

## **The Influence of Changing L1 on Child Second Language Acquisition**

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### **ABSTRACT**

This paper presents a 26-month longitudinal study of a child who began learning English while developing her native Korean, conducted in order to investigate the role of language transfer in child SLA. The study examined the subject's first language (L1) and second language (L2) negation, and plural and possessive markings. It looked for evidence of language transfer (LT) using comparisons to English L2 data from speakers with similar and dissimilar L1s, as well as comparisons between the subject's L2 speech and her L1 system (Jarvis, 2000). The data showed evidence of LT for all features studied, with a predominance of Korean to English transfer early in the study period, and English to Korean toward the end. Results are interpreted using Foster-Cohen's (2001) Sliding Window approach, which states that rather than neatly distinguishing L1 from L2 acquisition or early from late SLA, individual development along a variety of axes should be considered, including age, cognitive maturity, and native-like performance in L1. From this standpoint, the subject's waxing and waning L2 performance across the study period appears to reflect changes in her L1 and in intensity of exposure to both languages.

### **INTRODUCTION**

The successful acquisition of a first language in early childhood is a virtually universal phenomenon, while adult learners of a second language seldom if ever achieve truly native-like competence. This divergence of outcomes has contributed to the conception of L1 and L2 acquisition as wholly distinct. Less commonly considered, however, at least in recent scholarship, is the case of child second language acquisition (SLA), in which near fluency is often achieved in a few short years with seemingly little effort. Although the developmental process of child SLA needs to be compared to development in both L1 and adult L2 acquisition, the outcome similarity between L1 acquisition and child SLA suggests at least two things: (1) age may be a significant factor in SLA (the so-called Critical or Sensitive Period Hypothesis); and (2) L1 and L2 acquisition may not be so different after all.

In an attempt to close the gap between L1 and L2 research, Foster-Cohen (2001) has suggested that rather than neatly separating L1 from L2 acquisition or child from adult SLA, researchers should look through a *sliding window* at data culled from a "series of ages and

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stages” (p. 341) in the development of individual subjects. Thus, researchers should not focus on attainment alone or on language development in isolation from other aspects of individual change, but should consider change as a multidimensional continuum along a variety of axes such as age, metalinguistic awareness, cognitive development, and so on. The present paper attempts to apply this approach to a longitudinal study of the influence of changing L1 on the early childhood acquisition of L2 English in a single subject who began acquiring her second language before her first was fully formed.

Although hypothesizing development as a multidimensional continuum, Foster-Cohen (2001) nevertheless recognizes a need to look for commonalities among the “infinite variety of patterns of exposure, acquisition, loss, reacquisition, etc.” (p. 336) that characterize language learners. From this perspective, child SLA encompasses at least two broad options: (1) “acquisition by individuals young enough to be within the critical period, but yet with a first language already learned” (Foster-Cohen, 1999, pp. 7-8); and (2) “successive acquisition of two languages in childhood” (McLaughlin, 1978, p. 99). By around age five, most children have completed the process of acquiring basic L1 grammar and syntax, and have even begun to use “rare and complex constructions” (Aitchison, 1989, p. 75). Members of the first group of child learners referred to above begin their L2 acquisition somewhere between this benchmark and the end of the critical period, that is, no later than the conclusion of puberty (Foster-Cohen, 2001). Successive acquisition, by contrast, refers to the case of so-called *sequential bilinguals*, that is, learners who begin acquiring their second language while still developing their first (Bhatia & Ritchie, 1999).

To date, research has not substantiated the designation of sequential bilinguals as a subgroup within child SLA. That is, it remains to be empirically verified whether these learners differ significantly in outcome or development from older child L2 learners on the one hand and on the other hand from *simultaneous bilinguals*, that is, children who start their linguistic experience by learning two languages at the same time. For example, do they display different effects of L1 transfer as compared to those evidenced by simultaneous bilinguals, or for that matter by adult L2 learners? Single-subject studies like the present one can provide data for such comparisons and thus help to confirm or deny the distinctiveness of sequential bilinguals as a subgroup of child L2 learners.

The present study will examine the subject’s use of three selected morphosyntactic features of the target language (TL): negation, plural *-s*, and possessive *-’s*, and, to a limited extent, her use of their L1 counterparts. The purpose is to evaluate language transfer effects associated with these features as well as the extent to which changes in the subject’s L1 use influenced manifestations of transfer. This objective necessitates not only a longitudinal methodology, but also specific inter-group and intra-individual comparisons. Thus, in examining transfer effects between L1 Korean and L2 English and the influence of change in the former on the subject’s use of the latter, the present study will compare the subject’s L2 use to the following: (1) a baseline set of L2 English data from subjects with the same or typologically similar L1s; (2) a baseline set of data from subjects whose L1s are typologically distinct from that of the present subject; and (3) the subject’s own L1 system. By doing this, it is hoped that the study will shed light on the role of transfer in the use of the selected features by this unique individual learner, while generating findings that can contribute to an understanding of the typological relationship of child sequential bilinguals to other language learners. Ultimately, this study may also contribute to our general understanding of the effects, and perhaps even the essential nature, of language transfer.

## REVIEW OF THE LITERATURE

### Child Second Language Acquisition

It is commonly remarked upon that children are more successful second language learners than adults. The view that this difference is not merely a statistical one but a reflection of a qualitative difference between child and adult learners has led many scholars to accept the so-called Critical Period or Sensitive Period Hypothesis as an explanation for young learners' superior outcomes (Lamendella, 1977; Lenneberg, 1967). This hypothesis essentially states that language acquisition begun in early childhood and ending no later than the completion of puberty will result in superior outcomes to those of language learning begun later in life (Foster-Cohen, 2001).

This statement represents a reasonable conclusion based on overall empirical evidence regarding attainment. Opinions differ, however, as to the causal factors that underlie the critical nature of early language learning. Some researchers take the view that young L2 learners have access to Universal Grammar (UG), whereas their older peers do not (Bley-Vroman, 1989). Others claim that access is denied in the latter case, but is available indirectly (via L1) or only partially limited in the former (Schachter, 1990, 1996). Still others hold that access to innate universals is less relevant in this context than cognitive, maturational, and/or input differences between child and adult learners (Han, 2004).

The present study will not be concerned with evaluating the success of Critical Period studies in verifying theoretical claims regarding UG access. Without disregarding these claims, the multi-factor approach of Han (2004) accords more closely with that of Foster-Cohen (2001), who, as noted, posits the validity of a variety of factors in accounting for differences among learners of all ages. Indeed, there is empirical evidence for all of the non-UG factors mentioned above. Skehan (1991), for example, found that children's rate of L1 development from three to five years was significantly related to their performance on tests of foreign language aptitude at 13 years, suggesting the importance of social and/or individual factors (perhaps including cognitive and maturational differences) in language learning. Moreover, like other social factors surrounding child SLA, input conditions for child SLA are both variable across individuals and generally distinct from those of adult learners, who often have immediate access to classroom setting or written materials. Child L2 learners, by contrast, tend to be thrown into situations in which they must "sink or swim" and in which much of their linguistic modeling comes from peers (Hakuta, 1986). In addition, cognitive factors distinguish child L2 learners—at least the youngest ones—from their older child and adult peers, and this can be reflected in developmental differences not captured by attainment studies. In a longitudinal study of a five- to six-year-old Japanese girl learning English, Hakuta (1976) found that, similar to L1 learners, this subject acquired the past tense *-ed* form sequentially later than most older L2 learners. According to Hakuta (1986), this may be because mastering the use of this form requires a developed concept of past time that young children lack. Likewise, Kessler and Idar (1979), who carried out a one-year longitudinal study of a Vietnamese mother and her four-year-old daughter learning English in the United States, found that in the early stages of the study, the child, unlike her mother, made no attempts to talk about past or future events.

## Language Transfer: Theory and Method

There are many reasons that L2 acquisition—even in childhood—is often understood as a wholly distinct process from L1 acquisition. Among these is the fact that the L2 learner already knows—or at least has begun to know—one language. The influence of knowledge of one language on the acquisition or use of another is broadly known as language transfer. Odlin (1989) defines LT as “the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired” (p. 27). LT is typically subdivided into *substratum transfer*, in which the speaker’s dominant language influences any other language, and *borrowing transfer*, in which the dominant language is influenced by other L2s (Odlin, 1989). In either case, LT can have positive or negative effects. Positive transfer refers to any facilitating effects on acquisition due to the influence of cross-linguistic similarities. Negative transfer refers to cross-linguistic influences resulting in errors, overproduction, underproduction, miscomprehension, and other effects that result in a deviation of the interlanguage (IL) from native speaker norms (Odlin, 1989).

The phenomena here grouped together under the term LT have long been a subject of debate (see Mitchell & Myles, 2004). Scholars have generally agreed that features of one language transfer to other languages, but have been in dispute as to what features transfer and when, why, and how this takes place. In the 1950s and 60s, structuralism purported to offer a simple explanation of LT. According to this view, sounds and structures constituted linguistic habits that passed from one language to another. Contrastive analysis grew out of this approach, since the belief that such habits are transferred suggests that comparing the two systems could help to both predict and prevent learner errors. Beginning in the 1970s, however, the UG approach led many researchers to interpret transfer effects as either a source of errors or a learning mechanism. From this perspective, linguistic behavior is not primarily habit-based but rule-governed, and the significance of LT revolves around the extent to which L1 knowledge interacts with TL complexity and access to a universal rule template.<sup>2</sup>

The UG approach is associated with the acquisition order studies of the 1970s, which focused on the natural order of morpheme acquisition in a given L1 and L2. These studies claimed to find evidence for language universals in empirical data that suggested similarities in acquisition order among the following learner groups: L1 and L2 learners of the same target language (Dulay & Burt, 1973), child learners of the same L2 from different L1 backgrounds (Dulay & Burt, 1974), adult L2 learners with distinct L1s (Bailey, Madden, & Krashen, 1974; Larsen-Freeman, 1975), and L2 learners of various ages (Rosansky, 1976). Dulay and Burt (1974), based on a cross-sectional study of Spanish and Chinese L1 children learning English, concluded that children acquire a second language through a process of creative construction of the new rule system that is guided by universal language mechanisms, and that L1 influence plays little or no role.

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<sup>2</sup> Recent work in the UG framework has moved beyond the general question as to whether such a template is available to child and/or adult L2 learners. A modular approach has been proposed, in which various subcomponents of the UG template might be available to L2 learners and might interact differently with L1 parameter settings at different ages (Hawkins, 2001; Herschensohn, 2000; Lakshmanan, 2006; White, 2003). Lakshmanan (1995), for example, in a survey of UG-based-studies of child SLA, concludes that “the influence exerted by the L1 is not an all or nothing affair. Rather, the L1...appears to affect certain syntactic domains but not others” (pp. 319-320).

