C.1   TRUTH VALUE JUDGMENT TASK

The test is translated here, although it was not in its original format.

Прочитайте следующие предложения. Обратите внимание
Read the following sentences. Look at

на заключение в конце. Какие, на ваш взгляд, из этих
the conclusion at the end. Which of these

выводов звучат естественно на русском языке, а
conclusions sound natural in Russian, and

какие - неестественно? Отметье галочкой.
which, unnatural? Check the proper blank.

1. Хозяин ресторана искал себе нового повара. Билл отправил хозяину письмо, в котором он описал свою квалификацию.

1. The manager of a restaurant was looking for a new cook. Bill sent the manager a letter in which he described his qualifications.

    Вывод:
    Conclusion:

    Билл отправил хозяину письмо о себе.   _____ Верно _____ Неверно
    Bill sent the man a letter about himself   T   F

2. Ванин дядя моряк, который проплыл семь морей. Однажды он приехал в гости к Ване. Ваня бросился спрашивать его о своих приключениях, и дядя ему все рассказал.

2. Johnny's uncle is a sailor who has sailed the seven seas. Once he came to visit Johnny. Johnny was eager to ask him about his adventures so his uncle told him everything.

    Вывод:
    Conclusion:

    Дядя рассказал Ване о себе. _____ Верно _____Неверно.
    His uncle told Johnny about himself.   T   F

3. Мистер Робинс и его партнер наняли нового сотрудника, которого звали Билл. Мистер Робинс не мог решить, какую зарплату платить Биллу. Итак, он попросил своего партнера написать отчет о Билле.

3. Mr. Robins and his partner hired a new worker called Bill. Mr. Robins couldn't decide how much to pay Bill, so he asked his partner to write up a report about Bill.

Вывод:
Conclusion:

Партнер приготовил Мистеру Робинсону отчет о себе. ___Верно T

The partner prepared for Mr. Robins a report about himself.   ___Неверно F

4. Друг Билла был ограблен. К счастью, Билл запомнил лицо вора. Билл пошел к милиции. Билл смог описать вора и объяснить, где он живет.

4. A friend of Bill's was robbed. Fortunately Bill remembered the thief. Bill went to the police. Bill was able to describe the thief and to explain where he lived.

Вывод:
Conclusion:

Билл рассказал в милиции о себе.   ___Верно ___Неверно

Bill told the policeman about himself.   T   F

5. Аня - студентка. Сегодня у нее в классе была новая преподавательница. Во время урока преподавательница задала Ане несколько вопросов о ее родном городе. Аня рассказала учительнице, что она родилась в Монреале.

5. Annie is a student. There was a new teacher in class today. During class, the teacher asked Annie some questions about Annie's hometown. Annie told the teacher that she was born in Montreal.

Вывод:
Conclusion:

Аня предоставила учительнице данные о себе.   ___Верно T

Annie gave the teacher some information about herself.   ___Неверно F

6. Сусане было тяжело ухаживать за своей больной матерью. Ей надо было с кем-то поделиться своим горем, и она все свое горе рассказала ближайшей подруге.

6. It was difficult for Susan to take care of her sick mother. She needed share her grief with someone, so she told her best friend all of her woes.

Вывод:
Conclusion:

Сусана рассказала своей подруге о себе. ___Верно_____Неверно

Susan told her friend about herself.   T   F

7.   Сусана - фотограф. Сусана сфотографировала знаменитую французскую актрису Фани. Сусана показала фото своей ближайшей подруге.

7. Susan is a photographer. Susan took a photo of Fanny, the famous French actress. Susan showed the photo to her best friend.

Вывод:
Conclusion:

Сусана показала своей ближайшей подруге фотографию себя.

Susan showed her best friend a photo of herself.   _____ Верно _____ Неверно

                                                          T   F

8. Аня и ее сестра пошли к медсестре в местную больницу, потому что у Ани был грипп. Медсестра спросила Аню когда она впервые почувствовоал себя нездоровой. Аня ответила, что она уже неделю почувствовала себя плохо.

