

# **Cross Linguistic Transfer in Word Order: Evidence from L1 Forgetting and L2 Acquisition**

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## **1. Introduction**

The purpose of the present study was to bring together the evidence on possible cross-linguistic transfer in word order from two different perspectives: a transfer as an apparent obstacle in second language acquisition, and a transfer as a cause of attrition of the native language. The relationship between the same two languages in a contact situation was investigated. Since the majority of studies on cross-linguistic influence were done in either of these two fields, there was a challenge to incorporate two studies in the framework of the same research and not to damage its integrity. The paper is structured as follows. After an account of the literature on cross-linguistic influence as it is reflected in both fields, recent findings on word order transfer are reported. A brief comparative analysis of word order in Russian and English is followed by the results of the longitudinal case study. Then findings from the experimental cross-sectional study are presented.

## **2. Cross-linguistic influence in studies on second language acquisition**

The role of cross-linguistic influence (CLI), or linguistic transfer in second language acquisition has been a field of extensive research in the past few decades (Ellis, 1994; Gas and Selinker, 1994; Kellerman, 1995; Larsen-Freeman and Long, 1991; Odlin, 1989; Selinker, 1992). Transfer is a traditional term from psychology of learning which means imposition of previously learned patterns onto a new learning situation. In second language acquisition, the knowledge of the native language (L1) in acquisition of a foreign language (L2) can indeed have a facilitation or inhibition effect on the learner's progress in mastering a new language. Traditionally, facilitation effect is known as positive transfer, while inhibition is considered negative transfer. Erroneous performance in L2 ascribed to certain constraints existing in the native language can be the simplest example of negative transfer. The latter seems to be of concern among scientists working on second language acquisition (SLA).

The question of what is more likely to be transferred from L1 to L2 and how the mechanism of transfer works has given rise to different linguistic models and hypotheses over the last two decades. One of the earlier hypotheses on CLI, the Contrastive Analysis Hypothesis (Lado, 1957; Stockwell, Bowen and Martin, 1965) tried to predict the likelihood of linguistic transfer in second language acquisition based on the similarities as well as differences between various aspects of L1 and L2. That is, similarities in linguistic structures in two languages will result in positive transfer, while differences will create an interference which is known as negative transfer. However, the survey of the recent research on CLI shows that the Contrastive Analysis Hypothesis fails to find significant support and its validity has been questioned by many scholars (Gas and Selinker, 1983; McLaughlin, 1984).

Another theory underlying language transfer is a theory of markedness (Eckman, Moravcsik, and Wirth, 1986; Seliger, 1991). The core hypothesis of markedness theory concerns correlations, i.e. pairs of "marked" (least distributed) and "unmarked" (more distributed) structural entities in the language. According to this theory, those linguistic phenomena in the target language which are more marked than the corresponding phenomena in the native language will be more difficult to learn. However, there is a problem to apply the markedness principle to cross-linguistic analyses, which makes it problematic to predict which structures in L2 would be more likely substituted with the corresponding structures in L1.

Aside from the above purely linguistic approaches to CLI, there is an array of theories pertaining to a psycholinguistic view on language acquisition. This view has been always shaped by dominant psychological frameworks, i.e. behaviorist or cognitive. Within a behaviorist framework, which was particularly popular in 40s-50s (Fries, 1945; Lado, 1957), transfer was seen as a direct result of the influence imposed by L1 structures on corresponding structures in L2. Over the last twenty years a cognitive approach to language transfer, as well as to other psycholinguistic phenomena, has prevailed in the field of SLA. One of the most important findings of the time was that L1 directly and indirectly influences L2 acquisition. Indirect influence, in turn, reflects underlying organization principles of the language and the learner's metalinguistic awareness of that knowledge.

The most revolutionary linguistic theory of the past few decades within the cognitive framework was that of universal grammar proposed by Chomsky (1965). In the light of this theory, cross-linguistic influence must be predetermined by certain innate constraints existing in any natural language acquisition. According to Chomsky, the learner must take a very limited input in L2 and construct a clean grammar of the language being learned. The final product would be the language in which redundancies will be minimized at all costs.

The universal grammar theory and its application to the major linguistic fields, including second language acquisition, have attracted a lot of scientific attention over the last three decades (e.g. van Buren and Sharwood Smith, 1985; Corder, 1992; Flynn, 1986; White, 1992). However, it has also become an issue of debate and has been opposed by the connectionism theory (Gasser, 1990). Rather than focusing on innate constraints, connectionists try to look at the ways in which the learner extracts regularities from the L2 input.

In addition to models and theories which were briefly discussed above, different psycholinguistic factors, like metalinguistic awareness, processing demands, language proficiency, etc., have been reflected in studies on CLI. Studies on these aspects of CLI, albeit infrequent in the field, were mostly concerned with compensatory strategies that L2 learners use to perform different linguistic tasks (Bialystok, 1990; Faerch and Kasper, 1983). In this respect, the L1 role in L2 acquisition is viewed not as a developmental factor but as a strategy of using the second language (Kellerman, 1995).