Hakuta (1976), however, reached a very different conclusion based on a longitudinal study of a five- to six-year-old Japanese girl learning English. Hakuta compared this subject's IL data to standard Japanese and found a number of striking correspondences which appeared to be explained by LT. Based on his findings he brought authors like Dulay and Burt to task for being too quick to dismiss (or too slow to recognize) LT effects:

In fact, it is impossible to prove that there is no language transfer, for there always remains the possibility that the researcher is simply looking at the wrong place. Finding a low percentage of interference errors, or even finding a uniform order of acquisition for a restricted set of grammatical morphemes, is no license to jump to the conclusion that everything must be due to "universal cognitive mechanisms." (Hakuta, 1976, p. 347)

Hakuta's open-minded analysis and longitudinal method represented an advance over earlier morpheme order studies. He did not, however, clarify a methodology for identifying LT effects. Jarvis (2000) points out that verifying the presence of LT with any degree of certainty and distinguishing its effects from those of other learning mechanisms or error generating processes requires more than the usual *we know it when we see it* approach. To make a scientific case for LT, which he argues can only be identified by its effects, Jarvis advocates a three-pronged comparative methodology. This approach accounts for the three types of trace evidence that separately or collectively suggest the presence of LT by comparing IL data from any given subject or group of subjects to the following:

1. IL data from subjects with the same L1 collected to check for patterns among these learners that could establish a statistical likelihood of transfer.
2. IL data from subjects with other L1s collected to screen for developmental sequences or language universals as possible competing explanations for transfer-like effects.
3. The subject(s) own L1 system presented to highlight any correspondences that might reasonably account for the IL manifestations as transfer.

Jarvis refers to these points of comparisons as, respectively, *intra-L1-group homogeneity*, *inter-L1-group heterogeneity*, and *intra-L1-group congruity* (i.e., between the subjects' L1 and IL). As he explains, each of these factors is technically sufficient on its own to serve as evidence of LT. However, given the possibility that other phenomena can manifest in ways that, when viewed from only one angle, appear indistinguishable from transfer, a stronger case is made when the researcher can provide corroborating evidence from at least one of the other two points of comparison. Finally, Jarvis asserts that an examination of learner data from all three perspectives may ultimately lead to advancements in our understanding of the essential nature of LT.

## **Language Transfer: Early Childhood and Morphosyntax**

Traditionally, scholars have held that child sequential bilinguals like the subject of the present study experience no L1 interference. This was supposedly demonstrated by Hansen-Bede (1975) in a study of a three-year-old child acquiring English and Urdu at the same time. Hansen-Bede found similar strategies for acquiring both languages reflected in the child's acquisition of such structures as possession, gender, word order, verb forms, and interrogative forms, and a number of later scholars contributed corroborating observations or opinions (De Houwer, 1990;

Meisel, 1994; Paradis & Genesee, 1996). Recently, however, scholars have become more open to the possibility of transfer between the developing grammars of simultaneous bilinguals (Döpke, 2001; Müller, 1998). In a longitudinal study of a two- to five-year-old bilingual child living in Hong Kong, Yip and Matthews (2000) found influence from Cantonese onto English in three syntactic constructions between the ages of two and three. Based on this finding and evidence of the dominance of Cantonese at this stage of the child's development, the authors argued for a close relationship between dominance and transfer.

This finding may be particularly important for at least two reasons. First, due to input conditions and linguistic and social factors, close examination of the early development of most simultaneous and sequential bilinguals would probably show some degree of dominance at any given stage. Second, Yip and Mathews' (2000) study provides evidence for LT in the disputed domain of syntax. Since the 1970s, many scholars have seen LT as largely irrelevant to child SLA, except perhaps for isolated cases of transfer in the phonological and lexical domains (Dulay & Burt, 1974; Gillis & Weber, 1976; McLaughlin, 1978; Selinker & Lakshmanan, 1993). Selinker and Lakshmanan (1993), for example, took the theoretical position that SLA in young children is based on UG and TL input and follows a process similar to L1 acquisition. Nonetheless, a number of empirical studies suggest that transfer in child SLA is far less rare and limited than is often held (Appel, 1984; Fathman, 1975; Hakuta, 1976; Haznedar, 1997; Hecht & Mulford, 1987; Jin, 2003; Keller-Cohen, 1979; Luján, Minaya, & Sankoff, 1984; Odlin, 1989; Pak, 1987; Shin & Milroy, 1999; Wode, 1981). Odlin (1989), for instance, cites evidence that although young learners are far less susceptible than adults to L1 phonological influence, child L2 learners frequently show influence of L1 syntactic patterns.

Since the present study examines three selected morphosyntactic features (negation, plural *-s*, and possessive *'s*), it is important to note that scholars are also far from reaching a consensus regarding transferability in these domains for learners of any age. Some have held that morphosyntactic transfer seldom or never occurs (cf. Dulay & Burt, 1974; Dulay, Burt, & Krashen, 1982; Dušková, 1969; Eubank, 1993, 1994; Eubank, Bischof, Huffstutler, Leek, & West, 1997; Krashen, 1983; MacWhinney, 2004; Thomason & Kaufman, 1988), while others maintain the opposite (cf. Becker & Carroll, 1997; Jarvis & Odlin, 2000; Mukattash, 1984; Odlin, 1989, 1990, 1991; Orr, 1987; Pavesi, 1988; Ringbom, 1987; Schumann, 1986). Central to this issue is the traditional assumption that bound inflectional morphology seldom if ever transfers. One possible explanation is that such features are highly marked or language-specific, and Kellerman (1977, 1978) and others have postulated that only unmarked, semantically transparent features transfer with any regularity. However, empirical data from recent studies appear to contradict this assumption in some cases. For example, in a comparative study of Finnish and Swedish learners of English, Jarvis and Odlin (2000) found that "both the bound, agglutinative morphology of the L1 Finnish spatial system and the free, prepositional morphology of the L1 Swedish spatial system constrain the types of options that learners pursue in their L2 English spatial reference" (p. 535). Evidence like this suggests a need for further inquiries into possible manifestations of morphosyntactic transfer.

## **Empirical Studies**

In order to execute the inter- and intra-group comparisons necessary for a systematic study of LT (Jarvis, 2000), English L2 studies with subjects whose L1s are similar to and different from that of the subject of the present study were reviewed. Sixteen studies of English

learners whose L1s are typologically identical or similar to Korean with respect to the selected features were included in Group A (see Appendix A). The majority of these studies examined subjects similar in age to the present subject. Owing to the paucity of data regarding young child English L2 learners with L1 Korean, however, studies whose subjects were somewhat older (adults in four cases: Barker, 1975; Johnson & Newport, 1989; Pak, 1987; Simons, 2001; Stauble, 1984) and who spoke L1 Japanese, which is typologically similar to Korean with respect to the selected features, were examined. Six of the studies in this group also compared groups with typologically distant L1s (Barker, 1975; Fathman, 1975; Hakuta & Cancino, 1977; Johnson & Newport, 1989; Simons, 2001; Stauble, 1984).

Likewise, 16 studies of English L2 acquisition by children whose L1s are typologically distinct from that of the present subject were included in Group B (see Appendix B). These studies were selected because they collectively encompassed the features considered in the present study. Several looked at subjects who, like the subject of the present study, began learning L2 English before age five. In order to provide a broad basis for comparison, however, studies involving older children were also included in this group. Four of the studies (Agnello, 1977; Bruzzese, 1977; Cancino, Rosansky & Schumann, 1978; Schumann, 1976) included a number of adult subjects as well.

The findings of these two sets of studies with regard to the selected features are described briefly below, beginning with negation. The two morphological features (plural *-s* and possessive *-’s*) are treated together because a major issue is their relative place in the order of acquisition.

### *Negation*

This feature shows commonalities across L1 groups that appear to indicate developmental effects. Ellis (2000) categorizes the common route of development in English L2 acquisition of negation into four stages. The first stage is characterized by external negation, in which the negative particle, *no* or *not*, precedes or follows the subject-verb nucleus in declarative utterances. This is followed by internal negation, in which the negative particle is moved inside the utterance. At this stage *not* and/or the unanalyzed *don’t* may begin to predominate over *no*. In the third stage the negative particle becomes attached to modal verbs, though initially as unanalyzed units. Finally, the TL rule is acquired and *not/n’t* is used consistently with auxiliaries, though tense and number marking may still be incorrect. These stages of development are summarized in Table 1 (adapted from Ellis, 2000, p. 100).

**TABLE 1**  
**General Stages in the Developmental Sequence of L2 English Negation**

Stage	Description	Example
1	External negation (i.e., <i>no</i> or <i>not</i> is placed at the beginning or end of the utterance).	<i>No (you) playing here.</i> <i>This is girl no.</i>
2	Internal negation (i.e., the negator— <i>no</i> , <i>not</i> or <i>don't</i> —is placed between the subject and the main verb).	<i>You no talk.</i> <i>Mariana not coming today.</i>
3	Negative attached to modal verbs.	<i>I can't play that one.</i>
4	Negative attached to auxiliary verb as in target language rule.	<i>She didn't believe me.</i> <i>He didn't said it.</i>

An examination of the results of the studies surveyed with respect to this feature provides both support for this general finding and evidence of variations on this overall pattern that may indicate LT (see Tables 2 and 3). Based on a pseudo-longitudinal study of 40 elementary, middle, and high school students in Korea, Shin (2001) concluded that L1 Korean learners of English follow a similar developmental pattern to that of English native speakers, which others have seen as roughly equivalent to the L2 sequence described above (see Mitchell & Myles, 2004). However, Korean learners in this study also tended to make use of post-verbal negation in their L2. Since this construction has an equivalent in standard Korean but not in the TL, Shin ascribed such uses to LT.

**TABLE 2**  
**English L2 Negation in Group A Studies**

L1	Placement of Negator in L1	Prediction for L2	Confirmed	Not Confirmed
Korean	Post-verbal or Pre-verbal	Short or non-existent no V stage	Shin (2001) (n=83)	-----
Japanese	Post-verbal	Short or non-existent no V stage	1 case in Hakuta (1976); 1 case in Gillis and Weber (1976)	1 case in Milon (1974); 1 case in Gillis and Weber (1976)

*Note.* Studies referenced as (n=x) are cross-sectional, whereas studies referenced by number of *cases* are longitudinal.



**TABLE 3**  
**English L2 Negation in Group B Studies**

L1	Placement of Negator in L1	Prediction for L2	Confirmed	Not Confirmed
French		Short or non-existent no V stage	1 case (Gerbault, 1978)	-----
German	Post-aux or main verb	Short or non-existent no V stage	4 cases (Wode, 1978)	-----
Norwegian		Short or non-existent no V stage	2 cases (Ravem, 1974; both used not instead of no)	-----
Spanish	Pre-verbal	Long no V stage	1 case in Butterworth (1972); 10 cases in Adams (1974); 2 cases in Young (1974); 5 cases in Barker (1975); 3 cases in Cancino, Rosansky, and Schumann (1978); and 2 cases in Stauble (1978)	-----
Italian		Long no V stage	2 cases (Agnello, 1977; Bruzzese, 1977)	-----
Greek		Long no V stage	1 case (Agnello, 1977)	-----

*Note.* All of these studies were longitudinal except Adams (1974), which was pseudo-longitudinal, and Bruzzese (1977) and Agnello (1977), both of which were based on single interviews. Interestingly, the 42-year-old Greek L1 subject in Agnello's study had resided in the United States for more than 10 years, yet 25% of his negative utterances still exhibited *no + V* constructions.