8. Annie and her sister went to see a nurse at the local hospital, because Annie had the flu. The nurse asked Annie when she first felt sick. Annie said she had been sick for the past week.

Вывод:
Conclusion:

Аня рассказала своей сестре о себе.   _____Верно_____Неверно

Annie told her sister something about herself.   T

F

9. Убийцу Гари заподозрили в преступлении. Прокурор хотел узнать о нем все возможное. Он допросил убийцу о привычках, семье, и о том, как он проводит свой досуг.

9. Killer Harry was a suspect in a crime. The policeman wanted to know as much as possible about him. He questioned Killer Harry about his habits, his family and where he usually spent his time.

Вывод:
Conclusion:

Прокурор допросил подозреваемого о себе. _____Верно___Неверно

The policeman questioned the suspect about himself.   T   F

10. Билл встретил друга, которого он давно не видел. Друг захотел узнать все о Билле. Он спросил Билла, где тот бывал, что он делал, и как он себя чувствовал.

10. Bill met a friend he had not seen for a long time. The friend wanted to know everything about Bill. He asked Bill where he had been, what he was doing and how he felt.

Вывод:
Conclusion:

Друг расспросил Билла о себе. _____Верно _____Неверно

The friend asked Bill about himself.   T   F

11. Ваня - студент. В прошлую субботу Ваня читал газету и увидел статью о Премьер-Министре. Ваня решил, что статья заинтересует его учителя. Учитель действительно очень заинтересовался статьей.

11. Johnny is a student. Last Saturday, Johnny was reading the newspaper and saw a report about the Prime Minister. Johnny thought his teacher would be interested. The teacher was very interested indeed in it.

Вывод:
Conclusion:

Ваня показал учителю статью о себе. _____Верно_____Неверно

Johnny showed the teacher the article about himself.   T   F

12. Билл очень хорошо знает убийцу Гари. Прокурор хотел собрать улики против убийцы, поэтому Билл пошел к прокурору и рассказал ему все, что он знал об убийце Гари.

12. Bill knows Killer Harry very well. The policeman wanted information about Killer Harry, so Bill went to the policeman and told him all about Killer Harry.

Вывод:
Conclusion:

Билл дал прокурору информацию о себе ____Верно___Неверно

Bill gave the policeman some information about himself.   T   F

13. Сусана очень усердно работает на своей должности. Начальница сомневалась, стоит ли повысить Сусане зарплату или нет. Начальница позвала Сусану в кабинет и начала подробно ее расспрашивать о ее привычках, друзьях, и жизни в целом. Она долго расспрашивала Сусану.

13. Susan is very diligent at her job. The supervisor was debating whether to give Susan a raise or not. The supervisor called Susan into her office and began to ask her in detail about her habits, her friends and her life in general. She questioned Susan for a long time.

Вывод:
Conclusion:

Начальница расспрашивала Сусану о себе. _____Верно _____Неверно

The supervisor questioned Susan about herself.   T   F

14. Сусана хотела получить работу в больнице. Во время интервью заведующая медсестра спросила Сусану о ее квалификациях, образовании, и о ее подходе к пациентам.

14. Susan wanted to get a job in a hospital. During the interview, the head nurse asked Susan about her qualifications, her education, and her approach to patients.

Вывод:
Conclusion:

Медсестра спросила Сусану о себе. ____Верно _____Неверно

The nurse asked Susan about herself.   T   F

15. Сусана родила девочку на прошлой неделе. Начали фотографировать ребенка. Сделали массу фотографий. Сусана хотела, чтобы ее сестра, которая жила в Риме, познакомилась со своей прелестной племяницей, поэтому она отправила ей несколько фотографий.

15. Susan gave birth to a baby girl last week. The baby was photographed. A lot of pictures were taken. Susan wanted her sister, who lived in Rome, to become acquainted with her adorable niece, so she sent her several photographs.