### **3. Cross-linguistic influence in studies on first language loss**

However, cross-linguistic influence can affect not only the performance in a second language, but also cause deterioration of linguistic skills in a native language when a speaker loses contact with his (her) language community or have a limited exposure to the native language due to extensive exposure to the second language. Thus, the research on cross-linguistic influence has recently broadened to the field of study known variously as language attrition, language loss, or language forgetting (Seliger & Vago, 1991).

A distinction should be made between cross-linguistic influence in L2 acquisition and L1 forgetting. If the influence of L1 structures in the acquisition of a foreign language can be predicted and interpreted from the perspective of different hypotheses and models, L1 forgetting in individual speakers can take a different path or not occur at all (Seliger, 1996). In addition, L1 forgetting still remains a phenomenon not broadly explored or theoretically explained. Thus most studies on L1 forgetting were focused on gathering empirical data on the process rather than on attempting to develop a model which would help to understand the underlying processes of L1 forgetting in individual speakers (Ammerlaan, 1997; Burling, 1978; Berman, 1979; Fantini, 1978; Hakuta & D'Andrea, 1992; Isurin, 2000; Jaspaert & Kroon, 1992; Kaufman & Aronoff, 1991; Klatter-Folmer, 1997; Kravin, 1992; Levine, 1996; Leyen, 1984; Liu, Bates & Li, 1992; Mayor, 1992; Merino, 1984; Olshtain & Barzilay, 1991; Schaufeli, 1996; Schoenmakers-Klein Gunnewiek, 1997; Segalowitz, 1991; Silva-Corvalan, 1991; Soesman, 1997; Turian & Altenberg, 1991).

In the absence of any specific model accounting for L1 forgetting, there were attempts to view first language forgetting within the framework of the same models which are used in studies on second language acquisition. For example, Seliger & Vago (1991) and Seliger (1996) offer the concept of markedness for the explanation of the grammar replacement that might happen in the process of L1 forgetting. According to this notion, the bilingual may create a new rule for L1 in those areas of the L1 grammar where the L2 rule is less marked in some ways. For example, if two grammatical categories

are brought into contact and the L2 category is less marked than the corresponding L1 category, there is a likelihood that the L2 category will replace the corresponding L1 category.

Also, the universal grammar principles and the issue of cognitive processing found reflection in some studies on L1 forgetting. L1 forgetting within the same psycholinguistic environment was viewed as an example of simplifying the cognitive burden by a speaker in order to avoid redundancies caused by duplication of rules and structures in the two languages (Seliger, 1996; Levine, 1996). According to Seliger (1996), “forgetting within L1 is not random forgetting but guided by a principle of arriving at the most parsimonious grammar that can service both languages” (p.617).

Two studies reported in the present paper attempted to further explore CLI in second language acquisition and first language forgetting. The evidence from cross-linguistic transfer in L2 learners and L1 attriters given that the target language (L2 and L1, respectively) is the same might shed additional light on the phenomenon in question. The possibility of CLI in the area of syntax, particularly, word order, was examined in the reported studies.

#### **4. Evidence on word order changes from earlier studies**

Studies on language transfer in SLA were predominantly carried out in the field of syntax (Gass, 1996). One of the major concerns of those studies was to see how word order in L2 might be influenced by the structural differences of the word order in L1 (Fathman and LoCoco, 1989; Odlin, 1990; Rutherford, 1983; Sharwood Smith, 1990; 1986; Zobl, 1986a; 1986b).

There has been a conflicting evidence relating to the influence of L1 on the L2 word order in production. Some studies reported that L2 acquisition is affected by the SVO (subject-verb-object) ordering in L1 (Zobl, 1982), others suggested that the production of simple declarative sentences in English is not strongly influenced by the structural nature of L1 (Fathman; 1976; Fathman and LoCoco, 1989). Furthermore, there was a controversy as to whether an L1 basic word order can be transferred to L2 where such word order is not used at all. Rutherford (1983) found no evidence of such transfer in Japanese learners of English (i.e., Japanese uses SOV order, while English uses SVO). Zobl (1986) supported that finding but suggested that such transfer can occur in case a language makes use of more than one basic word order (e.g., Dutch). Another evidence suggested that the initial word order acquisition is guided by universal principles rather than by the specifics of the contact languages (Klein and Perdue, 1993).

However, Odlin (1990) argued that there is no universal constraint on the transfer of basic word order and the infrequency of such transfer can be explained by metalinguistic awareness. An example of metalinguistic constraint in the use of L1 varying word order patterns while speaking L2 with a fixed word order comes from Trevis's (1986) study. It was noticed that in the formal classroom setting, French speakers learning English were extremely conscious in choosing the right word order in English. The author suggested that the possibilities for native language influence might be constrained by the consciousness-raising which occurs in formal instruction.