### ***Plural –s and Possessive –'s***

Koike (1980) also noted the use of post-verbal negation in a longitudinal study of three Japanese L1 children learning English, the youngest of whom made use of this construction<sup>3</sup>. Unlike Korean, in which both pre- and post-verbal negation are available, negation in Japanese is post-verbal only. Other studies that examined this feature for Japanese learners of English, though not always systematically, include Milon (1974), Gillis and Weber (1976), and Hakuta (1976). None of these studies provides data on the number of occurrences of post-verbal negation in the subjects' L2 English. However, they do provide evidence regarding the tendency for learners not to persist in what Schumann (1979) calls the *no + V* stage. In this phase, which can correspond to some or all of the features of Stages 1 to 2 in Table 1, subjects use pre-verbal negation without the target-like English auxiliary. Based on the typology of Japanese L1 for this feature, Schumann predicted a short or non-existent *no + V* stage for Japanese learners of

<sup>3</sup> The other children may have done so as well that Koike (1980) made no systematic effort to collect data on this construction.

English. This prediction, Schumann noted, was based on the performance of the single subject (Uguisu) in Hakuta (1976) and by one of the two subjects (Akio) in Gillis and Weber (1976)<sup>4</sup>.

Schumann (1979), whose review encompassed 12 of the studies examined here, compared the developmental sequence of Spanish L1 learners of English to that of learners from other L1 groups as well as English native speakers. Within the overall developmental sequence discussed above, Schumann was primarily interested in the presence and/or duration of the *no + V* stage as a variable that might be linked to the form of negation in the subject's L1. Spanish is characterized by pre-verbal negation using the particle *no*. Schumann's prediction—that the influence of this feature of Spanish would contribute to a prolonged *no + V* stage in English L2 by comparison to learners of other L1 groups—was confirmed by a number of studies that he reported (Adams, 1974; Barker, 1975; Butterworth, 1972; Cancino, Rosansky, & Schumann, 1978; Stauble, 1978; Young, 1974), and contradicted by none. Other pre-verbal negation languages for which Schumann found the same prediction confirmed included Greek (Agnello, 1977) and Italian (Bruzzese, 1977). Finally, also in accordance with his prediction for LT, Schumann found evidence of a short or non-existent *no + V* stage in studies of English L2 acquisition by speakers of the following post-auxiliary or post-main verb negation languages: French (Gerbault, 1978), German (Wode, 1978), and Norwegian (Ravem, 1974).

The empirical studies were also examined to see whether a prediction based on the subjects' L1 typology would be reflected in their order of acquisition of plural *-s* and possessive *'s* in L2 English. Here the prediction was based on a hierarchy of markedness. The initial results of this comparison were far less conclusive than in the case of negation. For the Group A studies, the prediction that the more marked function in the L1 would be acquired first in L2 English was confirmed in some cases but not in others. Fathman (1975) studied 120 L1 Korean and Spanish learners of L2 English aged 6 to 14 and found a statistically significant difference between the two groups only with respect to the Korean speakers' poorer performance on English articles (a predictable outcome based on L1 typology, since Spanish has articles but Korean does not). After articles, the largest difference between the two groups was in the category of possessive *'s*, in which the Korean L1 children performed better than their Spanish-speaking peers. This difference may be due to L1 typology, since Korean employs post-nominal morphemes that correspond to both English plural *-s* (optional) and possessive *'s* (obligatory in writing), whereas Spanish marks possession using a prepositional construction equivalent to English *Noun + of + Noun* but marks plural using a post-nominal *-s*, as in English (Robertson, 1986). Fathman also found that both groups of speakers acquired the English plural marker before the possessive morpheme. However, the researcher used a cross-sectional design and an obligatory context elicitation measure (the Second Language Oral Production English Test [SLOPE]), so her study actually measured the subjects' relative accuracy of use of the morphemes in the given contexts rather than isolating the stage at which they began to use or mastered the use of each morpheme.

Pak (1987) also used a cross-sectional design and an obligatory context elicitation instrument, the Bilingual Syntax Measure (BSM). However, her study of L1 Korean child (ages 5-12) and adult (ages 25-38) learners of English showed both groups acquiring possessive *'s* before plural *-s*. In fact, she claimed that her subjects experienced considerable difficulty acquiring regular English plural marking across all ages. This would initially appear to be corroborated by Shin and Milroy (1999), whose cross-sectional study of Korean children aged

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<sup>4</sup> The prediction was not confirmed by either the performance of the other subject from Gillis and Weber's (1976) study, Haruo or the performance of the single subject in Milon (1974).

six to seven acquiring English in the United States (age of arrival  $\leq$  five years in almost all cases) found that the subjects performed very well on possessive –'s but very poorly on plural –s. However, these authors counted *possessive* as a single functional category, including possessive pronouns. As they provided no separate data on the use of the possessive –'s morpheme, their results cannot be compared to those of Fathman (1975) and Pak (1987) in this regard.

Like (written) Korean, standard Japanese has obligatory marking for possessive but optional—in fact, infrequent—marking for plural nouns (Hakuta, 1976). Yet the L1 typology-based prediction for L2 English was confirmed only by one case involving a Japanese learner in the studies reviewed (see Table 4). This learner—the single five- to six-year-old subject in Hakuta's (1976) longitudinal study—acquired possessive –'s before plural –s, and the author ascribed this deviation from the *universal* order reported by Dulay and Burt (1974) to LT. However, Makino (1979), who returned to cross-sectional methodology in a study of 777 Japanese high school students learning English in Japan, supported Dulay and Burt. Finally, in Koike's (1980) longitudinal study of three Japanese child learners of L2 English, the two elder children acquired plural –s before possessive –'s, whereas the youngest child (5-7:7; age of arrival: 5) was judged to have acquired the two morphemes at the same time.

**TABLE 4**  
**English L2 Plural –s and Possessive –'s in Group A Studies**

L1	Hierarchy of Markedness	Prediction for L2	Confirmed	Not Confirmed
Korean	Possessive > Plural	Possessive > Plural	Shin and Milroy (1999) (n=12); Pak (1987) (n=80)	Fathman (1975) (n=120)
Japanese	Possessive > Plural	Possessive > Plural	1 case in Hakuta (1976)	3 cases in Koike (1980); Makino (1979) (n=777)

*Note.* Studies referenced in Table 4 and 5 with (n=x) are cross-sectional, with results representing an aggregate of subjects' data. Others are longitudinal studies of one or more subjects.

In the studies of learners whose L1s were typologically distant from Korean for these features, data on acquisition were only available for Spanish and Vietnamese. In both cases the morphemes were equally marked in the L1, so the prediction was based on the greater frequency of input for plural –s than for possessive –'s in the L2 (Hakuta, 1976). This prediction was confirmed in all studies with applicable data, as shown in Table 5.

**TABLE 5**  
**English L2 Plural –s and Possessive –’s in Group B Studies**

L1	Hierarchy of Markedness	Prediction for L2	Confirmed	Not Confirmed
Spanish	Possessive = Plural	Plural > Possessive	Dulay and Burt (1974) (n=60); 1 case in Hakuta and Cancino (1977); 1 case in Robertson (1986)	-----
Vietnamese	Possessive = Plural	Plural > Possessive	Kjarsgaard (1979) (n=45)	-----

*Note.* Studies referenced as (n=x) are cross-sectional, whereas studies referenced by number of cases are longitudinal.

### Summary of Literature Review

This review examined a variety of theoretical and methodological considerations as well as empirical evidence regarding LT and child SLA. With respect to theory, the studies reviewed suggest that Foster-Cohen’s (2001) Sliding Window approach can help us to account for the variety of factors that contribute to child SLA, irrespective of the role that may or may not be played by a universal rule template. With regard to LT, the review showed clearly that a careful methodology is required, one that is both longitudinal (Hakuta, 1976), and accounts systematically for the various types of trace evidence that may reveal transfer effects (Jarvis, 2000). The review also suggested that, despite a scholarly divide on these issues, LT may well play a significant role in child SLA and/or morphosyntax. Finally, with respect to negation, most English L2 learners in the empirical studies reviewed appeared to follow a common developmental pattern, although LT was observed in the relationship between the duration of learners’ *no + V* stage and their L1 typology. Similarly, although the evidence is less clear cut, predictions for the order of acquisition of the plural –s and possessive –’s morphemes based on the learner’s L1 typology were supported in many cases.

### Operationalization

The following definitions are operationalized for the purposes of this study:

**Acquisition.** Although the data and analyses presented below relate to the subject’s acquisition of L2 English as a generalized phenomenon, the study is mainly concerned with her acquisition of target-like use of the selected features. In light of Foster-Cohen’s (2001) Sliding Window approach, a statistical benchmark for acquisition in the latter sense is of less importance to this single-subject study than comparison of data across various axes, such as L1 and L2 development, cognitive milestones, metalinguistic awareness, etc. Nevertheless, with respect to the relative acquisition order of plural –s and possessive -’s the study made use of comparisons to other research in which such benchmarks were used. Hence, where the subject is said to have

*acquired* a given morpheme or structure, this refers to any period in which she used that morpheme/structure in a target-like fashion in 80% or more of recorded obligatory contexts (Robertson, 1986) and sustained this level of accuracy for at least three consecutive months.<sup>5</sup>

**Language Transfer.** LT can be manifested as positive or negative acquisitional effects and can be grounded in similarities and/or differences between any two languages (Kellerman, 1995; Odlin, 1989). For the purposes of the present study, LT is operationalized as *influence from Korean (L1) on English (L2), or vice versa*. Coding criteria to identify such influence are outlined under Data Analysis below. These criteria are based on the threefold systematic comparison introduced by Jarvis (2000).

## Research Questions

The study will attempt to address the following questions:

1. Was there evidence of language transfer in the subject's developing L2?
2. If so,
  - a. did language transfer change or persist?
  - b. did language transfer correlate with changes in the subject's L1?

## THE STUDY

### Participant

#### *L1 Input and Development*

The participant in this study was Sooji, a Korean female born in Korea on September 26, 1999 who arrived in the United States on March 8, 2003, at age 3:6 years. With regard to the generalized data offered by Bae (1995), the participant's level of development in Korean at the beginning of the study period was slightly above average for her age. For example, although most Korean L1 children at age 3:6 form only simple one-clause sentences, Sooji was forming two-clause sentences as well as sentences involving embedded and relative clauses. Based on casual observation of length of utterances, sophistication of structures, and accuracy of use, her L1 fluency can be said to have declined across the study period, except during and shortly after her summer visit to Korea in 2004. Specific changes in the subject's L1 are noted under the Results section when they relate directly to the features examined here and are addressed in the Discussion section.

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<sup>5</sup> Because data were drawn from continuous observation as well as discrete sessions, results are cited by month of study and date of utterance. *Sustained* accuracy is defined as three consecutive months rather than the benchmark of three consecutive sessions used by many researchers (e.g., Hakuta, 1976; Robertson, 1986).

***L2 Input and Development***

Sooji experienced a limited amount of exposure to English via children’s songs and animated films in English before she came to the United States. In the United States, Sooji attended a pre-kindergarten (Pre-K) program for six hours a day, five days per week, almost continuously from March 2003 to June 2004. The only language of instruction at the time was English. She attended a kindergarten program of similar description from September 2004 through the close of data collection in April 2005. During this time she lived in New York with her mother and sometimes her maternal grandmother, who spoke only Korean with each other and with Sooji. However, in June 2004, after completing Pre-K, Sooji traveled to Korea for two months, returning to the United States at the end of August 2004 at age 4:11.

The milestones in the subject’s L1 and L2 input condition described above, as well as others, are summarized in Table 6 below.

