"COME SI DICE IN ITALIANO?": A CASE STUDY OF L1 ATTRITION

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INTRODUCTION

This paper describes a case study of Italian L1 attrition. Several areas of the participant's L1 are examined, with a focus on lexical attrition and the consequent use of communication strategies to prevent communication breakdowns. Particular attention is given to the manner in which the redundancy reduction, markedness, and salience principles may affect production. The participant's L1 competence is tested as well to examine whether certain areas of it are at all affected by attrition. From the data collected, there are reasons to believe that attrition affects mainly production, in the form of diminished accessibility.

What is lost during the process of L1 attrition? Does loss affect only performance, or is competence affected as well? In what manner does loss take effect? Which linguistic features are most vulnerable to attrition; which ones (if any) are immune? Does loss happen in predictable, developmental stages; in other words, is it a process of "reverse acquisition" (Olshtain, 1989)? What kinds of communication strategies does an attriter generate to avoid communication breakdowns? These are only some of the questions posed in current research. For the purpose of this study, I will attempt to find answers to some of these questions.

Language attrition, a process of linguistic skills loss, can be divided into four main categories:

1. L1 attrition in an L1 environment, usually found in aging or aphasic individuals;
2. L1 loss in an L2 environment, usually a concern of immigrants;
3. L2 (or FL) loss in an L1 environment, exhibited by L2 (or FL) learners who don't have opportunities to continue using the L2;

4. L2 (or FL) loss in an L2 environment, which could conceivably be found in older or aphasic immigrants (de Bot & Weltens, 1995).

This case study analyzes the second type of attrition. L1 attrition can be defined as the process by which, due to limited use and continuous encroachment by the dominant L2, elements of the L1 become less accessible to the speaker, especially under the time constraints inevitably tied to on-line processing. The linguistic features affected by attrition in the individual observed in this case study are of a phonological, lexical, syntactic, and morphological nature.

Additionally, the loss of linguistic ability in one's native language due to attrition may cause communication breakdowns when the attriter attempts to communicate in the L1 with other L1 speakers. Therefore, I will also explore the attriter's production of communication strategies (henceforth CS). I will focus on her linguistic output, as well as on the influence that her interlocutors may have on her choice of strategies. I will therefore take a linguistic and interactive, rather than cognitive, approach to the analysis of CS use and take as my main point of reference the CS categories used by Ammerlaan (1996), Liskin-Gasparro (1996), Turian and Altenberg (1991), and Yule and Tarone (1991 & 1997).

BACKGROUND

A Historical Perspective

The study of language attrition is a fairly recent development within the field of SLA. In fact, studies focusing on the formal and psychological features of L1 attrition began to acquire a solid place in the SLA literature only between the late 1970s and the early 1980s. Some of these studies focus on L1 attrition as a group phenomenon, either inter- or intragenerational, chiefly among immigrant populations (Boyd, 1986; de Bot, Gomman, & Rossing, 1991; Dressler, 1991; Schmidt, 1991; Huffines, 1991; Olshtain & Barzilay, 1991; Silva-Corvalàn, 1991), while others take a case study approach and analyze L1 attrition as it pertains to the speech of particular individuals (Kaufman & Aronoff, 1991; Altenberg, 1991; Turian & Altenberg, 1991; Seliger, 1991; Vago, 1991).

The first conference fully dedicated to the study of language attrition was held in Philadelphia in 1980; its proceedings are published in Lambert and Freed (1982). The focus of this first conference was mainly foreign language attrition. Six years later, another symposium—the European counterpart of the 1980 American conference— whose proceedings are published in Weltens, de Bot, and van Els (1986), was held in the Netherlands. The problem of L1 attrition received some attention during this symposium,

but the majority of the research still reflected the then-prevailing interest in foreign or second language attrition. The most recent and comprehensive work to date on L1 attrition is found in the volume published in Seliger and Vago (1991), a collection of survey and research articles. The research carried out to date analyzes L1 attrition among speakers of a variety of languages (English, Hebrew, German, Dutch, Finnish, and Hungarian among others). Unfortunately, research published so far on the attrition of L1 Italian is rather scarce. Probably the most extensive analyses of L1 attrition among Italian immigrants can be found in Bettoni's (1986) collection of studies on Italian-English contact in Australia, Canada, the United Kingdom, and the United States. However, for the most part, this collection takes a sociolinguistic approach. A more SLA-informed analysis of the attrition phenomenon is therefore needed.

Current Theories of Attrition

Current findings seem to confirm the hypothesis that L1 linguistic knowledge itself is not lost when first language attrition occurs as a result of L2 acquisition followed by reduced use of the L1. Rather, several aspects of performance are affected by the attrition process because of the diminished accessibility of certain linguistic features when speakers are under time pressure (de Bot & Weltens, 1995). When the L1 is only sporadically used, the L2 becomes dominant and therefore more accessible in short-term memory. Consequently, the lack of activation of L1 determines the reduced accessibility.

In addition to the constraints determined by time pressure, conversational topic choice may also affect the performance of attrited bilinguals. To my knowledge, there is no research on the influence of conversational topic on attrition, but there is a small body of work on the effects of conversational topic on NNS' pragmatic performance (Zuengler, 1993). According to the Discourse Domain Model (Douglas & Selinker, 1985), an SLA theory claiming that IL develops within specific domains or content areas, learners' IL may exhibit different stages of development, depending on the discourse domain they are engaged in. It follows that, in the case of attrition, an attrited bilingual's ability to talk about a certain domain may vary according to language (e.g., a certain domain may be more familiar to the attrited speaker in the L2, therefore increasing the cognitive load required to communicate about the same domain in the L1).