Word order transfer has been also a concern in studies on language forgetting. Transfer of basic word order can occur not only in second language acquisition but also in cases of first language forgetting (Odlin, 1990: 115). Although research in the field of first language forgetting has not been as extensive as it was in SLA, there were a few studies which are relevant to the present discussion.

Merino's (1983) study on L1 forgetting/L2 acquisition showed deterioration of the performance on word order in Spanish (L1) with an increase in performance of the corresponding category in English (L2). It also reported an evidence on L1 forgetting in production with comprehension remaining intact. The latter was argued by Liu, Bates, and Li's (1992) study where late English-Chinese bilinguals demonstrated a transfer of English like word-order strategies in interpretation of sentences to Chinese. Word order information in L1 comprehension was found particularly vulnerable when there was a phonological similarity between L1 and L2 verbs used in grammaticality judgment task (Altenberg, 1991).

An interesting study that might be relevant to the present one was done by Schaufeli (1996). The experimental design incorporated two groups of Turkish speakers in the Netherlands and a control monolingual Turkish group. The L1 sentence production was tested by a story telling task. The subjects were asked to pretend that they were telling the story (Frog, where are you?) to their child or

a grandchild, or to a younger brother or sister. The semi-spontaneous language was then recorded and analyzed. The two tasks employed in the experiment brought about contradictory results. From the cue-validity experiment it appeared that the immigrant groups tend to be more rigid in interpreting sentences, whereas in spontaneous speech they show more variation in the use of word order patterns. Moreover, in the perception task, the immigrant group was found to rely on word order in sentence interpretation, whereas the control group did not take word order into account. There were two explanations offered by the author for the registered changes in word order patterns: cross-linguistic influence from Dutch and language internal pressures. The former concerns a strategy to adopt word order as a clue when interpreting sentences, which is common among Dutch speakers and might have been transferred by the Turkish immigrants into Turkish sentence interpretation. The latter concerns language internal restructuring towards a more consistent pattern. For example, the more common word order in L1 might become the only word order used by an L1 speaker living in the L2 environment, and this change might be independent of whether this word order pertains to L2 or not. The evidence came from the preference shown by the Turkish immigrants to stick to the canonical SVO order. The conclusion was that the language changes were partly induced by L2 interference and partly caused by universal intra-language processes, or what was defined earlier as language internal pressures. The latter is also known as ‘language internal universal principles’. According to this principle, “an ongoing word order change will always move towards a consistent basic word order pattern, in terms of the general Head-Modifier order” (Schaufeli, 1996, p. 156).

To conclude, the major syntactic changes reported in the previous studies on first language loss and second language acquisition concerned the possible effect of the syntactic structure of one language on the syntactic structure of another. CLI can indeed be a reason for a deterioration of the native language skills and an obstacle in the acquisition of a second language when two languages are brought into contact.

The present paper reports on findings in two studies. Both studies were aimed at testing word order changes in production. First study reports on the so far unpublished results from a longitudinal study on first language forgetting (Isurin, 2000), second study is a cross-sectional study on L1 forgetting/L2 acquisition given the target language is the same.

A brief comparison of the word order patterns in the two languages will precede a report on findings from the longitudinal study.

## 5. Word order in English and Russian

In English, an important aspect of basic semantic differentiation of sentences is carried by word order. In general, for a given meaning in English only one word order is possible. That is absolutely irrelevant in Russian. Thus, if we take an English sentence “*The boy is reading a paper*” and give all possible Russian equivalents in various permissible word orders, we will end up with English non-sentences (2, 3, 4, 5, 6):

- (1) Mal’chik chitajet gazetę (SVO)  
A boy is reading a paper
- (2) Gazetę chitajet mal’chik (OVS)  
a paper is reading a boy
- (3) Chitajet mal’chik gazetę (VSO)  
is reading a boy a paper
- (4) Chitajet gazetę mal’chik (VOS)  
is reading a paper a boy
- (5) Malchik gazetę chitajet (SOV)  
a boy a paper is reading

(6) Gazetu malchik chitaet (OSV)  
a paper a boy is reading

For this reason, Russian is often referred to as a “free word order language”. What this means is that differences in word order do not affect the basic semantics of the sentence. By contrast, English is a “fixed word order language” with the subject-verb-object (SVO) arrangement. In such a language, differences in word order carry different meanings, and some word orders are not possible at all (Comrie, 1979).

However, the visible flexibility of the Russian word order does not imply that there are no dominant word order patterns. Jakobson (1966: 268-269) says that “the idea of dominance is not based on the more frequent occurrence of a given order....For example, of the six mathematically possible relative orders of nominal subject, verb, and nominal object - SVO, SOV, VSO, VOS, OSV, and OVS - all six occur in Russian .... yet only the order SVO is stylistically neutral, while all the ‘recessive alternatives’ are experienced by native speakers and listeners as diverse emphatic shifts”.