**TABLE 6**  
**Input Conditions by Month of Study**

<b>Month</b>	<b>Milestones in Type and frequency of Input</b>
1	Arrival in United States (L2 environment); Pre-K begins (6 hrs/day L2 only); Grandmother arrives from Korea (strong L1 presence in home)
2	
3	
4	Summer School begins (8 hrs/day L2 only); Family trips to Washington and Disney World (intensive L2); Grandmother returns to Korea (less L1 at home)
5	
6	
7	Pre-K begins at new school (6 hrs/day L2 only)
8	
9	Grandmother returns to United States (strong L1 presence in home)
10	
11	
12	Grandmother returns to Korea (less L1 at home)
13	
14	Grandmother returns to United States (strong L1 presence in home)
15	
16	
17	Subject visits Korea with her mother and grandmother (near-exclusive L1 input)
18	
19	Subject returns to United States with mother only; Kindergarten begins (6 hrs/day L2 only)
20	
21	
22	
23	
24	
25	
26	

## Linguistic Features

The present study will examine the subject's use of three selected features in her L2: negation, plural *-s*, and possessive *'s*. The choice of morphosyntactic features was motivated by a desire to contribute to the ongoing debate over LT in these domains. The choice of these three specific features was determined primarily by the availability of comparison data from existing studies. Previous studies have generated claims regarding the developmental sequence (negation) and acquisition order (plural *-s* and possessive *'s*) that characterize these features for groups or individual learners of English (see Ellis, 2000). In some cases, the authors have put forward LT as a possible explanation of consistencies among or variations across learners with typologically similar or distinct L1s (e.g., Hakuta, 1976; Jin, 2003; Schumann, 1979).

As Odlin (1989) points out, LT research relies heavily on systematic comparisons from the field of contrastive analysis. Typological comparison, in other words, is necessary to identify and understand transfer effects. For this reason a comparison of English and Korean with regard to the selected features follows here.

### *Word Order*

Although not a coded feature for the present study, any comparison of equivalent utterances must deal with the fact that English and Korean differ markedly in word order. English is characterized by rigid SVO order, whereas Korean has relatively free word order beyond the requirement of placing the verb in the final position. In this free word order, the subject and sometimes the object are optional, as shown in (b).

■ English: **SVO**

- (a) I studied German.  
S V O

■ Korean: **(S)(O)V**

- (b) (Na-nun) (tokeo-lul) kongbu-hae-tta.  
(S) (O) V (Dras and Han, 2002)

### *Negation*

English negation is achieved by placing the negative particle *not* or *n't* after the first auxiliary element.

■ English: **aux + not + V**

- (c) Mary does *not* eat.

Korean has two possible negative constructions: pre-verbal and post-verbal. These are sometimes called short and long negation, respectively, and can be used interchangeably. In pre-verbal negation, the negator *an* "not" or *mos* "can't" is placed before the verb. In post-verbal negation,

the verb is nominalized using the particle *-ci* followed by one of the aforementioned negative particles and the verb *hata* “to do.” The most common realization uses *an + hata* in the contracted form *anhata*. Thus, for the affirmative sentence in (d), both (e) and (f) represent possible negations.

- Korean: **an/mos + V**  
**V+ -ci+ an/mos + hata**

- (d) Mary-ka mukta.
- (e) Mary-ka **an** mukta.
- (f) Mary-ka muk-**ci anhata**. (Kim, 1974)

### ***Plural –s***

English forms regular plurals by attaching *-s* to the end of nouns, which are sometimes preceded by an unspecific or specific quantifier as in (i) and (j).

- English: **-s**

- (g) John gave *a book* to Mary.
- (h) John gave *books* to Mary.
- (i) John gave *some books* to Mary.
- (j) John gave *two books* to Mary.

Korean nouns, such as *chaek* “book,” do not typically take markers for singular or plural. A post-nominal plural marker, *-tul*, does exist, but it is never used with specific quantifiers (*two books*) and optionally but seldom used when the quantifier is unspecific or absent. Hence, the Korean utterance shown in (k), in which plural is not marked, could correspond to any of the English examples (g) to (i). Korean does, however, employ one of several classifiers, most commonly *kae* but also *kwen*, *mali*, etc., after specific quantifiers. An utterance such as (j), therefore, whether the specific quantifier were *one*, *two*, or a higher number, would almost always be rendered in Korean by adding the specific quantifier and the classifier after the noun, literally *\*John Mary book two piece gave*, as in (l). In this type of expression the plural marker is always omitted.

- Korean: **(-tul)**

- (k) John-i Mary-eke *chaek(-tul)*-ul cu-os-ta.
- (l) John-i Mary-eke *chaek tu kwen*-ul cu-os-ta. (Jin, 2003)

### ***Possessive –’s***

English marks possession using either post-nominal *-’s* or the preposition *of* inserted between the noun possessed and the noun possessor.



■ English: -'s

- (m) Mr. Smith 's son
- (n) The son *of* Mr. Smith

Korean has a post-nominal possessive particle *-ui* that is obligatory in writing but typically omitted in speech. This morpheme is acquired late in L1 Korean development and is almost never used by Korean children under age five (Bae, 1995).

■ Korean: (-ui)

- (o) Umma(-ui) cha (Kang, 2001)

### ***Predictions***

Based on the findings of empirical studies of speakers of Korean and typologically similar L1s, we can predict that the subject will display a short *no + V* stage in her L2 English development. Additionally, based on the above typological comparison of Korean and English, the following can be expected. The option of post-verbal as well as pre-verbal negation in L1 Korean may cause the subject to employ non-native-like post-verbal negation in her L2 English. Although there is no such optionality in the placement of the plural marker in either language, the word order associated with quantifiers and classifiers in plural constructions differs significantly between Korean and English; this may provide a context for LT, most likely following the direction of dominance between the two languages at any given stage. With regard to possession, we can expect the subject to opt for the post-nominal morpheme rather than the prepositional construction in her L2 English, as her L1 Korean encompasses an equivalent to the former but not the latter. Finally, based on the fact that possessive is more marked in Korean than plural (i.e., hierarchy of markedness), we would expect the subject to acquire English possessive -'s before plural -s. However, as this distinction in markedness relates to the written form of the L1 and may have little relevance to early child learners, a better prediction may be one based on frequency of L2 input—namely, that the subject will acquire English plural -s before possessive -'s.

### **Data Collection**

This longitudinal study was based on naturalistic and elicited data recorded using videotaping and field notes during the period of March, 2003 to April, 2005. Naturalistic data were recorded throughout this period. Elicitation tasks consisted of a story-and-picture cued sentence production task conducted twice at weekly intervals in April, 2005 and an oral translation task conducted monthly from January through April, 2005.

#### ***Naturalistic Data***

***Observation Sessions.*** The subject was observed in school, at home, and on play dates in such language production activities as interacting with peers, responding to requests to explain her drawings, and self-speech during symbolic play (i.e., play in which dolls or other symbolic

objects are manipulated to represent real people or objects, in which self-speech or simulated dialogue is prevalent). Approximately two hours were allotted for such observations in each week of the study period.

**Interviews.** Informal interviews were conducted in the subject's home as a follow-up to each observation session. The subject was asked questions concerning information on her activities. In some cases, as a gloss or cross check on her intended meaning, she was asked to provide Korean equivalents for her English utterances.<sup>6</sup>

**Recording Media.** Videotape was used to record classroom observation sessions for the first six months of the study period. Thereafter the subject's schools did not permit videotaping, so field notes were used. Observation sessions at home and on play dates were recorded using both videotape and field notes. All language production recorded using videotape was transcribed by the researcher for analysis. Spontaneous language production at home, that is, outside of planned observation sessions, was tracked using journal entries.

### **Elicitation Tasks**

**Translation Task.** In January 2005, the researcher began presenting utterances containing suspected LT tokens to the subject orally at the end of each month and asked her to provide their Korean equivalents—or English equivalents in cases of suspected reverse transfer.<sup>7</sup> This task was included to test the researcher's hypotheses regarding LT in the subject's utterances and to reveal or corroborate patterns of avoidance of given features in the subject's use of one or both languages.

**Story-and-Picture Cued Sentence Production Task.** This task was initially performed in the final month of the study period and was repeated one week later to screen for test effects. It was designed to present the subject with obligatory contexts for the selected features, both as a crosscheck for avoidance of these features in the naturalistic data and as a test of the researcher's hypotheses regarding LT in the subject's use of her L2 at this stage. The researcher read familiar folktales to the subject and asked her questions based on specially prepared pictures that featured items from the story (see Appendices C and D). The questions were varied to screen out rote responses. To avoid influencing the subject's responses, the target features were not used in the questions. Because complete sentence responses were required,<sup>8</sup> this task produced data that were relevant to the subject's use of word order, in addition to the features targeted in this study.

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<sup>6</sup> Her initial eagerness to provide Korean equivalents decreased across the study period, as did her ability to do so in target-like fashion (see Results).

<sup>7</sup> Tokens coded as LT according to the criteria outlined below are presented in the Results section.

<sup>8</sup> In cases when the subject initially failed to meet this requirement, she was asked to rephrase her response until she did so. That the subject was familiar with the concept of *complete sentence* is evidenced by the fact that the mere request that she employ such a form was sufficient to achieve compliance in all but one case, in which instance the researcher modeled the concept. The subject had by this time been attending English-only kindergarten for approximately seven months and may have been familiar with the concept of *sentence* from certain activities and discussions at school. Her metalinguistic awareness during this period was also exemplified at home in March of 2005, when she saw the word *asleep* in a book and commented "...it's wrong because it doesn't have a space here" (*a...sleep*).

## Data Analysis

### *Coding Criteria*

**Language Transfer.** This study employs a systematic method for identifying evidence of LT that requires three categories of comparison: (1) intra-L1-group homogeneity, (2) inter-L1-group heterogeneity, and (3) intra-L1-group congruity. A statistical correlation in any of these categories, as outlined below, constitutes evidence of LT. A correlation in two or more categories constitutes *stronger* evidence of LT (Jarvis, 2000).

For the purposes of the present study, the following correlations will be at issue:

1. If a feature of the subject's English IL correlates with the statistical norm or typical pattern of usage for a data set of English L2 learners with Korean or Japanese L1, especially those at a similar age and/or stage of English L2 development (Appendix A), this may be a result of LT.
2. If a feature of the subject's English IL does not correlate with the statistical norm or typical pattern of usage for a data set of subjects at a similar age and/or stage of English L2 development with various typologically distant L1 backgrounds (Appendix B), this may be a result of LT.
3. If a feature of the subject's English IL correlates with her L1 Korean or with the standard form of that language, this may be a result of LT.

**Linguistic Features.** Utterances were classified as containing the selected features based on the following criteria. For negation, all utterances in the naturalistic data in which the subject used a negator were included, except for anaphoric constructions in which the negative element referred to a previous utterance ("No, it isn't", Schumann, 1979, p. 4). In the data from the elicitation tasks, all utterances that contained obligatory contexts for negation were included. For plural *-s* and possessive *'s*, all utterances that included obligatory contexts for the morpheme were included from both the naturalistic and elicited data. However, this did not include elliptical constructions in which the noun represented the possessor of a thing previously referred to ("Whose truck is this? Jennifer", Robertson, 1986, p. 126). Possessive pronouns were also excluded from consideration since the focus was on the morpheme. Finally, in line with the practice of many researchers (e.g., Pak, 1987; Robertson, 1986;), utterances that contained obligatory contexts for back-to-back *s's* (e.g., *Sooji's school*) were not considered as examples of the features in question due to their phonological ambiguity.