Вывод:
Conclusion:

Сусана послала сестре несколько фотографий себя. ___Верно T

Susan sent her sister some pictures of herself.   ____Неверно F

16. Начальница была недовольна новым сотрудником. Начальница попросила Сусану написать отчет о работе нового сотрудника.

16. The supervisor was not happy with the work of the new employee. The supervisor asked Susan to write a report on the new employee's work.

Вывод:
Conclusion:

Начальница попросила Сусану написать отчет о себе. ___Верно T

The supervisor asked Susan for a report about herself.   ___ Неверно F

17. После трех лет войны в "горячих точках" солдат тронулся рассудком и выпрыгнул из окна. Он погиб мгновенно. Врачу пришлось передать семье печальную весть.

17. After three years at the front, the soldier finally went crazy and jumped out of a window. He died instantly. The doctor had to tell the soldier's family the sad news.

Вывод:
Conclusion:

Врач сказал, что солдат покончил с собой.   _____ Верно T

The doctor said the soldier killed himself   _____ Неверно F

18. Билл пошел на вечеринку, где должен был присутствовать известный актер. Но в прихожей Билл струсил. Он побоялся подойти к актеру и надеялся, что в какой-то момент актер сам заговорит с ним.

18. Bill was going to a party. A very famous actor was going to attend the party. Bill lost his nerve in the foyer. He was afraid to approach the actor, so he hoped that at any moment the actor would speak to him.

Вывод:
Conclusion:

Билл надеялся, что известный актер сам себя представит. ____Верно T

Bill hoped the famous actor would introduce himself. ____Неверно F

19. Осматривая один из пистолетов Мистера Робинса мальчик случайно нажал спусковый крючок, и пистолет выстрелил. Пуля попала Мистеру Робинсу в руку.

19. A young boy was looking at one of Mr. Robins' guns. The young boy accidentally pulled the trigger and the gun fired. Unfortunately, the bullet hit Mr. Robins in the arm.

Вывод:
Conclusion:

Мистер Робинс решил, что мальчик ранил себя случайно. ____Верно T

Mr. Robins concluded that the boy shot himself accidentally. ____Неверно F

20. Ваня с другом играли со спичками. Ваня зажег спичку и случайно уронил ее на ногу своему другу. Его друг со страшными воплями побежал к отцу и пожаловался на Ваню.

20. Johnny and his friend were playing with matches. Johnny lit a match and then dropped it on his friend's leg. The little boy went screaming to his father and complained to him about Johnny.

Вывод:
Conclusion:

Друг Вани сказал, что Ваня обжег себя. _____Верно _____Неверно

Johnny's friend said Johnny burned himself.   T   F

21.   Сусана с подругой шили вместе. Они по неосторожности оставили несколько иголок на полу. Сусана наступила на иголку босой ногой. Сусана вскрикнула. Полились слезы. Подгруга увидела кровь на ее ноге.

21. Susan and her friend were sewing. They were careless and left some needles on the floor. Susan was not wearing shoes and she stepped on a needle. Susan began to shout and cry. Susan's friend could see the blood on her foot.

Вывод:
Conclusion:

Подгруга сообразила, что Сусана уколола себя. _____Верно___Неверно

The friend realized that Susan pricked herself.   T   F

22.   Раз в неделю Сусана навещала одинокую старуху, которая жила в большой, пустой квартире на окраине города. Когда она была у нее последний раз, старуха приставила пистолет ко лбу и выстрелила. Старуха погибла мгновенно.

22. Once a week, Susan used to visit a lonely old woman who lived in a big, empty apartment on the outskirts of the city. On Susan's last visit the old woman pointed a gun at her head and fired a shot. The old woman died instantly.

Вывод:
Conclusion:

Сусана решила, что старуха застрелила себя.

Susan concluded that the old woman shot herself.   ___Верно   ____Неверно

                                                                                                T   F

23.   Сусана пошла в салон делать себе завивку. Девушка стала завивать ей волосы горячим прибором. Она обожгла Сусане ухо.