Thus, as it follows from the above statement, the dominant word order pattern in Russian will be the same as it is in English. It makes the problem of differentiating between what might have transferred from English and what might have changed due to other forces (e.g., internal generalization pressures in the language) even more problematic. When languages present potential ambiguity in the interpretation of their syntactic similarity or difference, it might be appropriate to compare the subjects’ syntactic performance at one point in time with that in another point of time (i.e., longitudinal case study), or to compare the results of the experimental groups with those of control ones (i.e., cross-sectional study) to investigate a possible syntactic transfer in the contact situation.

It should be also acknowledged that typological analyses are usually focused on the subject-verb-object arrangement (SVO) and there is a controversy whether the word orders with indirect objects should be included in the analysis. Since in the longitudinal case study on language forgetting, the main concern was to see all possible changes in the Russian word order, it was decided to (1) to make a distinction between word orders with direct objects and word orders with other sentence structures, e.g. indirect objects, adverbial modifiers, etc., which are going to be referred to as “O” and “X”, respectively, (2) to focus on subject-verb position within any permissible word order, whether it involves a direct or indirect object, and (3) to consider two-member sentences (subject-verb) as complete sentences.

## **6. Study 1: Case study on L1 forgetting**

This study was based on a year-long monitoring of a Russian girl placed in a strictly English-speaking environment where no Russian input was received. The major findings of the study concerned vocabulary decline (Isurin, 2000), but a few syntactic changes have not been so far reported.

### *6.1 Subject*

A Russian orphan, S., was 9 years old when she was adopted by an English-speaking family and brought to the US in May 1997. Her Russian (L1) had been well developed by that time and her fluency in Russian paralleled that of her Russian-speaking peers. An assessment of fluency in the native language was based on records from the Russian school and the orphanage. Her English (L2) was non-existent at the time when she entered the US. Over 13 months of monitoring the child, the exposure to Russian had been limited to the researcher’s brief monthly visits (about 30 min. each) and occasional telephone conversations at the early stage of the child’s adaptation to a new environment. At that time, the author had to act as an intermediate communicator between her, speaking no English, and her parents, knowing no Russian (about 30 min. a month). This roughly constituted about an hour in all for S.’s monthly exposure to Russian. Three months after she came to the US, help over the phone was no longer required, i.e., another 30 minutes of contact with Russian were eliminated. Beyond the session, S. did not feel like speaking Russian to the author. Other than that, there was no

exposure to the first language. Accidental contact with Russian speakers was hardly possible due to the absence of a Russian-speaking community in the city where the study was conducted.

In September 1997, S. started the third grade in a regular American school, and by the end of the first semester, her English proficiency was evaluated at the first grade level. This means that it had not yet paralleled that of her English-speaking peers, but demonstrated great progress in L2 acquisition. By the end of her first academic year, her English proficiency almost met the third grade requirements. The child's attitude to languages had dramatically changed, from initial reluctance to accept English as a dominant language to the final unwillingness to speak Russian to the author a year later, when S. started to admit that she had already forgotten Russian. The qualitative analysis reported in this paper was based on the data collected over the one-year monitoring period.

## 6.2 Method

Three tasks, i.e., semi-spontaneous speech, picture description, and story telling, were aimed at testing the possible syntactic changes, particularly, word order changes, in L (Table 1).

Table 1. Schedule of tasks reported in the longitudinal study.

No	Date	Task
1	June, 1997	picture description story telling semi-spontaneous talk
2	September, 1997	picture description
3	December, 1997	N/A
4	January, 1998	N/A
5	March, 1998	picture description story telling
6	April, 1998	picture description
7	May, 1998	semi-spontaneous talk
8	June, 1998	picture description semi-spontaneous talk

The semi-spontaneous speech task was offered three times during the monitoring period (session 1, 7 and 8). The picture description task was offered 5 times (sessions 1, 2, 5, 6, 8) and was based on three colored pictures from a children's book showing both objects (e.g. house, swings, trees, barn, path, fence, pets, children, dolls, etc.) and actions (e.g. chasing, fighting, flying, hanging, lying, playing, crying, etc.). Two pictures were repeated, i.e., picture 1 was presented in session 1 and 5, picture 2 in sessions 1 and 6, and a new picture 3 was introduced in the last session 8 to test the level of syntactic control a year since the L1 input ceased. Such a long interval between the presentation of the same pictures was used to minimize any possibility of better retention due to repetition of the material. Also, the data obtained from the use of the same testing material was thought to be less confounded.

The story telling task was based on the well-known "Little Red Riding Hood" depicted in the book written in Hebrew. The latter would eliminate any possibility of child's reading the story instead of telling it. The same story was offered twice (session 1 and 5). The data obtained from all three tasks were tape recorded and later transcribed. The qualitative analysis of the data relating to word order changes is given below.

### 6.3 Results

The results from the semi-spontaneous speech are not reported on here due to the insufficient data obtained at the later sessions when the subject was reluctant to get engaged in any spontaneous Russian conversation.

#### 6.3.1 Picture description task

The analysis of the data gathered from the picture description task where the same pictures were used with an interval of nine months between each presentation, was aimed at comparing possible word order changes with time.