### *Analysis*

Utterances from the naturalistic data deemed to contain the selected features were compared qualitatively and quantitatively to the baseline data sets delivered from the empirical studies reviewed above (see Appendices A and B) in accordance with LT coding criteria 1 and 2, and qualitatively to the subject's L1 system and to standard Korean in accordance with LT coding criterion 3. These comparisons allowed for the isolation of tokens for which LT was supported, and for the formation of hypotheses regarding the type and distribution of LT effects across the three features and across the study period. These tokens were analyzed quantitatively and qualitatively to determine the frequency of occurrence of substratum and reverse transfer in

each feature across the study period. The hypotheses regarding LT effects were then tested against data from the elicitation tasks. Finally, changes in the frequency of LT and in the prevalence of particular LT types across the features and study period were compared to changes in the corresponding features and to other changes in the subject's L1.

## RESULTS

### Naturalistic Data

#### *Negation*

Upon arrival in the United States (age 3:6), the subject was using both pre-verbal and post-verbal negation in native-like fashion in her L1 Korean. After the first month of the study, she was not observed to make use of the post-verbal construction, even during her visits to Korea (see Table 6). In the first two months of the study, the subject twice placed the negator in front of the object in pre-verbal negation, a non-target-like construction that is often observed in the developing L1 of Koreans up to about age three (Baek & Wexler, 1999).

In the subject's L2 English, the data revealed four stages of development. In the first, as in examples 1 and 2, the negator *no* was placed at the end of the utterance. Utterances of this type predominated during the first two months of the study period. In the next stage, exemplified by examples 3 and 4, the negators *no* and *not* occurred sentence internally.<sup>9</sup> This characterized the subject's negation during months three through 12 of the study. The subject also began in month three to use the expression *I don't know*, but this was treated as an unanalyzed chunk rather than an analyzed use of auxiliary plus negator. The negator began to be attached to modal verbs starting in month 13, as in examples 5 and 6, disregarding several earlier unanalyzed uses of *can't*. This accounted for most of the subject's negatives in months 13 through 15. Finally, in stage four, the subject used target-like negation in the form of auxiliary plus negator, though number and tense were not always correctly marked, as in examples 7 and 8.

#### Stage I

- (1) Josephine is Sooji friend *no*. (1:4/7/03)<sup>10</sup>  
(2) I the friend *no*. (2:4/15/03)

#### Stage II

- (3) It's *no* cartoon network. (4:6/29/03)  
(4) I *no* can do it. (5:7/18/03)

#### Stage III

- (5) I *cannot* found it, Mommy. (13:3/10/04)  
(6) We *cannot* open by wereself. (13:4/3/04)

<sup>9</sup> Excluding imperatives, example 4 is the only incidence in the subject's data of Schumann's (1979) *no + V* construction. Thus, in keeping with the prediction based on her L1 typology, the subject's *no + V* stage can be said to be short or non-existent.

<sup>10</sup> Examples are cited by month of study followed by date of utterance.

Stage IV

- (7) I *don't* saw it. (16:6/9/04)  
(8) I did *not* break it. (24:3/3/05)

Of the four types of utterances cited above, only those belonging to Stage I were coded as language transfer. Eight examples of this kind were recorded, including sentences 1 and 2. All of these occurred during the first three months of the study and feature external negation in final position:

- (9) Josephine: Josephine likes Sooji  
Sooji: No. Sooji *no*. (2:4/14/03)  
(=Sooji doesn't like Josephine.)  
(10) Smetha, I your friend *no*. (2:4/15/03)  
(11) I jacket *no*. (2:4/25/03)  
(12) I want this one *no*! (2:4/28/03)  
(13) I'm the friend your *no*. (2:5/7/03)  
(14) This one *no*. (3:5/9/03)

Coding of this construction as LT resulted from the following comparisons.

***Intra-L1-Group Homogeneity.*** External negation at the end of the sentence is exemplified in the early acquisition of L2 English by speakers of typologically similar languages. The youngest subject in Koike (1980), a five-year-old speaker of Japanese, also showed this structure in her earliest attempts at English negation (“This is *no*,” “Girl is *no*”, p. 100), as did several of the Korean L1 child learners of various ages in Shin (2001) (“Rain *no*,” “Girl *no*,” “Buy *no*”, pp. 46-48).

***Inter-L1-Group Heterogeneity.*** For speakers of L1s that are typologically distant from Korean and Japanese, the norm for Stage I in English L2 negation is placement of negator in sentence initial rather than sentence final position (Butterworth, 1972; Ellis, 2000; Schumann, 1979; Shapira, 1976).

***Intra-L1-Group Congruity.*** The present subject's Stage I negation may reflect her L1 rule system. At the beginning of the study period the subject was using both the pre- and the post-verbal forms of standard Korean negation, though the latter disappeared from her L1 speech in the fifth month. Unlike standard English but similar to the subject's Stage I utterances, neither of these constructions allow the negator to precede the object.

The results of these three comparisons are summarized in Table 7.

**TABLE 7**  
**LT Coding Comparisons for Negation**

Type of Utterance Compared [Subject's Data]	Criterion 1 (intra-L1-group homogeneity)	Criterion 2 (inter-L1-group heterogeneity)	Criterion 3 (intra-L1-group congruity) [Subject's Data]
<i>I the friend no.</i> (2:4/15/03)	<i>Girl is no.</i> (Koike, 1980)	<i>No is correct.</i> (Butterworth, 1972)	Pre-verbal: •Manjeo bonikka an tteukeoweyo. (1:3/19/03) Touch so not hot. (=I touched it and it was not hot.) Post-verbal: •Elmo-ka chaeck-eul ireoke mani poko chiwuji anasseyo. (1:3/25/03) Elmo book this many read clean not. (=Elmo read so many books and he did not clean up.)
Language Transfer Supported	YES	YES	YES

### **Plural -s**

At the beginning of the study period, the subject showed target-like use of plural nouns in her L1 Korean. This included native-like use both of constructions in which plurals were marked with the morpheme *-tul* and of complex constructions involving quantifiers and classifiers. In month 24, however, the subject's word order in these latter constructions began to deviate from native speaker norms in ways that suggest possible influence of her L2 English (see below).

As with negation, distinct stages were observable in the subject's treatment of plural in her L2 English. For the first 19 months of the study, she consistently omitted the plural *-s* morpheme, as in examples 15-19. In month 20, she began to use plural *-s* regularly on English nouns. For several months thereafter, the subject overgeneralized the use of this morpheme, supplying it not only with nouns that call for irregular or zero plural in the TL but once even with a Korean noun used in an English utterance (example 24). The final period, in which no overgeneralizations occurred and all recorded use was target-like, is treated as Stage III.

#### Stage I

- |  |               |
|--|---------------|
| (15) How many <i>cookie</i> ?                    | (3:5/29/03)   |
| (16) This is a two <i>chair</i> .                | (5:7/28/03)   |
| (17) It's three little <i>pig</i> .              | (6:8/22/03)   |
| (18) Are you close your <i>eye</i> ?             | (10:12/16/03) |
| (19) You had <i>eye</i> .                        | (12:2/17/04)  |
| (20) It means you and grandma two <i>mommy</i> . | (16:6:12:04)  |

#### Stage II

- |  |               |
|--|---------------|
| (21) I have four hands.<br>(=I have four fingers.) | (20:10/27/04) |
| (22) How many <i>childrens</i> ?                   | (21:11/13/04) |

- (23) Look at the beautiful *deers*. (22:12/21/04)  
(24) Mommy, I need *saekchongis*, markers, strings, and straws. (24:2/18/05)

Stage III

- (25) I love books muchier than Asa. (24:2/27/05)  
(26) Where are the books that I buyed in my school? (26:4/17/05)

As positive evidence that the subject had mastered irregular plurals occurred only later,<sup>11</sup> the assignment of her L2 plural use immediately after her last recorded overgeneralization to Stage III (consistent target-like use) remains provisional. In fact, in the final two months of the study three utterances in the subject's L1 Korean were recorded that may also be considered overgeneralizations of English plural constructions, this time with respect to syntax:

- (27) *se kae chaek juseyo.* (24:2/28/05)  
*Three piece book give please.*  
(=Give me three books, please)
- (28) *tu kae sa tang juseyo.* (25:3/15/05)  
*Two piece candy give please.*  
(=Give me two candies, please)
- (29) *Se kae ureum-ika mukeumyun baeka apayo.* (26:4/16/05)  
*Three piece ice [cream bar] eat if, stomach hurt.*  
(=If you eat three ice cream bars, your stomach will hurt.)

Of the subject's plural uses, only these three Korean utterances were coded as LT.<sup>12</sup> This was based on the following three comparisons.

***Intra-L1-Group Homogeneity.*** Shin and Milroy (1999) cited word order similar to that employed by the subject in examples 27-29 in L1 Korean speech data from sequential bilingual learners of an English L2 of similar age and age of arrival to the present subject (see Appendix A).

***Inter-L1-Group Heterogeneity.*** As we do not have baseline data from the L1 Korean speech of sequential bilinguals with an L2 that is typologically distinct from English—the ideal group to contrast to the subject in this regard—standard Korean is substituted. In examples 27-29, standard Korean word order would call for *chaek se kwen juseyo* (literally, *Book three pieces give, please*), *sa tang tu kae juseyo* (literally, *Candies two pieces give please*), and *se kae ureum-*

---

<sup>11</sup> In the month immediately following the close of data collection the subject used the irregular English plural *children* correctly.

<sup>12</sup> The subject's attachment of the English plural marker to the Korean noun *saekchongi* "colored paper" in example 24 was coded as code-switching instead of reverse transfer because it occurred in the context of an English rather than a Korean utterance. Thus, the noun, not the morpheme, was considered "added" to the sentence.

*ika mukeumyun baeka apayo* (literally, *Three piece ice [cream bar] eat if, stomach hurt*).<sup>13</sup>  
These formulations clearly differ from the subject's recorded utterances.

***Intra-L1-Group Congruity.*** The word order used by the subject in examples 27-29 corresponds to the rule system of the L2 rather than the L1. Ignoring the classifier (translated as “piece”), which English does not employ, the subject placed the specific quantifier (“one”) before the noun (“book”). In standard Korean, the order of these elements would be the reverse.

The results of these three comparisons are summarized in Table 8.

**TABLE 8**  
**LT Coding Comparisons for Plural**

Type of Utterance Compared [Subject's Data]	Criterion 1 (intra-L1-group homogeneity)	Criterion 2 (inter-L1-group heterogeneity)	Criterion 3 (intra-L1-group congruity) [Subject's Data]
se kae chaek three piece book (=three books) (24:2/28/05)	tu sikye two watch (=two watches) (Shin & Milroy, 1999)	chaek se kwen book three piece (=three books) (Standard Korean)	two scissors (24:2/18/05)
Language Transfer Supported	YES	YES	YES

***Possessive –'s***

The subject did not use the possessive morpheme in her L1, either prior to her arrival in the United States or at any time during the study period. She likewise consistently omitted possessive –'s in L2 English across the naturalistic data. Finally, she consistently used the Noun possessor + Noun possessed construction in her L2, as in examples 30-35, rather than the Noun possessed + of + Noun possessor structure.