However advanced the attrition process may appear, L1 competence is not necessarily completely lost. Empirical evidence shows that many speakers experiencing attrition are still able to retrieve lexical items with much greater ease when they are not subjected to the time constraints associated with on-line processing, e.g., during an untimed test (Altenberg, 1991; de Bot & Weltens, 1995). A certain kind of "immunity to loss" is

achieved by many attriters. Bahrick (1984) posited that certain linguistic elements may end up in a "permastore"; in other words, the linguistic knowledge is not lost, but only "stashed away" where it cannot be easily accessed, unless more frequent linguistic use may warrant its reactivation. A somewhat similar take on immunity to loss is represented by Neisser's interpretation of Bahrick's theory (1984). According to this theory, a "critical threshold" beyond which attrition does not increase is usually reached by attrited individuals. Immunity is achieved for those linguistic elements that are tightly connected within a system. On the contrary, linguistic elements that are disconnected or isolated, such as for example idioms or other "self-contained" lexical chunks, are more likely to become targets of attrition.

After the beginning stage during which the bilingual acquires L2, there can be a period in which both languages are equally accessible. Code-switching can be typical and frequent during this stage (Seliger, 1996). If the bilingual remains isolated from an L1 speaking community, the L2 will become dominant. During this third stage, the L1 becomes less and less accessible to the bilingual, i.e., signs of L1 attrition become noticeable. Eventually, severe and prolonged attrition may lead an affected bilingual to the complete inability to retrieve the L1. In this extreme instance, attrition leads to language death (de Bot & Weltens, 1995). The amount of time necessary to reach this fourth stage in the attrition process may vary greatly, depending on a host of factors, e.g., status of L1 in the L2 community, cohesion or isolation of immigrant groups, continued influx of new immigrants from the home country, or overlapping or separation of L1 and L2 domains.

There are many ways in which L1 attrition can affect bilinguals' linguistic abilities, but most changes can be described as processes that simplify the attriter's L1 in a variety of ways (Seliger & Vago, 1991). Lexical, syntactic, and morphological features may be simplified, often in accordance with the characteristics of the L2 grammar. Perhaps less commonly, phonological features may also be modified. Changes can be either externally or internally induced (Seliger & Vago, 1991). Externally induced changes can be described as the results of L2 dominance. Generally speaking, in this case, L2 elements seep into the L1, e.g., lexical components from the L2 may take the place of semantically corresponding lexical components in the L1.

Externally induced attrition could be viewed as a process of reverse transfer. In other words, just as an L2 learner's interlanguage exhibits features of the L1 within the target language during the acquisition process, in L1 attrition the opposite process will emerge, i.e., linguistic elements from the L2 will appear in the speech of a bilingual attempting to use the L1. Historically, other parallels have been drawn between attrition and

acquisition. Jakobson (1962) put forth the hypothesis that attrition is a mirror image of acquisition (i.e., an acquisition in reverse). This parallelism between acquisition and loss is also known as the "regression hypothesis." In a nutshell, this hypothesis states that linguistic elements that are learned later are good candidates for early attrition, and conversely, those linguistic features that are learned at an earlier stage will be more resistant to attrition. While the regression hypothesis may have some merit when applied to foreign language attrition, its validity with respect to L1 attrition has been seriously questioned, partly because it is much more difficult to establish in what order different linguistic elements may have been acquired (de Bot et al., 1991). Even in those areas where reasonably valid hierarchies of L1 acquisition have been found, such as with the aspect-tense-mood-number-person continuum (Bybee, 1991), the claim that elements acquired later will be lost sooner may not hold.

Internally induced changes can be defined as changes in the L1 that are not motivated by contact with the L2, but rather by some UG principle or by some particular parameter specific to the L1 (Seliger & Vago, 1991). Certain kinds of redundancy reduction, which will be discussed in more detail below, such as simplification of the mood system in L1, may be considered representative of this category of attrition changes. Generally speaking, morphology has been shown to be the area of L1 usually most affected by internally induced attrition (Seliger & Vago, 1991).

Because it is more difficult to establish predictable developmental stages of loss in L1 attrition than in FL attrition, where grammatical features learned later are likely to be subject to attrition earlier, it has been impossible so far to map out a system of crosslinguistic developmental stages defining attrition patterns that eventually lead to complete L1 loss (Seliger, 1996), although it stands to reason that some common underlying principles may affect the process of L1 attrition. Regular patterns of lexical transfer or shift have been found to exist within immigrant communities. Some pertinent examples are given in the discussion of *italiese* in Toronto's immigrant community (Clivio, 1986). These attrition patterns, however, are usually localized and language-specific and do not apply to attrited individuals isolated from the L1-speaking community. Overall, these patterns cannot be used for crosslinguistic generalizations.

While predictable developmental patterns have not yet been discovered, it appears, however, that first language attrition is certainly not a random process of loss of linguistic abilities either. The simplification strategies that bilinguals apply to their least dominant language can be analyzed in terms of redundancy reduction. The principle of redundancy reduction provides a theoretical framework that can explain a common phenomenon in first language attrition: in long-term memory, where the two grammatical systems stored

by bilinguals overlap to some degree, attrited speakers may adopt one unified rule, often based on the L2, which will satisfy the requirements of both languages.

The process of redundancy reduction often intersects with the markedness principle. According to Seliger (1996), attrited bilinguals seem to observe some markedness criteria. In fact, with respect to externally induced attrition, lesser marked L2 forms are the most likely candidates for the substitution of more marked L1 forms, whereas lesser marked L1 features appear to be more resistant to loss. This doesn't come as a surprise if we consider markedness in UG terms, and in terms of learnability (Bley-Vroman, personal communication; White, 1989). In fact, it is generally accepted that unmarked features are acquired sooner and are therefore more likely to be safe from attrition.