Table 2 illustrates a word order change as it was recorded in speech samples referring to the same picture objects.

Table 2. Word order in picture description

session	1	5
	Na dereve visit malchik (XVS) On the tree is hanging a boy	Malchik visit na dereve (SVX) The boy is hanging on the tree
	Tam sidit devochka (XVS) There is sitting a girl	Devochka sidit na balkone (SVX) A girl is sitting on the balcony

The comparison of the sentence samples referring to the same objects and recorded at different intervals (Table 2) shows how the L1 XVS word order has changed into the SVX, which remains acceptable in both languages and the only possible choice in L2.

A further analysis of the data gathered in the picture description task was based on comparing the same number of complete sentences referring to the same part of the picture in two sessions (1 and 5). The following data was received:

session 1 - 12 sentences: 4 (SVO), 4 (SV), 1(SVX), 2 (XVS), 1(XSV);  
session 5 - 12 sentences: 8 (SVO), 2 (SV), 2 (SVX).

The analysis of the above results shows no VS sentences in the later session. Also, the number of the SVO sentences has doubled in the later session.

#### 6.3.2 Story-telling task

The analysis of the data from the story-telling task was based on the same principle as in the picture description task. The same Little Red Riding Hood story was offered twice, i.e., in session 1 and, nine months later, in session 5. Then a comparison between speech samples in both sessions was made.

It should be mentioned that the VS word order is commonly used in Russian story-telling discourse, e.g., it would be more acceptable to use a sentence like:

(7) Poshla devochka navestitj babushku (VSO)  
Went a girl to visit her grandma

rather than:

(8) *Devochka poshla navestitj babushku (SVO)*

A girl went to visit her grandma

The analysis of word order in story telling was based on 18 complete sentences recorded in each session. It has revealed the following distribution of word order arrangements in each session:

Session 1: 6 (SV), 2 (SOV), 2 (SVX), 4 (SVO), 2 (VS), , 1 (VSX), 1 (XSV) sentences.

Session 5: 9 (SV), 4 (SOV), 2 (SVX), 2 (SVO), 1(SXV).

In other words, there were 3 sentences with the VS arrangement in the first session and none of such sentences were found in the later session, when the same story was offered for the second time.

Also, it is interesting to notice that a great amount of the story content had been lost by the time it was offered for the second time and the lost parts were either made up at this time or their recall was cued by the researcher. However, neither original parts nor made up parts in the story had sentences with the verb-subject arrangement.

#### *6.4 Discussion*

The data obtained from two tasks used in the present study showed that there was a change in the word order preference registered over nine months of the observation period.

The analysis of the data from the picture description tasks has demonstrated a shift to SVO word order preference. The comparative analysis of the speech samples referring to the same pictures registered a change in the word order use, which can be indicative of the L2 influence.

The analysis of changes in word order in the story telling task provided further evidence of possible L2 interference into the L1 syntactic structure. The absence of the VS word order, typical of any Russian story-telling discourse, in the later session of the monitoring period, could be only partially explained by the loss of the story content noticed at that time. It could be hypothesized that word order generally used in story-telling and less typical of everyday discourse might be encoded with the content. The loss of the content information might have also caused loss of syntactic information and the new content could have been decoded in accordance with a more dominant SVO order. But it does not explain why the very beginning of the story, still well preserved in S.'s memory, does not have, at least, one opening sentence with the VS order which was registered in the first session and which is pre-requisite in Russian story-telling discourse. It contradicts the hypothesis made earlier in this section that surface syntactic information might have been encoded with the content. The only plausible explanation of this syntactic loss can be found in a possible language transfer which might have occurred from L2 into L1 and caused the VSO word order, that is unacceptable in L2, to be replaced by the SVO that is more acceptable in L2 and yet common in L1.

However, another interpretation of this finding can be offered. The new word order preference did not violate the acceptable word order pattern in Russian, rather it resulted in using more common word orders at the expense of abandoning less frequent orders (e.g. the VS arrangement). This can provide evidence for the markedness hypothesis and support the finding in the earlier study (Schaufeli,1996), that word order change will always move towards a consistent word order pattern in a language.

To conclude, the word order change registered in the present case study might be attributed to the possible transfer from L2 as well as to the internal generalization pressures in L1 in a unique attrition situation where L1 input ceased and only L2 input was received. The similarity between the dominant word order patterns in both languages makes it hard to separate pure transfer from any inner-language forces which may eventually produce the same syntactic change.

### **7. Study 2: Cross-sectional study on L1 forgetting/ L2 acquisition**

The findings in the reported above longitudinal study encouraged the further investigation of possible word order changes in subjects who moved from the L1 environment, had a relatively long exposure to L2 with a limited L1 input, and as a result, might exhibit signs of their L1 change. Moreover, there was an attempt to look at word order change from the perspective of language



transfer in L1 forgetting as well as L2 acquisition, where the target and contact languages remain the same, i.e., in our case, Russian and English, respectively.