- |                           |               |
|---------------------------|---------------|
| (30) Smetha grandma       | (1:4/4/03)    |
| (31) Mickey bed           | (6:8/9/03)    |
| (32) family nose          | (12:3/6/04)   |
| (33) Mommy tummy          | (14:4/21/04)  |
| (34) Campbell noodle soup | (20:10/17/04) |
| (35) Mommy day            | (26:4/26/05)  |

Statistical evidence is not sufficient to code the *non*-presence of the possessive –'s morpheme in the subject's L2 as LT. However, the following comparisons and the Discussion below provide support for a role of L1 influence in the manifestation of this feature in the subject's L2 English.

<sup>13</sup> In the researcher's experience, monolingual Korean children of similar age to the subject at this stage sometimes deviate from standard Korean with respect to choice of plural marker or classifier, but rarely if ever with respect to word order.



***Intra-L1-Group Homogeneity.*** Evidence regarding acquisition of possessive marking in L2 English among subjects of similar age and L1 typology to the present subject is inconclusive (see Table 4). Some, like the present subject, acquired possessive –'s after plural –s, but methodological differences make the comparison uncertain. Others, notably the single subject in Hakuta (1976), acquired the possessive before the plural. Shin and Milroy (1999), a study with subjects most similar to the present in age, input conditions, and age of arrival, could not be considered in this regard because the authors treated possessive pronouns and possessive –'s as a single category. The single subject in Jung (1985) had similar age of arrival (3:6) and reportedly formed possessives in English similarly to the present subject. However, although this study continued for ten months, the author did not specify whether the subject ever used possessive –'s during that time.<sup>14</sup>

***Inter-L1-Group Heterogeneity.*** Dulay and Burt (1974) claimed *universal* status for the acquisition of plural –s before possessive –'s in English (L1 and L2) based partly on evidence from L1 Spanish child learners. Spanish is typologically distinct from Korean in that it does not use a post-nominal possessive-marking morpheme and in that it contains a possessive construction equivalent to English Noun possessed + of + Noun possessor. Most of the studies reviewed above that examined Spanish learners were content to support Dulay and Burt's acquisition order claim and provide little data regarding development. However, comparing Robertson's (1986) four-year-old subject with the five-year-old subject discussed in Hakuta and Cancino (1977) paints a more dynamic picture. These studies show L1 Spanish child learners of English variously making use of the Noun possessed + Noun possessor structure, with or without a preposition (English *of* or Spanish *de*) and the Noun possessor + Noun possessed construction, with or without the marker –'s. Differences in data collection and coding methods make quantitative comparisons difficult. However, both of these subjects did begin to use the possessive –'s marker—predominantly in at least one case—in the course of studies of shorter duration than the present one.

***Intra-L1-Group Congruity.*** Whether the subject's English IL shows congruity with her L1 with respect to possessive or not depends on the form of Korean that is used for comparison. The post-nominal possessive-marking morpheme is obligatory in written Korean but is typically omitted in speech. Moreover, it is almost never used by L1 Korean speakers under the age of five (Bae, 1995).

The results of these three comparisons are summarized in Table 9.

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<sup>14</sup> Nor did Jung's (1985) study include data on the subject's relative acquisition order of plural –s and possessive –'s. This investigation is not included in Table 4.

**TABLE 9**  
**LT Coding Comparisons for Possessive**

Type of Utterance Compared [Subject's Data]	Criterion 1 (intra-L1-group homogeneity)	Criterion 2 (inter-L1-group heterogeneity)	Criterion 3 (intra-L1-group congruity) [Subject's Data]
Mommy day (26:4/26/05)	Daddy car Mommy school (Jung, 1985)	Truck Jennifer A tractor Daniel The bottle of my sister (Robertson, 1986)	Umma saeng il Mommy birthday (=Mommy's birthday) (25:5/1/05)
		Frog de Freddie Freddie's frog (Hakuta & Cancino, 1977) <sup>15</sup>	
Language Transfer Supported	?	?	YES

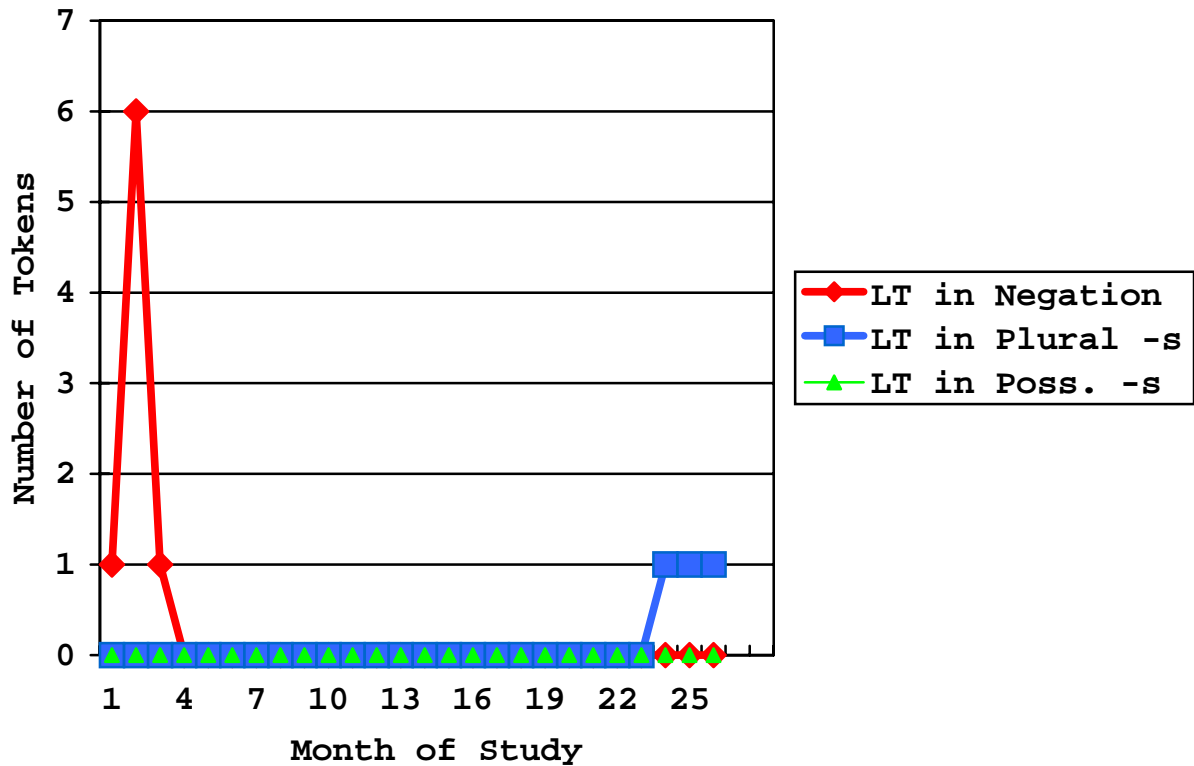
*Note.* Although all three comparisons provide support for LT, this is shown as affirmed only in the case of criterion 3, where the comparison is to the subject's own finite L1 data. The examples provided for comparison under criteria 1 and 2 were drawn from the most age-appropriate subject data available, but are not confirmed by the usage of all subjects within their respective groups.

***Summary of Results for Language Transfer in Naturalistic Data***

The coding criteria and comparisons used in this study confirmed LT effects in the case of 11 tokens in the naturalistic data. Of these, eight consisted of instances of substratum transfer affecting word order in the subject's use of negation in L2 English in the first three months of the study. The other three consisted of examples of reverse transfer in word order in the subject's use of plural nouns in L1 Korean in the last three months of the study. Finally, as will be discussed further below, the subject's *non*-use of the possessive -'s morpheme in her L2 English may be partly the result of negative transfer from her L1 Korean. As this could not be statistically verified, however, this finding is not included on the graph of LT instances by feature and distribution provided in Figure 1.

<sup>15</sup> The last two examples are representative abstractions since this study cited frequency and distribution of the five types but provided no actual examples.

**FIGURE 1**  
**Incidence of LT in Selected Morphosyntactic Features in the Naturalistic Data**



### Hypotheses and Evidence from Elicited Data

Based on the above results, three hypotheses were generated. These hypotheses were then tested against the data from the translation task and the story-and-picture cued elicitation task:

- i. L1 Korean influenced the subject's use of post-verbal negation in L2 English early in the study period.
- ii. L2 English affected the word order associated with classifiers and quantifiers in the subject's use of plural nouns in L1 Korean late in the study period.
- iii. The subject acquired L2 English plural *-s* in the study period, but not possessive *'s*, perhaps due in part to influence from her L1 system.

#### *Results for Hypothesis (i)*

The translation task was conducted in months 22 to 26, and the story-and-picture cued sentence production task in month 26. Thus, the Hypothesis (i) could not be confirmed by either task because the subject had progressed beyond the stage of development of negation for which LT was hypothesized. In the translation task, the subject's translations of Korean negatives demonstrated target-like post auxiliary negation, though not yet with correct tense marking, as in example 36. Thus, they reflect the Stage IV utterances previously identified in her

contemporaneous naturalistic data. In the story-and-picture cued sentence production task, the subject supplied negatives in all obligatory contexts.

(36) I did *not* saw it. (24:2/25/05)

**Results for Hypothesis (ii)**

With respect to plural nouns, the transfer effect observed in the naturalistic data was still apparent. Here the subject's word order in Korean—"two *classifier* apple" instead of the target-like "apple two *classifier*"—showed the influence of the English rule system as in example 37. Therefore, Hypothesis (ii) was confirmed.

(37) tu *kae* sakwa (25:3/15/05)  
two *classifier* apple

**Results for Hypothesis (iii)**

In the translation task, as in the naturalistic data, the subject did not mark the possessive in either language, even when specifically asked to translate a possessive construction as in examples 38 and 39.

(38) Asa house (25:4/5/05)  
(39) Asa ch'ip (25:4/5/05)  
Asa house  
(=Asa's house)

The only example in which the subject marked possessive occurred in connection with the story-and-picture cued sentence production task. As a prelude to answering questions based on pictures designed to elicit obligatory contexts for the selected morphemes, the subject was asked to provide her own account of the story *The Three Little Pigs*. Her retelling included the following:

(40) There was bricks in the *man's* cart. (26:4/15/05)

In the elicitation task that followed, as in the rest of her account, however, the subject consistently omitted the possessive -'s marker in obligatory contexts (see Table 10). Thus, we also consider Hypothesis (iii) to be confirmed by the elicitation tasks.

**TABLE 10**  
**Results of Story-and-Picture Cued Sentence Production Task**

	Time 1			Time 2		
	Obligatory Contexts	Number Supplied	% Correct	Obligatory Contexts	Number Supplied	% Correct
Negation	3	3	100%	3	3	100%
Plural	3	3	100%	3	3	100%
Possessive	3	0	0%	3	0	0%

## DISCUSSION

The study made five predictions regarding interaction between the subject's L1 and L2 development. These predictions and their origins were as follows:

1. Based on the findings of empirical studies of speakers of Korean and typologically similar L1s, the subject's *no + V* stage of negation would be short or non-existent.
2. Based on the optionality in the placement of the negator in L1 Korean, the subject would make use of non-target-like post-verbal negation in her L2 English.
3. The differences in the word order associated with classifiers and quantifiers in Korean and English plural constructions would cause LT, most likely in the direction of dominance between the two languages.
4. The presence of a corresponding construction in L1 Korean would cause the subject to form English possessives using the post-nominal morpheme rather than the preposition *of*.
5. In the absence of a more consistent or clear marking for one or the other corresponding morpheme in the L1 *as acquired by the subject*, the greater frequency of input of L2 plural *-s* than L2 possessive *'s* would cause her to acquire the former before the latter.