23. Susan went to a beauty salon to get a haircut. The attendant began to curl her hair with a hot curling iron. She burned Susan's ear.

Вывод:
Conclusion:

Сузана решила, что девушка обожгла себя случайно.

Susan concluded that the attendant burned herself accidentally.

                    _____ Верно _____Неверно

                                T   F

24.   У Сусаны была серьезная проблема. Всякий раз когда она встречала незнакомых людей, она начинала нервничать и забывала свое имя. Однажды Сусана пошла в гости к подруге. Она надеялась что подруга представит ее своим знакомым, но подруга этого не сделала, и Сусана просидела весь вечер с красными щеками.

24. Susan used to have a serious problem. Every time she met someone new, she became nervous and forgot her own name. Susan went to a party at a friend's house. She hoped her friend would introduce her to her acquaintances, but her friend did not, so Susan spent the whole evening being embarrassed.

Вывод:
Conclusion:

Сусана надеялась, что подруга представит себя.

Susan hoped her friend would introduce herself.   ____Верно____Неверно

                                                        T   F

25.   Ваня с отцом пошли гулять вопреки запрета мамы. Начало моросить. Так как у Вани был небольшой насморк, отец дал ему куртку и приказал ему накрыть голову. Ване было тепло как в печке под курткой.

25. Johnny and his father were going for a walk in spite of his mother forbidding it. It started to drizzle. Johnny had a little cold, so his father gave him a jacket and told him to put it over his head. Johnny felt toasty warm under the jacket.

Вывод:
Conclusion:

Отец велел Ване накрыться курткой. ___Верно ___Неверно

His father told Johnny to cover himself with a jacket.   T   F

26. Солдат и разведчик попали в плен. Так как разведчик имел доступ к государственным тайнам, солдат приказал ему немедленно принять яд. Разведчик проглотил капсулы с ядом и умер мгновенно.

26. A soldier and a scout were taken prisoner by the enemy. The scout had access to government secrets, so the soldier ordered him to take poison immediately. The scout swallowed the capsules of poison and died instantly.

Вывод:
Conclusion:

Солдат приказал разведчику покончить собой. ___Верно ___Неверно

The soldier ordered the scout to kill himself.   T   F

27. Убийца Гари опять оказался на воле. Билл страшно испугался. Билл обратился к милиционеру, чтобы тот защитил его от убийцы Гари.

27. Killer Harry was free again. Bill was very scared. Bill called a policeman so the policeman could protect him from Killer Harry.

Вывод:
Conclusion:

Билл попросил милиционера защитить себя.__Верно__Неверно

Bill asked the policeman to protect himself.   T   F

28. Капитана серьезно ранили. Он не хотел попасть в плен к врагу. Он приказал солдату пустить   ему пулю в лоб. Солдат сделал, как он просил, и капитан скончался.

28. The captain was badly wounded. He did not want to be taken prisoner by the enemy. He ordered the soldier to shoot a bullet into his head. The soldier did as he asked and the captain died.

Вывод:
Conclusion:

Капитан приказал солдату застрелить себя. __Верно ___Неверно

The captain ordered the soldier to shoot himself.   T   F

29.   Сусана рассказала подруге о своем муже, который начинает буянить после одной рюмки. Подруга посоветовала Сусане спрятаться в спальне, и закрыть дверь.

29. Susan talked to her friend about her husband who gets violent after one drink. Susan's friend suggested that Susan should hide in the bedroom and close the door.

Вывод:
Conclusion:

Подгруга посоветовала Сусане закрыть себя в спальне. ___Верно T

Her friend advised Susan to hide herself in the bedroom.   ___Неверно F

30.   Аня ела шоколадку за шоколадкой. Она удивилась, когда все вокруг начали улыбаться. Мать велела ей посмотреть на свое лицо, которое было все в шоколаде, в зеркало.

30. Annie had been eating chocolate after chocolate. She was surprised when everyone around her began to smile. Her mother told Annie to look at her face, which was covered in chocolate, in the mirror.