### *7.1 Subjects*

Three groups of subjects participated in this study. First, there were 5 monolingual native speakers of Russian living in St. Petersburg, Russia, that will be referred to as a control group in this paper. Second, there were 7 bilingual Russian/English speakers living in the US (Columbus, OH). Third, there were 11 bilingual English/Russian speakers living in the US (Columbus, OH). It should be mentioned that the data for one Russian/English bilingual was excluded from the analysis due to the insufficient number (18) of sentences produced and the following report will be based on the data obtained from the remaining 6 subjects. The assessment of bilingualism was not a concern of the present study and a name “bilingual” should be considered as a hypothetical term. All subjects in this study were college educated and represented a 25-40 age group. Russian/English bilinguals had spent 5-10 years in the US by the time of the experiment. Their daily exposure to Russian did not exceed 10%-30%. It was important for this study to find participants living outside the Russian community and having a limited exposure to the native language. The self-assessment of fluency in English indicated a high level of proficiency in the second language.

English/Russian bilinguals were either graduate students majoring in Russian or those who had a combined experience of, at least, two years of learning Russian in college and a few years of work requiring fluency in Russian. All subjects in that group had lived, at least, a few months in Russia. However, it should be acknowledged that fluency in Russian as the target language in this study was not equal across the two groups of bilinguals participating in the experiment. The level of Russian, albeit relatively fluent, among English/Russian bilinguals was yet not at a native like level of proficiency.

### *7.2 Method*

A story-telling task aimed at producing a semi-spontaneous speech was used in this study. Subjects were offered a story depicted in a book (“A boy, a dog, frog, and a friend”, by Mercer & Marianna Mayer, 1978) and asked to make up a story based on the pictures. Each subject was interviewed individually. Their speech was taped and later transcribed for the analysis. After they completed the task, they were asked to fill out a questionnaire, then they were thanked and dismissed. The purpose of the questionnaire was to gather a background information concerning the age, education, literacy in Russian, amount of exposure to Russian, as well as possible problems experienced in the language. The latter showed that the majority of Russian/English and English/Russian bilinguals reported problems in remembering Russian vocabulary (Russian/English group) or finding the right word to express themselves (English/Russian group) while only 3 and 2 subjects, respectively, admitted the problems with correctly ordering words in a sentence, which could be relevant for a further discussion.

The analysis of the data from this study was approximated to the analysis used in the longitudinal study reported above. That is, only complete sentences with the SV/VS (subject-verb/ verb-subject) were chosen for analysis with the main focus on the SV arrangement within any permissible word order. In case of compound sentences, the SV arrangements in main and subordinate clauses were considered as separate sentences. Moreover, there was a separate analysis of the SV arrangements in subordinate clauses since a preliminary analysis of the data suggested that there might be more cases of the reverse VS order use in subordinate clauses.

Although the preliminary analysis was made on registering all mathematically possible word orders, it was later limited to two basic word order arrangement, i.e. SV and VS, with a separate analysis of word order in subordinate clauses. Also a separate analysis of the use of a pure SVO order was made for an across the group analysis.

All sentences having a subject, verb and a direct objects arranged in the SVO order were considered SVO sentences.

In addition, it has been decided to exclude all sentences involving direct speech from the analysis. The reason for that exclusion was that, in Russian, narrator’s remark following the direct speech usually entails a reverse VS word order:

- (9) “Kto eto?” - sprosil mal’chik (VS).  
 “Who is this?” - asked the boy.  
 Or:  
 (10) “ Mne nado spasat’ druga”, - podumala sobaka (VS).  
 “ I have to save my friend” - thought the dog.

Only a few subjects (two in the control group and two in the group of Russian/English bilinguals) used a direct speech in their narration and the VS order was registered in most of the cases. Thus it would complicate the within - and across the group analysis of the data.

Moreover, small size of groups and uneven number of complete sentences each participant produced made it somewhat difficult to operate with absolute numbers. Thus the analysis was based on percentile calculations where the total number of sentences each participant yielded was taken for 100% in the within-group analysis, or a mean number of sentences each group produced was taken for 100% in the across-group analysis.

At the onset of the study the following predictions were made. The group of Russian/English bilinguals might show a trend of using the VS order less frequently than a control group. However, it would not be surprising not to find any changes in L1 word order at all, since the time factor and the age at which an extensive exposure to L2 occurred might be decisive in preventing or inhibiting the erosion of the syntactic knowledge in adults. As to the group of L2 acquirers, more rigid pattern of using the SV arrangement or a complete avoidance of the VS order might be expected. The latter would not violate Russian syntax where the SVO remains dominant, rather it would reflect a transfer from English where the VS order is impermissible or it might equally reflect generalization of the existing rule in Russian. .

The result of this study will be reported as follows. First, an analysis of the data obtained from the Russian/English bilinguals will be presented. After a report on the findings among English/Russian bilinguals, a general discussion will be offered.