This discussion examines the results of the study in light of these predictions and as evidence of an individual acquisition pattern that reflects not only L1-L2 interaction but also the subject's age, age of arrival, input conditions, etc. (Foster-Cohen, 2001).

### Effects of L1

From Schumann (1979) and the empirical studies reviewed above the prediction was derived that, given her L1 typology, the subject would not persist in the *no + V* stage of development of English negation. Prediction 1 was confirmed since the subject made only a single use of the *no + V* construction (month 5, example 4). The utterances from the naturalistic

data showed a four-stage developmental pattern of negation that is familiar from English L2 learners with a variety of L1s (see Table 1), except that in Stage I the subject placed the negator in sentence-final position. As noted, although the norm for Stage I in L2 English negation is placement of the negator in sentence-initial position (Butterworth, 1972; Ellis, 2000; Schumann, 1979; Shapira, 1976), the subject's placement of the negator in sentence-final position is both target-like in her L1 and corroborated in the L2 English use of other speakers of Korean and Japanese (see Table 7). Hence, this usage was coded as LT, confirming Prediction 2.

Prediction 3, that word order in the use of quantifiers and classifiers associated with plural constructions would also be affected by differences between L1 and L2, was confirmed with respect to the subject's L1 (reverse transfer) rather than her L2 (substratum transfer), and will therefore be dealt with below under the section entitled Individual Acquisition Pattern. This will be the case with Prediction 5 as well, since the result also involved individual aspects of the subject's L1 use. Prediction 4, that the subject would form English possessives using the post-nominal morpheme rather than the preposition, was confirmed with respect to the associated construction but not the use of the morpheme. Although she used the possessive marker only once in her L2 and never in her L1, the subject consistently represented possession in her L2 by means of a syntactic structure with a clear parallel in her L1 rather than the other L2 option, which is not represented in Korean. Thus, she employed only the construction N (possessor) + N (object possessed), as in examples 30-35, in obligatory contexts for possession in English. By contrast, the two early child L2 English learners with L1 Spanish isolated for comparison above made use of both constructions. In one of these cases (Hakuta & Cancino, 1977), the first recorded examples involved the prepositional construction with Spanish *de* substituted for English *of*. In the other case (Robertson, 1986), the subject's earliest English possessives omitted the preposition but used the word order associated with this construction (viz., N [object possessed] + N [possessor]). Thus, early in their L2 English development, these subjects showed transfer of a morphosyntactic construction that Spanish shares with English.<sup>16</sup> This construction was not available in the subject's L1 and thus not surprisingly failed to manifest in her L2.

### Individual Acquisition Pattern

The above effects were predicted based on the empirical studies reviewed and the subject's L1 typology and can be predicted for, and potentially verified in, the L2 English of other Korean learners. The subject shared with other early child L2 English learners a distributional pattern in which substratum transfer in the syntactic domain was apparent in the early stages of acquisition but later disappeared. Data are not available to confirm whether these subjects also began to manifest reverse transfer once L2 English began to dominate over their L1 Spanish. This, however, did occur in the relationship between the present subject's L1 and L2. As the study proceeded, the subject showed backsliding in L1 Korean in the form of the disappearance of certain constructions that she had previously evidenced. For example, post-verbal negation disappeared from her L1 speech in the fifth month, perhaps due to a combination of the influence of exclusively pre-verbal negation in L2 English and the fact that a major shift in the balance of input in favor of L2 occurred in the fourth month of the study (see Table 6). As a result of such changes, the subject's L1 actually receded from target-like norms at the same time as her L2 approached them. This was also evidenced in the emergence of reverse transfer late in

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<sup>16</sup> E.g., *El carro de mi padre* = "the car of my father."

the study period, at which time the subject's L2 had become dominant with regard to accuracy, sophistication, and quantity of output. At the commencement of the study period, the subject had acquired the use of both the usually omitted Korean plural marker *-tul* and the Korean noun classifier *kae*, translated as "piece" in examples 27-29. However, when asked to translate the English sentences "I have one apple" and "I have two apples" into Korean in the translation task conducted late in the study period, Sooji said, *Na-neun hana sakwa isseoyo* ("I one apple have") and *Na-neun tu kae sakaw isseoyo* ("I two classifier apple have"). Here, she omits the plural marker in both cases, which is native-like, but uses the noun classifier only when referring to multiple items. This non-native-like distribution of a form with no direct English equivalent may nevertheless reflect English morphosyntax, in which plural nouns, unlike singular ones, are almost always marked. Hence, this may indicate that the subject's sensitivity to plurality in both languages increased as she internalized the use of the plural *-s* in L2 English.

The waxing and waning of the subject's L2 and L1 was temporarily reversed when she took a summer trip to Korea in months 17-18 of the study. In month 18 and for several months thereafter, the subject made more frequent use of Korean than she had at any time since the fourth month of the study. This was not surprising given the change in input conditions and social factors. However, rather than showing a resurgence of substratum transfer, as might be expected, the subject actually began to evidence reverse transfer at this time, though not for the features specifically examined in the study. Thus, during this period Sooji included subjects and objects in many L1 utterances in which Standard Korean, even as spoken in early childhood, would typically omit them as logically obvious. For example, Sooji said *Na-neun paekopayo*, "I am hungry" (18:8/9/04), when the context would have made *Paekopayo*, "Hungry" more native-like. The subject's retention of these elements may be due to the influence of the syntactic requirements of her L2 system, to the balance of input in favor of L2 in months 1-16 (see Table 6), or both. Moreover, several times in months 18 and 19 the subject used formulations in Korean that had no exact parallel in the standard form of either language, but that closely resembled a formulaic expression that she had adopted in her English IL. Early in the summer of 2004, the subject began to use the formulaic expression "looks like" to communicate a variety of sense perceptions in English, for example, "Smell looks like good" (i.e., "It smells good;" 16:6/18/04). Her subsequent utterances in Korean included an exact equivalent to this example (*Naemsae-ka choke saenkyeosseyo*; 18:8/15/04). These examples serve as a reminder that the source of reverse transfer may always be the subject's IL rather than a more target-like form of the L2.

The acquisition of the English plural *-s* morpheme in the subject's speech in month 20 of the study may be related to the fact that she began attending an all-day English-only kindergarten in month 19, shortly after her return from Korea. Her L2 input at this time included frequent repetitions of constructions that emphasized the distinction between single and multiple objects. Counting activities also reinforced the use of English singular and plural constructions. As noted, the subject began to overgeneralize the use of the morpheme in English in month 21 and subsequently transferred English plural constructions to Korean (months 24-26). It is possible that the suddenness or degree of the increase in her input for this feature in her L2 influenced one or both of these types of non-target-like use.<sup>17</sup>

Finally, although Prediction 5 stated that, due to greater frequency of input in the L2, the

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<sup>17</sup> During this period the subject revealed her metalinguistic awareness of plural marking when she was asked to translate an utterance involving the Korean noun *talkyal* 'egg.' Perceiving no indication of number in the L1 prompt, the subject asked the researcher, in English, whether singular or plural was called for: "Mommy, egg or eggs?" (23:1/16/05).

subject would acquire English plural *-s* before possessive *-’s*, there remains at least an apparent contradiction between her developmental pattern in this regard and her L1 typology. However, the hierarchy of markedness that characterizes possessive as more strongly marked than plural in Korean and Japanese was not universally supported by the empirical studies (see Table 4) and is probably not relevant to young Korean children. As noted, in Korean the possessive morpheme is obligatory only in writing and is almost never used by L1 speakers under age five (Bae, 1995). All of the Korean and Japanese subjects in the empirical studies—both those who confirmed the (adult) typology-based prediction and those who did not—were age five or older.<sup>18</sup> Notably, however, the sixty 6- to-14-year old Korean subjects in Fathman’s (1975) cross-sectional study, who performed better on plural *-s* than possessive *-’s*, outperformed their Spanish L1 peers on the latter morpheme, suggesting that support from their (fully-formed) L1 played a role in the acquisition of their L2. Sooji, by contrast, arrived in the United States at age 3:6, at which time she had begun to use the plural but not the possessive marker in her L1. Thus, the former but not the latter was available for transfer to this learner’s L2 and for influence on the saliency of the corresponding L2 feature for her; moreover, the non-marking of possessive nouns in the L1 as acquired by this individual can also be speculated to have played a role in the subject’s failure to acquire English possessive *-’s* during the study period.

## CONCLUSION

This study looked at the influence of changing L1 on the early childhood acquisition of L2 English in a longitudinal framework that examined both naturalistic and elicited data from a single subject who began acquiring her L2 before her L1 was fully formed. Substratum and reverse transfer effects were identified through inter- and intra-group comparisons and examined qualitatively and quantitatively. Overall, the study appears to show evidence for language transfer in the morphosyntactic domains in child SLA. Results included a correlation between substratum transfer and L1 dominance and a correlation between reverse transfer and L2 dominance, even during a period in which L1 was somewhat in resurgence. This would appear to provide general support for Foster-Cohen’s (2001) notion that simultaneous language development may involve reciprocal relationships of advance and decline in language proficiency or in the use of particular features.

By focusing on development rather than attainment, the present study was able to uncover not only transfer effects but also influences that appear to be specific to the subject’s L1 development and/or input conditions. By comparing the results to those of other studies, it was possible to some extent to differentiate such effects from those that belong to more general patterns of development. It is probable that, had the study been able to incorporate a larger proportion of quantifiable obligatory context data, the results would have been even more robust.

Finally, the Sliding Window approach (Foster-Cohen, 2001) contributed to the understanding of the learner’s IL characteristics and perhaps to the understanding of the characteristics of sequential bilinguals as a group. The study began by speculating that

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<sup>18</sup> The only exceptions were the 12 subjects in Shin and Milroy’s (1999) study—which treated possessive pronouns together with the possessive *-’s*, making comparison impossible—and the single subject discussed in Jung (1985), who formed L2 English possessives similarly to Sooji (see Table 9), but whose relative acquisition order of plural *-s* and possessive *-’s* was not reported.



development for these learners might differ from the development of children who begin acquiring their L2 after their L1 is fully formed. Such a difference may have been uncovered with regard to the subject's relative acquisition order of the plural and possessive morphemes in L2 English. Sooji's acquisition order was found to be unusual in comparison to Korean and Japanese speakers aged five and above. It was relatively predictable, however, when compared to the acquisition order of her actual peer group: Koreans age 3:6 or younger. Lakshmanan (2006) points out that not all features of a given language are acquired simultaneously in an L1. As a result, "child L2 learners, unlike adult L2 learners, may be more similar to child L1 learners in relation to their acquisition of certain properties of the target language which are shown to mature later in childhood" (p. 106). In other words, certain features may be unavailable for substratum transfer in the L2 development of those referred to here as *early child* or *sequential bilingual* learners. Whether or not one adopts Lakshmanan's use of the term *L1 acquisition* for the acquisition of these properties in what is otherwise the learner's L2, it is clear that such developmental differences between (early) child and older learners warrant further study. It is also clear that the Sliding Window approach, by drawing our attention to individual learner differences and to learner subgroup characteristics, can help us to identify transfer effects that might otherwise be missed and to determine whether early sequential bilinguals indeed deserve to be considered a distinct group of learners.