In a typological/crosslinguistic sense, however, markedness alone can be problematic as a predictor of both attrition and acquisition. In English, when comparing stranding and pied-piping, we see that the first is acquired earlier by first and second language learners alike even though stranding is a crosslinguistically marked strategy. Bardovi-Harlig (1987) argues that markedness alone is not sufficient to explain the order of acquisition of stranding and pied-piping, and it is necessary to take into consideration saliency, i.e., its availability in the L2 input, in addition to the markedness criterion. It stands to reason that saliency may be an important factor in the attrition process as well. In other words, the greater availability in the input of a certain marked L2 form may cause an attriter to substitute this to a less marked L1 form. Bilingual speakers of Hebrew and English, whose dominant language is the L2 (English), have been found to apply stranding when using Hebrew, a language that doesn't allow it (Seliger, 1996), despite the crosslinguistic markedness of stranding. This example suggests that the way in which the markedness criterion may affect redundancy reduction probably interacts with the saliency factor. Additionally, this example may suggest that linguistic principles alone may not be sufficient for the explanation of attrition phenomena, and that processing should be taken into consideration as well.

With respect to internally induced attrition, the markedness criterion seems to operate in tandem with redundancy reduction by creating simplifications in which a less marked L1 form will be preferred over a more marked one even if the simplification alters the intended meaning. Certain morphological simplifications (e.g., verbal mood) fall into this category.

The Use of CS in Lexical Attrition

When communication breaks down because of linguistic difficulties (e.g., the inability to access and retrieve the appropriate lexical item), NS as well as NNS may resort to a

variety of communication strategies to solve the communicative problem at hand. CS are, in a much quoted definition by Færch and Kasper, "potentially conscious plans for solving what to an individual presents itself as a problem in reaching a particular communicative goal" (1983, p. 36).

The use of CS by NNS has been amply documented and researched since the late 1970's. Several taxonomies of CS exist, reflecting different conceptualizations of CS. Some taxonomies focus on the cognitive and psychological processes that underlie the use of CS (Bialystok, 1990; Kellerman, 1991; Poulisse, 1993). In this case, only compensatory (or achievement) strategies (e.g., approximation, circumlocution, foreignizing, etc.) are considered worthy of analysis. Other taxonomies, however, prioritize the analysis of the linguistic output resulting from communication breakdowns and consequent use of CS (Dörnyei & Scott, 1997; Færch & Kasper, 1983; Liskin-Gasparro, 1996; Tarone, 1980; Yule & Tarone, 1997). In addition to compensatory strategies, these taxonomies include reductive strategies as well (e.g., message abandonment, topic avoidance, etc.). Additionally, Tarone (1980), and Yule and Tarone (1991) emphasize the function of the interlocutor in interactions involving CS, therefore adding a category that could be defined as interactive strategies.

Most of the current and past research on CS focuses on communication breakdowns that occur as a result of NNS's use of the L2. Consequently, not many studies analyze the use of CS by NS experiencing attrition in the L1. Turian and Altenberg's (1991) case study of a three year old child acquiring English and Russian in the United States and exhibiting attrition in Russian describes the process by which, due to changing circumstances in his household, the child's dominant language shifts from Russian to English around the age of four. The researchers analyze the child's choice of CS in the attempt to cope with the increased attrition in his formerly dominant language and find many similarities with CS choices by L2 learners. The researchers also find that the CS chosen by the child don't seem to be language specific, citing similarities with CS use from studies on Danish (Færch & Kasper, 1983) and English (Bialystok & Fröhlich, 1980).

Adopting a taxonomy based on Poulisse, Bongaerts, and Kellerman (1984), Turian and Altenberg group compensatory strategies into three main categories: interlingual strategies, which include code-switching, lexical borrowing, and syntactic transfer; intralingual strategies, which consist of analogical leveling, lexical innovation, and approximation; and discourse strategies, which is a bit of a catch-all category. In fact, grouped under this last heading are a variety of strategies such as overt comments, appeal for assistance, deliberate wrong answer and even avoidance, usually considered a

reductive strategy. Noticeably absent from the list of CS used by this young speaker are any strategies based on circumlocution or paraphrasing. Perhaps this absence is due to the fact that these strategies require more conscious planning on the part of the speaker, and therefore, they are not likely to be in the repertoire of young children. Additionally, the absence of paraphrasing and circumlocution could be the result of the child's imperfect knowledge of Russian due to his young age when he began experiencing attrition. In fact, there is support for the argument that circumlocution and paraphrasing, because they are facilitated by the control of a fairly extended vocabulary, are usually employed by relatively advanced L2 speakers (Liskin-Gasparro, 1996).

Another study that takes note of attrited speakers' use of CS when communication breaks down is Olshtain and Barzilay's (1991) observation of fifteen American NS of English who had resided in Israel for several years and were not advanced speakers of Hebrew. The participants were asked to narrate two "frog stories" based on two children's picture books while a control group of six non-attrited NS of English residing in the United States was asked to perform the same task. The crucial elements for this study were a group of infrequent and highly specific nouns that could not be easily substituted with more frequently occurring ones. While the six Americans residing in the United States had no trouble narrating the events depicted in the two booklets using the appropriate nouns, the Israeli Americans experienced varying degrees of difficulty in retrieving the correct lexical items. Among the strategies employed by the attrited speakers, Olshtain and Barzilay list circumlocution or paraphrase, word replacement, systematic retrieval, and, to a minimal degree, avoidance. The attriters often chose word replacement and systematic retrieval, discussing their dissatisfaction with a certain word choice until they could find what to them seemed a more appropriate lexical item. When under time pressure, however, i.e., when faced with an interlocutor, many participants preferred resorting to circumlocution rather than using systematic retrieval.

A more recent study, Ammerlaan's (1996) dissertation on lexical retrieval processes among sixty-four attrited speakers of Dutch living in Australia, analyzes, among other issues, word retrieval difficulties and consequent choices of CS in a picture-naming task. Ammerlaan finds that his attrited speakers tend to choose the following strategies: approximation (using a semantically related word from either language), paraphrase/circumlocution, a "Dutchification" strategy described as "morphological adjustment of an English lemma" (arguably the attriter's equivalent to L2 learners' foreignizing), and, to a lesser degree, avoidance and abandonment. Ammerlaan also points out the combination of related strategies, such as for example "'Dutchification'-'literal translation'-'approximation'/'paraphrase'", and analyzes the order in which these

strategies tend to follow one another. Attriters tended to resort first to English-based, then to Dutch-based strategies, and only if all else failed, did they opt for abandonment. Perhaps not surprisingly, attriters tended to employ a greater number of strategies in retrieving words that were morphologically different in Dutch, and a lesser number of strategies in retrieving cognates.