Вывод:
Conclusion:

Мать велела Ане посмотреть на себя в зеркало.

Her mother told Annie to look at herself in the mirror.   __Верно___Неверно

                                                                          T   F

31.   Сусана продавала новые духи, которые назывались *Аромат Востока*. Она увидела молодую женшину и предложила ей попробовать духи. Женщина закрыла глаза и попросила Сусану подушить ее духами. Сусана сначала удивилась, но потом согласилась

31. Susan was selling a new perfume called "Essence of the East". She saw a young woman and suggested that she try the perfume. The woman closed her eyes and asked Susan to spray her with the perfume. Susan was surprised at first, but then agreed.

Вывод:
Conclusion:

Женщина попросила Сусану надушить себя *Ароматом Востока*.

The woman asked Susan to spray her with "Essence of the East". _____Верно____Неверно

                                                                          T   F

32. Аня любила поиздеваться над своей подружкой. Она спряталась в гардеробе и уговорила подружке закрыть дверь снаружи на замок. Когда девочка это сделала, Аня закричала и стала звать свою маму.

32. Annie loved to get her friend in trouble (lit. to make a fool of her friend). Annie went into the closet and suggested that her friend close the door and lock it from outside. When her friend had done this, Annie started to shout and call for her mother.

Вывод:
Conclusion:

Аня попросила подгругу закрыть себя в гардеробе.

Annie asked her friend to lock her in the closet. _____Верно _____Неверно
T   F

33.   Мистер Робинс шел вместе с прохожим по улице. Похоже, этот человек однажды чистил пистолет, и в этот момент пистолет случайно выстрелил. Врачи смогли достать пулю из его ноги.

33. Mr. Robins was walking down the street with a passer-by. It seems that one day that passer-by was cleaning his gun when the gun went off. The doctors were able to get the bullet out of his foot.

Вывод:
Conclusion:

Человек, который шел рядом с Мистером Робинсом, случайно выстрелил себе в ногу.   ___Верно ____Неверно

The man walking with Mr. Robins accidentally shot himself in the foot.   T   F

34. Билл пошел на вечеринку, на которой он почти никого не знал. За ужином его посадили рядом с человеком в зеленом галстуке. Этот человек поздоровался и отметил, что его зовут Мистер Робинс.

34. Bill went to a party where he didn't know many people. At dinner, Bill was seated next to a man who was wearing a green tie. The man greeted him and remarked that his name was Mr. Robins.

Вывод:
Conclusion:

Человек рядом с Биллом представился. _____Верно___Неверно

The man next to Bill introduced himself.   T   F

35.   Ваня зажег спичку, и спичка упала ему на руку. Теперь он сидит в коридоре и ждет врача. Рядом с ним сидит очень миловидный человек.

35. Johnny lit a match and the match fell on his hand. Now he is in the hall waiting for a doctor. A very pleasant man is sitting next to him.

Вывод:
Conclusion:

Человек рядом с Ваней обжег себя.   ____Верно ____Неверно

The man sitting next to Johnny burned himself.   T   F

36.   Однажды Билл пошел на улицу погулять. Пошел дождь. Человек в автомобиле проехал мимо и обрызгал Билла грязной водой.

36. Bill went outside to take a walk. It began to rain. A man in a car drove past and sprayed Bill with dirty water.

Вывод:
Conclusion:

Человек в автомобиле обрызгал себя водой. ____Верно ___Неверно

A man in a car sprayed himself with water.   T   F

37. Сусана везет маленькую девочку в больницу. Девочка играла со стаканчиком и разбила его. Теперь девочке надо наложить шов на рану и перевязать ручку.

37. Susan is taking a little girl to the hospital in her car. The little girl was playing with a glass and broke it. Now the little girl needs stitches and a bandage.

Вывод:
Conclusion:

Девочка, которую везет Сусана, порезала себя стеклом.