## ACKNOWLEDGEMENTS

I would like to thank Dr. Usha Lakshmanan of Southern Illinois University for helpful correspondence and suggestions. My thanks also go to Dr. ZhaoHong Han and to the anonymous reviewers for their valuable comments on earlier versions of this paper.

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## APPENDIX A

### Selected Studies of Korean and Japanese Learners of English

Study	L1	Number of subjects	Age at First Exposure to L2	Duration	Features Examined <sup>19</sup>	Results
Milon (1974)	Japanese	1	7	7 months	Neg.	Long <i>no V</i> stage
Fathman (1975)	Korean Spanish	200	6-15	Cross-sectional	Pl. Poss.	Plural > Possessive
Barker (1975)	Korean Chinese Spanish	1 1 3	University level	5 weeks	Neg.	<i>no V</i> used only by Spanish L1s.
Hakuta (1976)	Japanese	1	5	1 year	Neg. Pl. Poss.	Non-existent <i>no V</i> stage; Possessive > Plural
Gillis & Weber (1976)	Japanese	2	6:11-7:6	5 months	Neg.	Short or non-existent <i>no V</i> stage
Hakuta & Cancino (1977)	Japanese Spanish	1 1	5	13 months 8 months	Pl. Poss.	Possessive > Plural by Japanese L1 Plural > Possessive by Spanish L1
Makino (1979)	Japanese	777	13-15	Cross-sectional	Pl. Poss.	Plural > Possessive

<sup>19</sup> Only features also treated in the present study are referred to here, abbreviated as follows: negation (neg.), plural (pl.), and possessive (poss.).

Study	L1	Number of subjects	Age at First Exposure to L2	Duration	Features Examined	Results
Stauble (1984)	Japanese Spanish	6 6	30-85	1 month	Neg.	Short <i>no V</i> stage Long <i>no V</i> stage
Jung (1985)	Korean	1	3:6	10 months	Pl. Pos.	Acquisition order not reported
Pak (1987)	Korean	40 children 40 adults	5-12 25-38	Cross-sectional	Pl. Pos.	Possessive > Plural
Shirahata (1988)	Japanese	31	High school	Cross-sectional	Pl. Pos.	Possessive > Plural
Johnson & Newport (1989)	Korean Chinese	46	Child Adult	Cross-sectional	Pl.	Difficulty with plural <i>-s</i> correlated positively with age <sup>20</sup>
Shin & Milroy (1999)	Korean	12	6-7	Cross-sectional	Pl. Pos.	Possessive > Plural
Simons (2001)	Korean Spanish	30 20	University level	Cross-sectional	Pos.	Spanish L1s outperformed Korean L1s
Shin (2001)	Korean	40	11-16	Cross-sectional	Neg.	Short or non-existent <i>no V</i> stage
Jin (2003)	Korean	50	5-8	Cross-sectional	Pl. Pos.	Possessive > Plural

<sup>20</sup> As these authors treated possessives together with pronominalization, their findings regarding possessive *-s* could not be isolated for comparison.



## APPENDIX B

### Selected Child English SLA Studies

Study	L1	Number of subjects	Age at First Exposure to L2	Duration	Features Examined	Results
Butterworth (1972)	Spanish	1	13	3 months	Neg.	Long <i>no V</i> stage
Dulay & Burt (1974)	Spanish Chinese	60 55	6-8	Cross-sectional	Pl. Poss.	Plural > Possessive
Ravem (1974)	Norwegian	1	3:9	10 months	Neg.	Short <i>not V</i> stage
Adams (1974)	Spanish	10	4:11- 5:9	3 months	Neg.	Long <i>no V</i> stage
Young (1974)	Spanish	2	5	9 months	Neg.	Long <i>no V</i> stage
Schumann (1976)	Spanish	5	5-33	10 months	Neg.	Long <i>no V</i> stage
Shapira (1976)	Spanish	1	22	2 years	Neg.	Long <i>no V</i> stage
Agnello (1977)	Greek	1	42	3 hours of speech	Neg.	Long <i>no V</i> stage
Bruzzese (1977)	Italian	1	40	3 hours of speech	Neg.	Long <i>no V</i> stage

<b>Study</b>	<b>L1</b>	<b>Number of subjects</b>	<b>Age at First Exposure to L2</b>	<b>Duration</b>	<b>Features Examined</b>	<b>Results</b>
Wode (1978)	German	4	3:11-8:11	1 year	Neg.	Short or non-existent <i>no V</i> stage <sup>21</sup>
Cancino, Rosansky, and Schumann (1978)	Spanish	2 children 2 adolescents 2 adults	5 11&13 25&33	10 months	Neg.	Long <i>no V</i> stage
Stauble (1978)	Spanish	2	10	10 months	Neg.	Long <i>no V</i> stage
Gerbault (1978)	French	1	4:6	10 months	Neg.	Short or non-existent <i>no V</i> stage
Kjarsgaard <sup>22</sup> (1979)	Vietnamese	45	7-14	Cross-sectional	Pl. Poss.	Plural > Possessive
Robertson (1986)	Spanish	1	4	8 months	Neg. Pl. Poss.	Long <i>no V</i> stage; Plural > Possessive
Lakshmanan (1993)	Spanish	1	4:6	8 months	Neg.	Long <i>no V</i> stage

<sup>21</sup> This study also discussed plural and possessive, but from a phonological rather than a morphosyntactic perspective.

<sup>22</sup> Although age at first exposure varied considerably among the study subjects, this study was restricted to participants who had spent 3-4 years in the United States.

## APPENDIX C

### Sample Questions for Story-and-Picture Cued Elicitation Task

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Features	Questions
Plural	<p>[The researcher shows a picture of, for example, three chairs of different sizes and asks one of the following:]</p> <ol style="list-style-type: none"><li>1. What do you see?</li><li>2. What are these?</li><li>3. What are in the picture?</li></ol>
Possessive	<p>[Pointing, for example, to the medium-sized chair in the picture, the researcher asks one of the following:]</p> <ol style="list-style-type: none"><li>1. Whose _____ is this?</li><li>2. Whose _____ is _____?</li><li>3. Whose _____ is biggest/smallest/softest etc.?</li></ol>
Negation	<p>[Pointing, for example, to the largest chair in the picture, the researcher asks one of the following:]</p> <ol style="list-style-type: none"><li>1. Is it small?</li><li>2. Did Goldilocks break it/eat it all/sleep in it?</li><li>3. Does it belong to Baby Bear/Mama Bear/Papa Bear?</li></ol>

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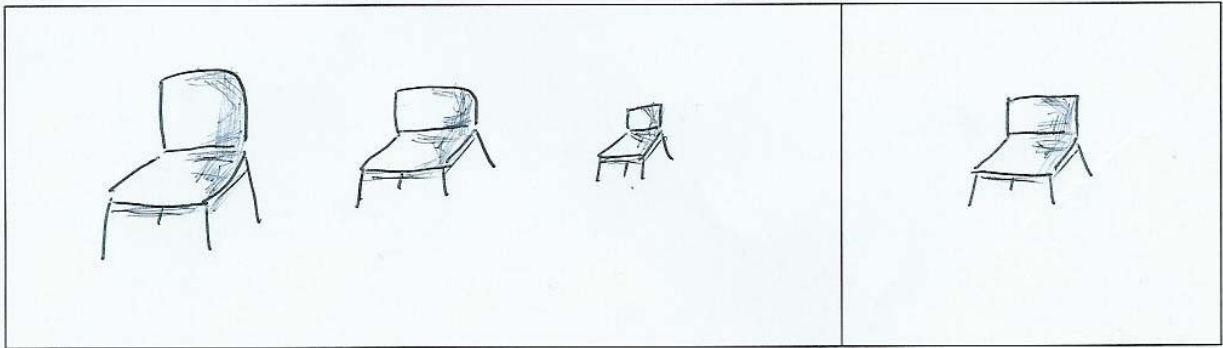
**APPENDIX D**

**Pictures for Story *Goldilocks and the Three Bears*<sup>23</sup>**

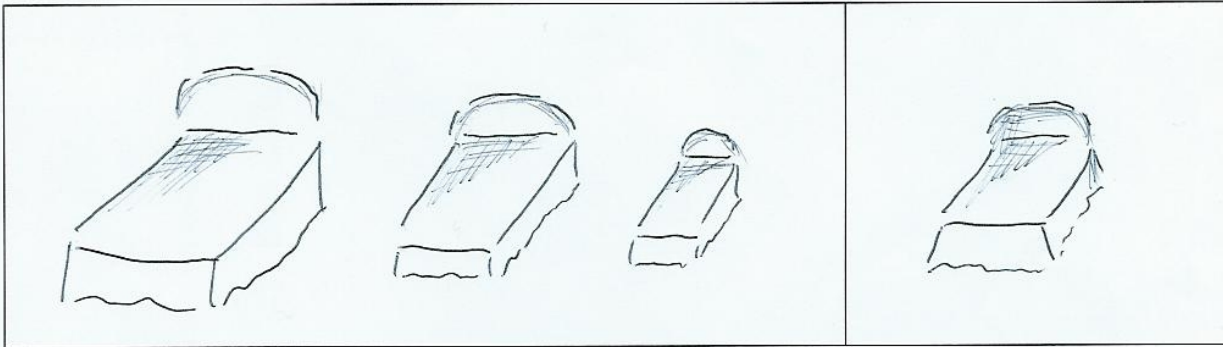
**Obligatory Context Pictures**

**Control Pictures**

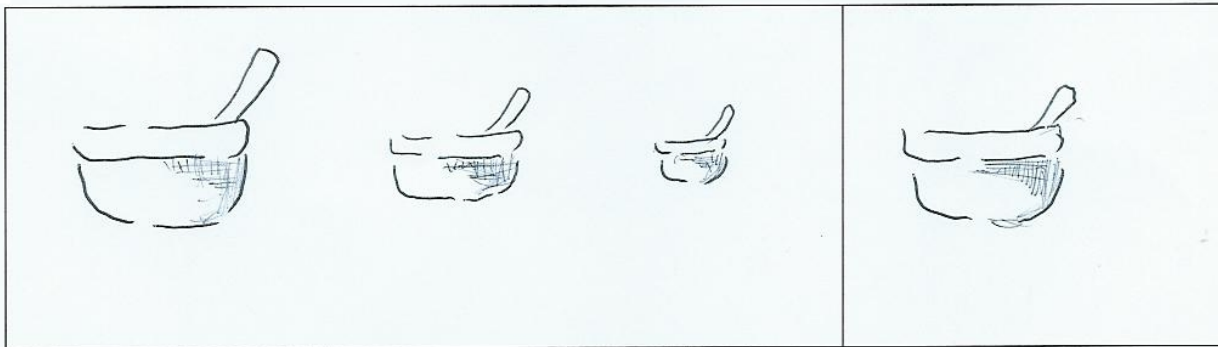
1)



2)



3)



<sup>23</sup> Adapted from Galdone (2000). The task was also conducted using *The Three Little Pigs* (Moser, 2001).