According to the research to date, there are overall many similarities between CS use in the L1 of attrited first language speakers and L2 learners' interlanguage. In fact, none of the studies I examined points out any substantial difference in patterns of CS use.

Research Questions

I approached this case study with two sets of research questions in mind. The first set focuses on the observable characteristics of attrition in the L1 and on its effects and implications for the attriter's competence and performance in her native language:

1. Which linguistic features are affected by attrition in the L1 of this adult native speaker of Italian?
2. Which features of attrition appear to be externally induced (i.e., motivated by reverse transfer), and which ones are internally induced?
3. When and how are redundancy reduction and markedness applicable to the attrition process experienced by this individual?
4. To what extent does the linguistic loss affect performance and to what extent does it affect competence?

The next set of research questions focuses specifically on the use of CS by the attriter in the attempt to overcome lexical retrieval problems:

5. What are the occasions that generate CS , or more specifically, where do lexical gaps occur?
6. What kinds of CS does the attriter use (e.g., compensatory, reductive, interactive)?
7. What factors may influence her choice of CS?

METHODOLOGY

The case study's participant is Silvia (a pseudonym), an Italian woman in her mid-thirties who grew up in Florence speaking standard Italian and the local Florentinian/ Tuscan variety, which is in many respects very similar to what is considered standard Italian. Until the age of eighteen, Silvia lived in Italy, where she completed her formal education. She had English instruction for one year in sixth grade and one-half year in twelfth grade. She also recalls being unable to achieve effective verbal communication

when she first came to this country at the age of twenty. For the past fifteen years she has resided in the United States; since 1991, she has lived in a rural area on one of the Hawaiian islands, in nearly complete isolation from other speakers of Italian. The only oral Italian input she has received during these six years came from regular phone calls to Italian relatives and friends (Italian speakers in the latter group, mostly residents in the United States, also experience first language attrition to various degrees), infrequent visits from relatives and friends, and sporadic visits to Italy (roughly once every five years). Silvia does occasionally read Italian books. Her L1 exhibits clear signs of attrition at the phonological, lexical, syntactic, and morphological levels. Silvia is keenly aware of this attrition process, especially where it affects her lexical retrieval abilities. During the taping sessions, she often made comments such as:

1. Non so   parlare più   in italiano (2) terribile.
    Not know speak more in Italian   terrible
    I can't speak Italian anymore; it's terrible.

This case study was conducted over a period of fifteen months. Despite its longitudinal nature, no developmental pattern of attrition emerged over the course of the observations. Perhaps, because her attrition process has already been going on for several years, we can assume that Silvia may have reached a critical threshold (Neisser, 1984).

The bulk of the data is spontaneous speech recorded during six taping sessions, for a total of nearly ten hours of recording. The first taping session consists of a conversation between Silvia and two native Italian speakers with basically no knowledge of English who visited her at the beginning of the research period. The remaining taping sessions are conversations with the researcher, also a bilingual English-Italian speaker experiencing some attrition in her L1, Italian. Additional data was collected through notetaking during several phone calls with the researcher over the course of fifteen months. The spontaneous conversation covered a variety of topics with which the informant had varying degrees of familiarity and interest, such as childhood memories, work-and family-related issues, anecdotes about life in Italy or in Hawai'i, personal feelings, political opinions, etc.

Two follow-up untimed tests designed to check Silvia's ability to recognize or produce correct Italian were administered, four months into the research period and at the end of it. Test 1 (Appendix 1) is structured in two parts. Part A, designed to analyze Silvia's receptive ability with respect to the lexicon, consists of ten sentences containing a variety of idiomatic phrases: some are true Italian idiomatic phrases, and some are literal

translations of English idiomatic phrases, which the participant had said during her recorded Italian conversations. Silvia was asked to rate these sentences using a 1-to-5 acceptability scale. Part B of Test 1 focused on morphology and is cloze-like in design. This part of the test was designed to analyze Silvia's ability to produce the appropriate aspect, tense, and mood; to this effect, all the lexical elements that Silvia had to fill in consisted of verbs. Specifically, the test was designed to analyze Silvia's command of the indicative imperfect, and of the conditional and subjunctive moods, since she seemed to show some attrition with respect to these aspects, tenses, and moods during her interviews.

Test 2 (Appendix 2), designed to check whether Silvia's use of CS changed with a more formal and structured communication task, was administered at the end of the research period. Test 2 also consisted of two parts. In part A, designed to test her lexical retrieval abilities, Silvia was required to narrate a simple story based on eight vignettes arranged in sequential order. The narration was followed by retrospection and comments on her difficulties with the task. Part B of Test 2 focused again on Silvia's ability to retrieve correct lexical items (in this case verbs) using appropriate morphology, and it was cloze-like in design. This part of Test 2 mirrored the cloze in Test 1. It was designed with the same purpose (to check Silvia's ability to produce the appropriate tense and mood), and also to analyze the kinds of CS she might resort to in case of retrieval failure. The retrospective comments made by Silvia on the difficulties she experienced during the cloze administration and in the lexical retrieval process in general were also recorded.

RESULTS AND DISCUSSION

Phonological Attrition

A few examples of phonological attrition emerged from Silvia's conversation during both taping sessions, and during the three phone calls with the researcher. Interestingly, it was mostly during the phone calls that the participant exhibited attrition at the phonological level. Examples of this kind of attrition are:

Changes in the stressed syllable. Examples are: *succedére* instead of *succédere* (to happen), or *petáli* instead of *pètali* (petals). The participant also recounted a similar occurrence while she was speaking with non-attrited Italians, during which she pronounced the word *estrànei* (strangers) as *estranèi*. All these examples correspond to the mispronunciation one would expect from a speaker of English learning Italian. Here Silvia seems to apply something akin to the English phonological rule that stresses the

penultimate syllable of a noun if it is heavy (i.e., if it contains either a closed syllable or a long/tense vowel).