The little girl riding with Susan cut herself.   ___Верно ___Неверно

                                                              T   F

38.   Медсестре часто сталкиваться с тяжелыми пациентами. Самое ужасное произошло с одной умалишенной. Умалишенная выстрелила себе в висок и моментально погибла на глазах у медсестры. Как она могла не увидеть, когда женщина стояла рядом с медсестрой?

38. The nurse often has to deal with difficult patients. Her worst experience was with a crazy old woman. The crazy woman shot herself in the head and died instantly right in front of the nurse. How could she not see, when the woman was standing right next to the nurse?

Вывод:
Conclusion:

Женщина, которая стояла рядом с медсестрой покончила с собой.

The woman standing next to the nurse shot herself.   _____Верно T   _____Неверно F

39.   Сусана и секретарь едут на работу в одном автобусе. Секретарь всегда сидит сзади Сусаны. Однажды утром Сусана порезала себе руку осколком разбитой бутылки, которую какой-то хулиган оставил на сиденье.

39. Susan and a secretary go to work on the same bus. The secretary always sits behind Susan. One morning Susan cut her hand on a shard of broken bottle that a miscreant had left on the seat.

Вывод:
Conclusion:

Секретарь порезалась разбитой бутылкой.

The secretary cut herself on a broken bottle.   _____Верно   T

_____Неверно F

40.   Сусана пришла в аптеку. В аптеке какая-то женщина встала в очередь рядом с Сусаной. Женщина хотела понюхать духи. Она нажала на пульверизатор и духи обдали Сусану душистой пеленой.

40. Susan went to a drugstore. In the drugstore, a woman got into line next to Susan. The woman wanted to smell some perfume. She squeezed the spray button and a fragrant cloud of perfume surrounded Susan with a fragrant shroud.

Вывод:

Женщина рядом с Сусаной обрызгала себя духами.

The woman beside Susan sprayed herself with perfume.   _____Верно   _____Неверно

T   F

ДОБАВОЧНЫЕ ПРЕДЛОЖЕНИЯ
Additional Sentences

К кому относятся подчеркнутые фразы.
To whom do the following underlined phases refer.

1. Отец учит сына защища<u>ся</u> от злых мальчиков.
   Father is teaching (his) son to defend himself against bad boys.

   _____ отец   _____ сын   _____ или отец или сын
        father   son   either father or son
   _____ смысл предложения не ясен
         sentence is unclear

2. Отец учит сына защищать <u>себя</u> от злых мальчиков.
   Father is teaching (his) son to defend himself against bad boys.

   _____ отец   _____ сын   _____ или отец или сын
        father   son   either father or son
   _____ смысл предложения не ясен
         sentence is unclear

3. Врач попросил медсестру помы<u>ся</u> перед операцией.
   The doctor asked the nurse to wash herself before the operation.

   _____ врач   _____ медсестра   _____ или врач или медсестра
        doctor   nurse   either doctor or nurse
   _____ смысл предложения не ясен
          sentence is unclear

4. Врач попросил медсестру помыть <u>себя</u> перед операцией.
   The doctor asked the nurse to wash him/herself before the operation.

   _____ врач   _____ медсестра   _____ или врач или медсестра
        doctor   nurse   either doctor or nurse
   _____ смысл предложения не ясен
        sentence is unclear

5. Мама приказала дочери не брать <u>себе</u> слишком много конфет.
   Mama commanded (her) daughter not to take too much candy for herself.

   _____ мама   _____ дочь   _____ или мама или дочь
        mama   daughter   either mama or daughter
   _____ смысл предложения не ясен
        sentence is unclear

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6. Бабушка велела внучке налить <u>себе</u> сливки в чай.
   Grandmother bid her granddaughter to pour herself some cream into her tea.

   _____ бабушка   _____ внучка   _____ или бабушка или внучка
       grandmother   granddaughter   either grandmother or granddaughter
   _____ смысл предложения не ясен
       sentence is unclear

7. Полковник приказал рядовому подать <u>себе</u> коня.
   The colonel ordered the soldier to give him his horse.