### 7.3 Results

#### 7.3.1 Russian/English bilinguals

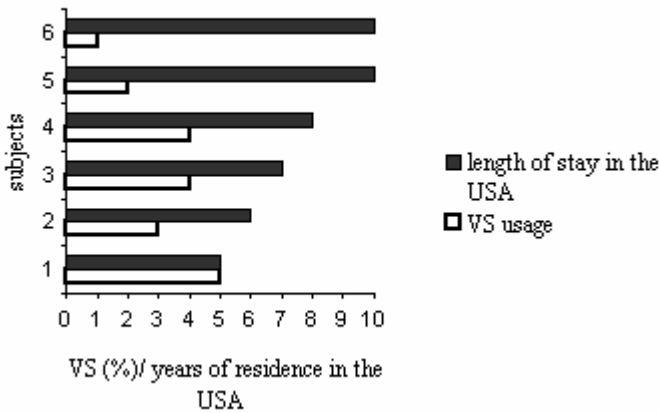
The analysis of the data for this group revealed no change in SV/Vs use compared to the controls. The percentage of cases where the reverse (VS) word order was used remained almost the same (Table 3):

Table 3. Word order use in cross-sectional study

group/WO use(%)	VS(total)	VS in subordinate clauses	VS in existential sentences	SVO
controls	6	18	11	27
L1 attriters	7	15	15	26
L2 acquirers	1	0	33	36

However, a within group analysis of the experimental group suggested that there might be a trend of a less frequent use of the VS word order in Russian with a longer stay in the English-speaking environment. The data on the VS use was matched with the length of the individual residence in the US which is illustrated in Figure 1.

Fig. 1 Russian/English bilinguals: VS usage



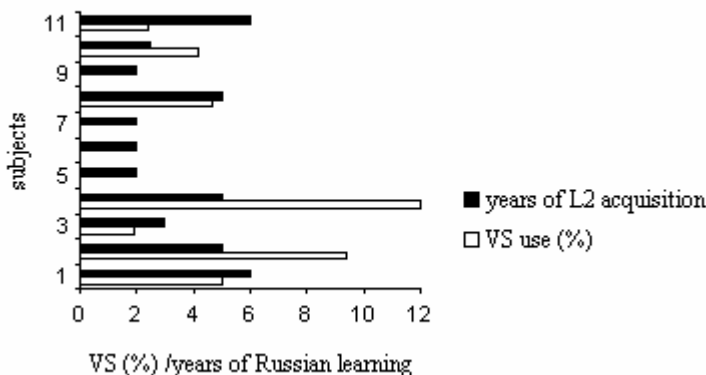
At the first glance, you can see a slight decrease in the VS use for two subjects with a 10 years residence in the US. However, the above insignificant evidence should be treated carefully. Remember, that all direct speech samples were excluded from the analysis. Subject 6 in the group of Russian/English bilinguals was the one who used it extensively and demonstrated a good command of the VS word order in those cases where that arrangement is pre-requisite. Thus it would suffice to say that there was no noticeable change in the word order use among Russian/English bilinguals in the present study. However it should not discourage the further research in this field.

### 7.3.2 English/Russian bilinguals

The individual performance among English/Russian bilinguals was more consistent with the earlier made predictions than the performance of Russian/English bilinguals. The analysis of the data on this group yielded the following results. The mean percentage of cases with the VS order was much lower (1%) than that of the controls (6%) and the Russian/English bilinguals (7%), with 4 participants having no such cases registered at all (Table 3).

When the data on the VS use among the participants of this group were matched with the length of the L2 acquisition period (Fig. 2) it was noticed that the use of the Russian reverse word order increases with the time spent on learning the language.

Fig. 2 English/Russian bilinguals: VS use



Also it becomes clear that the 4 participants who did not use the VS order at all were those who spent only two years on L2 acquisition.

The further analysis of the data showed that the VS sentences used by this group of participants involved a high number of cases where the Russian verb “byt’” (to be) was used. The existential structure that also expresses possessiveness in Russian would inevitably entail the use of the verb “byt’” (to be) and reversing the word order:

(11) U menja est’ drug. (XVS)

I have a friend.

Or:

(12): Tam byla ljagushka. (XVS)

There was a frog.

When all VS instances were analyzed in terms of this structure for each group, there were 33% of such cases registered for the group of English/Russian bilinguals, 15% for the group of Russian/English bilinguals, and 11% for the group of controls (see Table 3).

When a separate analysis of the SV use in subordinate clauses was made it showed that both controls and Russian/English bilinguals used the VS order in subordinate clauses more frequently than they used it in general, i.e. controls - 18%, Russian/English bilinguals - 15% , while English/Russian bilinguals did not use it at all ( see Table 3).