Addition of English phonemes to Italian words. An example of this would be *horribile* instead of *orribile* (horrible).

Substitution of English phonemes for Italian ones. Substitution of English phonemes for Italian ones is exemplified by [t] pronounced as an alveolar sound rather than as the dental sound found in most Italian dialects (and specifically in the dialect native to Silvia).

Overall, Silvia's phonological attrition is not very advanced, however. In fact, only a few examples were recorded over the research period. All the cases described above could be explained in terms of reverse transfer or externally induced attrition since typical features of English phonology transfer into her Italian speech.

Lexical Attrition

A more complex picture is found with respect to Silvia's lexical attrition. Here, we find both instances of reverse transfer, and forms that we would not necessarily attribute to the dominance of English in her speech pattern. In other words, lexical attrition appears to be both externally and internally induced. Different elements of Silvia's lexicon are affected by attrition: nouns, verbs, prepositions, and idioms or idiomatic phrases are lexical categories where she often exhibits difficulties with on-line retrieval.

Silvia is particularly aware of her lexical attrition when she has difficulty retrieving the appropriate nouns or verbs. She recalls frequent episodes of attrition, some of which have become somewhat legendary among her friends, because of the comical aspects of the miscommunication. For example, during a telephone conversation with her father in Italy, she once expressed dismay at the fact that, in the United States, many prepared foods contain preservatives. What she told her father, however, was that there were *preservativi nel cibo*. Unfortunately, the Italian noun for preservative is *conservante*, while *preservativo* means condom. Her father reacted with understandable shock at the idea that one may find condoms in store-bought food.

Beyond the anecdotal nature of many of these episodes of lexical attrition lies the principle of reverse transfer. In many such cases, the English meaning transfers to a false Italian cognate. Frequent instances of this type of attrition occur in Silvia's lexicon, usually with nouns or verbs, and occasionally with adjectives. Another example of reverse transfer is her regular use of the word *relativi* (which in Italian is exclusively an adjective, equivalent in meaning to the English adjective relative) to signify relatives (which in Italian translates as *parenti*).

Another hilarious reverse transfer occurred when Silvia attempted to leave a congratulatory message on her brother's answering machine because he had won a regional chess championship in Italy. At that point, Silvia could not retrieve the Italian word for chess, *scacchi*. Instead, with some misgivings, she used an Italian noun with much higher frequency, and which has a phonological resemblance to the English noun chess, *cesso*. Unfortunately, however, *cesso* is the Italian vernacular for toilet. In this case, she couldn't retrieve a low-frequency Italian lexical item and instead used a higher-frequency Italian lexical item which was not a cognate but had some phonological resemblance to the English word.

Reverse transfer seems to operate frequently also in preposition use. For example, the correct form *in autostrada* (in the freeway) regularly becomes *sull' autostrada* (on the freeway) in Silvia's speech, a direct transfer of the English preposition on. Prepositions appear to be particularly vulnerable to attrition. Moreover, unlike other grammatical aspects of Silvia's speech such as morphological or syntactic changes which could be motivated by causes other than attrition (e.g., dialectal influences—more on this below), changes in preposition use are easy to detect and explain in terms of attrition.

For the above reasons, I have quantified the occurrence of attrition in preposition use and analyzed possible patterns and their significance. The following table represents the results of the analysis of preposition use. The upper line refers to data recorded during the first taping session (2 hours and 20 minutes), and the second line represents data collected during the last taping session (1 hour and 55 minutes), fifteen months later:

Table 1
Preposition Use

	Correct	%	Attrited	%
Early data	772	84	148	16
Later data	671	86	109	14

In calculating the number of incorrect prepositions and comparing it to the number of correct ones, a few interesting patterns emerge. First of all, the data shows that there is no developmental pattern in Silvia's attrition. It seems that she had reached a critical threshold (Neisser, 1984) by the time the research period began.

Another interesting point is that preposition attrition occurs at a high rate (see Table 2) in certain discourse domains; specifically, these are domains with which the informant has more familiarity in the L2 than in the L1. These new "American" domains include,

among others, all work- and Hawai'i-related topics. With respect to content words, we would expect Silvia to experience more attrition when venturing into discourse domains with which she has little or no previous familiarity in Italian, and in fact, lexical attrition occurs regularly on these occasions. However, the processing difficulties she experiences with content words seem to influence her ability to produce the correct function words as well. Specifically, during an episode in which she attempts to explain to her two non-English speaking interlocutors the characteristics and purpose of a *luau*, her preposition use shows clear signs of attrition (almost a third of all prepositions used while discussing this topic are incorrect). Additionally, Silvia attempts to change topic twice, against the wishes of her interlocutors who demand more information. These processing difficulties can be explained in terms of topic influence (Zuengler, 1993): the increased cognitive load required to discuss a topic with which both the attriter and her interlocutors have no previous experience in Italian generates several examples of attrition.

Table 2

Preposition Use with Different Topics

	Correct	%	Attrited	%
Familiar (Italian) topic (pets)	50	91	5	9
Unfamiliar (American) topic (luau)	50	69	27	31

With a few exceptions, preposition attrition in Silvia's speech seems to be mostly externally motivated. The following excerpt is an example of reverse transfer from English:

2. ...io lo faccio sotto nome mio...

    I   it do   under name my

    I do it under my name

In Italian, the correct prepositional phrase would be *a nome mio* (to my name). Silvia's choice of prepositions shows a reverse transfer from English. Some of these reverse transfers have become a nearly permanent feature in Silvia's attrited Italian. In addition to *sull'autostrada*, other examples include: *succedere con* (happen with), as in *cos'è successo con David* (what happen with David) instead of *succedere a* (cos'é successo a David), and *lavorare su* (work on), as in *lavorare sulla casa* instead of *fare lavori in casa* (do work in the house).