   _____ полковник   _____рядовой   _____ или полковник или рядовой
       colonel   soldier   either colonel or soldier
   _____ смысл предложения не ясен
       sentence is unclear

8. Бабушка велела внучке взять <u>себе</u> пряников.
   Grandmother bid (her) granddaughter to take some gingerbread for herself.

   _____ бабушка   _____ внучка   _____ или бабушка или внучка
       grandmother   granddaughter   either grandmother or granddaughter
   _____ смысл предложения не ясен
       sentence is unclear

9. Генерал приказал поручику подать <u>свой</u> пистолет.
   The general ordered the lieutenant to give him his pistol.

   _____ генерал   _____ поручик   _____ или генерал или поручик
       general   lieutenant   either general or lieutenant
   _____ смысл предложения не ясен
       sentence is unclear

10. Владелец компании велел уборщице закрыть <u>свое</u> окно.
    The head of the company ordered the cleaning lady to close his/her window.

    _____ владелец   _____ уборщица   _____ или начальник или уборщица
        head   cleaning lady   either head or cleaning lady
    _____ смысл предложения не ясен
        sentence is unclear

C.2 RAW DATA FROM TRUTH VALUE JUDGMENT TASK

The data collected from the task is presented here in its initial tabular format.

Table 38: Data From Anecdotal Judgment Task

Sentence #	Native (n = 10)		Non-Native (n = 10)	
	True	**False**	**True**	**False**
MONO 1 MS	10	0	8	2
2 MS	7	3	8	2
3 MS	1	9	1	9
4 MS	0	10	1	9
5 FS	8	2	8	2
6 FS	7	3	5	5
7 FS	0	10	1	9
8 FS	0	10	2	8
9 MO	7	3	1	9
10 MO	5	5	1	9
11 MO	0	10	0	10
12 MO	0	10	0	10
13 FO	5	5	1	9
14 FO	6	4	4	6
15 FO	0	10	3	7
16 FO	0	10	1	9
BI Fin 17 MS	10	0	8	2
18 MS	10	0	6	4
19 MS	1	9	2	8
20 MS	0	10	4	6
21 FS	10	0	8	2
22 FS	10	0	8	2
23 FS	0	10	4	6
24 FS	2	8	2	8
BI non 25 MS	10	0	9	1
26 MS	10	0	7	3
27 MS	0	10	6	4
28 MS	3	7	4	6
29 FS	10	0	8	2
30 FS	10	0	7	3
31 FS	4	6	3	7
32 FS	6	4	2	8

Table 39: C-command Data

Ccom	33 M	7	3	7	3
	34 M	10	0	6	4
	35 M	1	9	5	5
	36 M	0	10	5	5
	37 F	10	0	7	3
	38 F	10	0	8	2
	39 F	0	10	5	5
	40 F	0	10	7	3

Table 40: Reflexives With and Without Control Verbs

Binding Pattern
Native   Non-Native

n=**10**   **10**

-/+ Power Verb

Verb Sentence #	LD	L	LD/L	LD	L	LD/L
-приказать+ся						
1		10		3	6[67]	
-приказать+себя						
2		10		2	6	2
попросить+ся						
3		10			10	
попросить+себя						
4	4	6		5	1	4

приказать/велеть + себя

Power Verb Sentence #	LD	L	LD/L	LD	L	LD/L
приказать+себя						
5	1	9		1	8[1]	
велеть+себя						
6	1	9		2	6[1]	

[67] A sum of < 10 for a sentence indicates the remainder of responses were "sentence unclear".

Table 40 (continued)

приказать/велеть + себя//
приказать/велеть + свой

Power Verb Sentence #	LD	L	LD/L	LD	L	LD/L
приказать+себя						
7	7	3		5	3	2
велеть+себя						
8	5	5		2	5	3
приказать+свой						
9	6	4		5	3	2
велеть+свой						
10	8	2		3	6	1

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