An analysis of pure SVO sentences has demonstrated a higher preference for this sentence structure among English/Russian bilinguals (36%) compared to Russian/English bilinguals (26%) and controls (27%) (Table 3). Thus a typical sentence expressed by a participant of this group would be:

(13): Cherepaha shvatila cobaku za hvost (SVO)

The turtle caught a dog at its tail

or:

(14): Malchik vzjal sobaku na ruki (SVO)

The boy took a dog in his arms

while a native speaker of Russian in both groups would most likely say:

(15): Cherepaha podplyla k hvosty sobaki i kak tzapnet za hvost! (SVX)

The turtle swam up to the dog’s tail and bit at it

or:

(16): Malchik poshel na bereg s sobakoi na rukah (SVX)

The boy went to the shore with a dog in his arms.

#### 7.4 Discussion

Findings reported in the above study show that there was no noticeable change in using the reverse word order in Russian for the group of Russian/English bilinguals. Also, there was no clear cut evidence for a less frequent VS use with a longer period of residence in the US. Providing a small size of the group participating in the study and the absence of the participants with a significantly long residence in the country (e.g., 20 years and more) it can be hypothetically suggested that a change in the word order use among the Russian/English bilinguals might occur with a longer exposure to English and a limited daily exposure to Russian. But the above reported evidence is not enough to make a far-going conclusion.

Also, we cannot exclude the possibility of metalinguistic awareness as a factor in retaining a good command of the reverse word order in Russian among the Russian/English bilinguals. As it was mentioned earlier in this paper, the questionnaire’s responses indicated a problem with correct ordering the words in the sentence for, at least, three participants (2, 3, 5) in this group. However, the possible effect of metalinguistic factors was not tested in the present study.

The results on the group of English/Russian bilinguals were consistent with the predictions made at the onset of the study. The less frequent use of the VS order among the participants of this group gives evidence for a possible constraint in L2 acquisition due to the absence of the corresponding

structure in L1. However, as it was mentioned earlier in this paper, the SVO is the dominant word order in Russian and the less frequent use of other permissible orders or a complete avoidance of the VS order should not be considered a negative transfer.

Also, English/Russian bilinguals showed a higher tendency to use the existential structure involving the reverse word order than both controls and Russian/English bilinguals. It could be explained by the fact that the existential structure in Russian, equivalent to that in English (cf.: There was a boy) as well as to the English structure expressing possessiveness (cf.: A boy had a dog), is one of the basic structures usually well mastered at the early stage of acquisition of Russian as L2. Thus we can assume that a higher rate of use of this particular structure among English/Russian bilinguals might come from the insufficient proficiency in L2 where the use of more familiar and better learned syntactic structures diminishes the chances of occurrence of other grammatical structures.

The higher preference for the SVO order among English/Russian bilinguals only partially may be explained by a language transfer from English. The fact that both languages have the same dominant word order, i.e., the SVO, makes it somewhat difficult to offer language transfer as an explanation of this trend. The factor of fluency should not be ruled out of the possible reasons for the observed phenomenon. English/Russian bilinguals speaking Russian at a level of proficiency much lower than that of native speakers might feel a need to stick to a regular sentence structure where the syntactic assignments not only resemble those in their native language but also require lower cognitive load (i.e., indirect objects require prepositions that can always cause a problem for a L2 acquirer).

The group of English/Russian bilinguals has also showed a trend of using the VS word order in Russian more frequently, if at all, with a longer period of L2 acquisition. With as little supporting evidence as we get from the group of Russian/English bilinguals, length of exposure to L2/L1 for L2 acquirers/L1 attriters, respectively, seems to play an important role in the CRI. The longer exposure to a new language may indeed decrease the CRI for L2 acquirers and increase it for L1 attriters.

To conclude, the results of the reported study give only indirect evidence of a cross-linguistic transfer from English to Russian for the group of Russian/English bilinguals but support another prediction, that L2 acquirers tend to adapt the syntactic structure of a new language to that of their native language and/or avoid redundancies by generalizing the rule where irregularities are minimized.

## **8. Conclusion**

The results of the two studies reported in this paper suggest that the mechanism of language transfer in L1 forgetting and L2 acquisition may indeed work in a similar way, that is irregularities in the target language may get replaced by a less marked structure from L2/L1 respectively. However, when two contact languages have the same dominant structures it becomes very difficult to separate a pure transfer from whatever internal generalization changes might have occurred. From this perspective, further investigation of language transfer between the languages having distinct syntactic structures would be extremely welcome. Also, further research based on L1 syntactic changes in the adult immigrant population with a significantly long period of residence in the L2 country might bring the evidence that the present study failed to provide. A slight trend of decline in the use of the VS orders noticed in the above reported study may have implications for future studies, where ten or more years of extensive exposure to an L2 with a limited input from an L1 might be taken as a reference point.

As to the evidence coming from the reported longitudinal study, it shows that unique attrition situations involving children can give invaluable data for the studies on L1 forgetting. However, they require not only a pure chance that an interested researcher and a subject in question met but also that a researcher had an extensive knowledge of the prior studies concerned with L1 forgetting in the environment where L1 input ceased. Unfortunately, the field of L1 forgetting does not know that many cases similar to the one reported in the present paper, which could make the evidence from this study, albeit insignificant, important for the future investigation of cross-linguistic transfer.

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