Occasionally, Silvia's attrition in the use of prepositions doesn't appear to be justified as being solely reverse transfer. In discussing a newly acquired skill, Silvia also conflates English and Italian rules.

3. avevo imparato a come tosare i   cani
    had   learned to how   shave the dogs
    I learned how to shave dogs

Here *come* is an instance of reverse transfer (learning how to shave dogs) where the preposition *a* would be the correct choice in Italian (*imparare a tosare i cani*). Example 3 somewhat contradicts the principle of redundancy reduction. In fact, while there is a conflation of the English and Italian rules, this occurrence of attrition is certainly not a simplification.

In addition to nouns, verbs, adjectives and prepositions, Silvia's lexicon is rather heavily attrited when it comes to idiomatic phrases or idioms. A wealth of examples were collected in just a few hours of conversation. Here is one:

4. ... ogni   tanto io la perdo, perchè a me dà   noia...
    every much   I it lose, because to me give bother
    sometimes I lose it, because it bothers me

The expression *io la perdo* is not idiomatic in Italian. One could say *perdo la pazienza* (I lose my patience), but the object would have to be explicitly named in order to maintain the intended meaning. The substitution of the noun *pazienza* with a generic pronoun *la* (it) shows again a case of reverse transfer because Silvia assigns a meaning to the pronoun which could not be understood by monolingual Italians.

On the receptive level, Silvia seems to be mostly aware of the difference between a true Italian idiom and a false one. She gave sentence 2 of Test 1A, the one that contained the above false idiomatic phrase, a very low acceptability rating (2), and commented that it seemed translated literally from English. Interestingly enough, however, she also gave the same low acceptability rating to sentence 9, which may be slightly awkward, but not ungrammatical.

It is unclear to what extent the results of Test 1A argue in favor of the theory stating that attrition does not affect competence. Silvia gave low acceptability ratings to most of the sentences containing incorrect idiomatic phrases, except for one. Likewise, she gave

high ratings to all but one of the sentences containing correct Italian idiomatic expressions. She also mentioned that she had great difficulty rating the sentences. She commented that when she first looked cursorily at them, they all looked correct, but at second glance they all seemed flawed to her. Finally, she decided to postpone the rating until the next day when she assumed she would be more rested and a better judge of grammaticality. In discussing her rating experience with the researcher afterwards, she concluded that she was still not quite sure of her judgment.

Syntactic Attrition

Predictably, Silvia's attrition in her native language seems to affect her syntax and morphology as well, although it occurs to a smaller degree than in her lexicon. The following example of syntactic attrition in Silvia's speech affects word order:

5. anche un'altra cosa   che   c' è con lui...
   also an other thing that there is with him
   also, another thing there is with him...

Anche would probably not be found in a sentence-initial position in Italian; this seems to be a case of externally induced attrition, because the English adverbial position prevails in her Italian. The following is another example of word order change:

6. ... ci ha il sinistro (2.5) braccio, lui si   xx   dice s'   informicola....
   there has the left   arm he (reflexive) xx   says it (refl.) falls asleep
   his left arm, he says it falls asleep

The change in word order affects the position of the adjective *sinistro* (left). In Italian, it is acceptable for many adjectives to precede the noun. In fact, some adjectives (such as *bello,* beautiful, *buono,* good, *vecchio,* old, etc.) have a left-of-noun default position. However, some adjectives (such as those describing colors, *destro,* right, *sinistro,* left, etc.) are never allowed to precede the noun in Italian. Remarkably, Silvia paused between pronouncing the adjective and the noun, perhaps recognizing that the adjective's position was unacceptable. She did not comment on it, however, but in fact expressed doubts about the correctness of the following verb, *informicola,* which is perfectly acceptable in Italian.

It seems that Silvia is less aware of her syntactic attrition than she is of her lexical attrition. One could argue that lexical and syntactic information are accessed and

processed differently, and that, in fact, access to the latter seems to be more automatic and not subject to conscious analysis at all.

Silvia exhibits obvious and frequent attrition in relation to the Pro-Drop rule. Italian, like Spanish, does not require the subject to be explicit or overt because the morphological information expressed by the subject is encoded directly in the verb. In Italian the explicitness of the subject often has a semantic, rather than a syntactic function. An overt subject is used, for example, to indicate contrast. However, in many instances, Silvia makes the subject explicit, even where there is no need to do so, as in cases where the subject does not have a semantic content:

7. Ah, quello mi   fa   piacere...
   Ah, that   to me does pleasure
   Ah, it's a pleasure for me...

Instead of using the more standard *mi fa piacere*, with a null subject, Silvia unnecessarily makes the subject explicit, adopting the English rule rather than the Italian one. This seems to be a clear case of reverse transfer since in English, the only option is to have an overt subject. Even though crosslinguistically Pro-drop may be the unmarked option (White, 1989), the salience of the English rule in Silvia's L2 facilitates the reverse transfer of this rule into her L1.

Morphological Attrition

Inflectional morphology is an area where Silvia's speech shows how attrition can operate according to the principle of redundancy reduction. Before delving into the various aspects of Silvia's morphological attrition, however, I need to make one *caveat*. Some features of her morphology show what could very well be dialectal influence. In other words, what could be interpreted as attrition (for example, redundancy reduction) could, in some cases, be explained also in terms of dialectal variation. Despite Tuscan's overall similarity to standard spoken Italian, there are some occasional differences: for example, the Tuscan third person plural Present Indicative *dicano* (they say) sounds like the Italian third person plural Present Subjunctive. Because of this and other possible occasions in which confusion could have occurred, I limit the analysis of Silvia's morphology to those examples that are clearly motivated by attrition.

As I mentioned earlier, Italian verbs show a much higher degree of complexity in inflectional morphology than English. Not only is information regarding person, gender, and number encoded in the conjugated verb form, but also semantic notions of aspect,

tense, and mood. It is with respect to the latter feature that Silvia's speech exhibits many simplifications. In Italian, aspects such as irreality, possibility or conditionality are expressed by the verbal morphological features pertaining to mood. In addition to the Indicative, Italian has two other moods, the Subjunctive and the Conditional. Unlike English, in which the Subjunctive is only a vestigial mood and the Conditional is absent, Italian makes frequent use of both (although these moods are used less frequently by working class speakers of many dialects and are generally scarce in less formal registers). The following example shows how redundancy reduction and markedness affect mood:

8. Se lui ci avesse la sua stanza, e io ci ho la mia stanza, se io ci ho la mia cucina,
    if he there had the his room, and I there have the my room, if I there have the my kitchen,
    If he had his own room, and I have my own room, if I have my own kitchen,

    lui ci   ha la sua cucina e   il bagno,   poi possiamo avere anche... la sala
    he there has the his kitchen and the bathroom then can   have also the living room
    he has his own kitchen and bathroom, then we can also have the living room
    in comune.
    in common.
    together.

After appropriately beginning a hypothetical sentence with the Conditional mood, Silvia opts for the more frequently occurring Indicative and sustains it throughout the sentence. It can be argued that this reduction may be internally induced, because in Italian (and, presumably, crosslinguistically as well) the Indicative—the realia mood—is much less marked than any other. Therefore, an attrited speaker will simplify moods by occasionally choosing the less marked and most frequently occurring mood.

Regarding inflectional morphology, the results of Test 1B show that attrition affects Silvia's speech more when she performs under time pressure than during an untimed test. In fact, in this cloze-like section of Test 1, Silvia provided mostly acceptable verb forms, especially with respect to tense choice—she always used the Imperfect appropriately. There were a few exceptions, however. In one instance, she used an incorrect tense form, the Present Indicative *sono* (I am), instead of the Present Perfect Indicative *sono diventata* (I've become). We can't completely exclude the possibility that this mistake may be due

to a flaw in the test design (the requirement for a composite verb form). Alternatively, this mistake may be explained as a case of internally induced attrition. Later on, Silvia's choice of the Imperfect Indicative *aveva* conflicts with the following Progressive *cominciando*; the correct Auxiliary here should have been *stava*. This may have been an oversight on her part, since she never made this kind of mistake during her oral production. Finally, her choice of the Imperfect Indicative *avevamo*, in the place of the Conditional Past Perfect *avessimo avuto* could be an indication of internally induced redundancy reduction. However, I cannot exclude the possibility that her incorrect choice may be due to register or to her particular working class dialect. Overall, it seems that Silvia's competence in this area of morphology is only minimally, if at all, attrited, while her control of processing is affected more noticeably.

With respect to derivational morphology, Silvia's speech exhibits occasional attrition. For example, during a phone conversation with the researcher, she used the noun *incertità* to mean uncertainty, while the correct Italian noun is *incertezza*. Nevertheless, there are Italian nouns ending with the affix *-ità*, such as *possibilità* (possibility), *probabilità* (probability), etc. This could be internally induced attrition (just a mix-up between derivational affixes). However, on closer inspection, the derivational affix -ty in the English noun uncertainty is very similar to the affix -ity in nouns like probability or possibility. Perhaps Silvia chose the wrong affix because of the similarity between the English affix -ity and the sometimes corresponding Italian affix -ità. In other words, this could be a case of externally induced attrition. Silvia did not notice this particular mistake and seemed surprised when someone told her the correct form of the noun. Overall, however, only sporadic examples of attrition affecting her derivational morphology occur in the data. This scarcity of examples may also be explained in terms of morphological organization (Bybee, 1991). In other words, nearly all Italian words Silvia uses are stored and accessed as self-contained units, and do not require an impromptu "morphological assemblage."

Communication Strategies and Attrition

With respect to lexical attrition, it appears that gaps tend to occur when the informant attempts to retrieve a low frequency word. In fact, Silvia comments on the fact that, since moving to the U.S., she has acquired new discourse domains, many of them pertaining to her commercial activity, to which she did not have a very extensive exposure in Italy, and for which she may not have had a sufficient vocabulary in Italian. The following interaction illustrates this point:

9. Z. ... Avete molte attrezzature, macchine?
       have many equipment   machines
       Do you have a lot of (agricultural) equipment?

   S. No, quasi tutto è fatto a mano (2) ultimamente ce lo possiamo permettere, abbiamo
       almost all is done by hand   lately   to us it can   allow have
       No, almost everything is done manually; lately , we could afford it, so we have
       preso la (2) ehmmm (2.5) chiamato quello con la: (1.5) scavatrice (1) che si chiama
       taken the   called   that   with the   backhoe   what is called
       had the... ehm, we called the guy with the... backhoe? What ? Is it called backhoe?
       scavatrice?
       backhoe
       backhoe?

   Z. Sì, sì, sì, sì
       Yes, yes, yes, yes
       Yes, yes, yes, yes.

   S. Si chiama scavatrice! (*laughs*)
       Is called backhoe
       It's called backhoe!

   Z. Sì, sì scavatrice...eh....
       Yes, yes backhoe, yeah
       Yes, yes backhoe, yeah.

   S. Certe parole che non ho   mai usato in italiano non- non (1) non le   so
       Some words that not have ever used in Italian   not not   not them know
       Certain words that I never used in Italian, I don- I don- don't know them

Most of the CS discussed in the literature review are employed by the participant at some time or other during the data collection. First of all, systematic word retrieval (Olshtain & Barzilay, 1991), as well as circumlocution and paraphrasing figure most prominently among the compensatory strategies she uses. Moreover, systematic lexical retrieval is often integrated with other compensatory as well as interactive strategies. In other words, while attempting to retrieve the correct lexical item, Silvia often implicitly or explicitly elicits the interlocutor's help and occasionally resorts to code-switching. In the example that follows, Silvia employs at least two different strategies:

10. S. Mi dà - mi dà noia, no?   Che lui (1.2) cioè, secondo me   non se ne
        rende neanche conto, vabbene?
        To me gives- to me gives bother, no? That he that is, according to me not it
        realizes even   ok?
        It- it bothers me, ok? That he, I mean, I think he doesn't even realize it, ok?
        Poi: ehm (2) cioè (2.5) praticamente:e (2) g- (2) eppoi è *selfish*.
        Then,   that is   practically   and then is selfish
        Then, I mean, you know, and then he's selfish.

    R. Sì.
        Yes.

    S. Lui è molto::, come si dice *selfish*?
        He is very   how one says selfish?
        He's very, how do you say selfish?

    R. Egoista

    S. Egoista. In tanti tanti modi, s'è per lui va   bene, s'è per me no.
        Selfish. In many many ways if is for him goes well, if is for me no.
        Selfish. In many many ways, something can be ok for him, but not for me.

In example 10, Silvia employs code-switching as a CS in the retrieval process and at the same time elicits the help of the bilingual interlocutor in translating from English the concept she is attempting to discuss, which allows her to find the exact Italian lexical item she was attempting to retrieve.

Silvia uses a minimal amount of code-switching during the interactions with the two native speakers of Italian whose English is for all practical purposes non-existent, and almost none of it occurrs with a CS function, but rather as a result of reverse transfer. With these two interlocutors, Silvia often explicitly or implicitly requests assistance in Italian (often by using paraphrases and circumlocution to provide a more complete context). In the example that follows, while discussing methods of organic cultivation, Silvia attempts and fails to retrieve the correct lexical item for *crop-spraying* and *pesticides* until the interlocutor intervenes by supplying the appropriate lexical item.

11. S.   Qui non fanno niente colle: (.5) colli aeroplani, non fanno queste:: come si dice,

Here not do   nothing with the   with the planes, not   do   these   how one says

Here they don't do anything with the- with planes, they don't do these...how do you say,

non (1)

not

they don't...

E.   Sì irrorazioni, queste::

Yes crop spraying these

Yes, crop spraying, these...

S.   Sì, ecco. Però, loro non ah (1) però i vicini, per esempio, io ho dei vicini   di casa

Yes, there. But, they not   but the neighbors, for example, I have some neighbors of house

Yeah, right. But they don't, ah, but the neighbors, for example, I have some neighbors:

se loro: mettono dentro: giù i veleni o:: nel- (.5) non so come si chiamano (1), quelle per

if they put   inside down the poisons or in the not know how are called those for

if they use pesticides or in the... I don't know what they're called, those for

l'orto...
the vegetable garden
the vegetable garden

E. Sì, gli antiparassitari.
Yes, the pesticides.
Yes, the pesticides.

S. ...Allora non è   più   biologico.
...then   not is more organic.
Then it's no longer organic.

In example 11, after struggling to retrieve the appropriate Italian lexical items, Silvia attempts to use circumlocution (a description of the lexical items' use and function) and finally requests help of her interlocutors, first explicitly by using the question *Come si dice?* (how do you say it?), then more implicitly by admitting her inability to retrieve the item with the expression *non so come si chiamano* (I don't know what they're called).

Whether she requires help explicitly, implicitly, or not at all, her non-English-speaking interlocutors volunteered to provide the lacking lexical item(s) on many occasions where they perceived Silvia's difficulties with retrieval. Because Silvia's knowledge of Italian is still native-like, albeit attrited, and her skills can be considered very advanced, of course, she makes abundant use of paraphrase and circumlocution as CS. The following example illustrates the attempted use of paraphrase, followed by unrequested help from her interlocutors:

12. S. ...Vabbe' suo papà è morto adesso, però i suoi genitori sono molto:: (2) non
    ...Well   her father is dead   now   but the her parents are   very   don't
    Well, her father is dead now, but her parents are very... They don't
    socializzano con la gente,   non cono- non parlano con nessuno.
    socialize   with the people   don't kno- don't speak with no-one
    socialize with people, they don't kno- they don't speak with anybody.

[E. Sono molto] chiusi.
    Are   very   closed
    They mind their own business

S. Sono molto chiusi, e sono molto ricchi.
   Are   very closed and are very rich.
   They mind their own business, and they're very rich.

In this case, Silvia does not explicitly or implicitly ask for help (with such a question as *Come si dice?* or the admission of her difficulty with *Non so come si chiamano*), but accepts it once offered by immediately incorporating the new lexical item into the discourse. It would be interesting, although beyond the scope of this brief pilot study, to analyze to what extent, and in which circumstances, these unsolicited offers of help are interpreted as a face-threatening or a face-saving act by the attriter.

Occasionally, the Italian input she receives from her interlocutors is less than helpful and actually contributes to message abandonment, as in the example that follows where she describes her frustration with housework:

13. S. E l-la- e- e- e- la: s- come si dice, (1) la stuf- no la stufa, eh (1.5) il forno, la
       cucina
       And th-the a- a- and the: how one says the heat- not the heater,   the oven, the
       kitchen
       And the, a- a- and the, how do you say, the heat-, not the heater, mm the oven,
       the kitchen

    [E. Sì, la cucina]
        Yes, the kitchen
        Yes, the kitchen

    S. anche quella va- (1.5) cioè mi (1) divento pazza delle volte, sono terribile.
       also   that   go-   that is to me become crazy some times am terrible
       That too goes... I mean... I go crazy sometimes, I'm terrible.

Obviously frustrated with the failed systematic retrieval process, Silvia accepts from her interlocutor a very generic lexical item. From the context, it appears that here she is looking for the Italian word for stove (*fornelli*), but ends up settling for the less specific item provided by the interlocutor, thus abandoning the original message in which she attempted to explain the difficulties of keeping different areas of her kitchen clean.

On occasions, despite her still high proficiency, Silvia resorts to message abandonment. In particular, during one of the taping sessions with the researcher, her

response to requests for more specificity is often to abandon either the message or at least the systematic retrieval of the appropriate lexical item. In example 14, Silvia opts for a rather vague circumlocution when she fails to retrieve an adjective that would loosely correspond to the English <u>meddling</u> (a close approximation would be the Italian *impiccione*).

14. S. E:ehm, mm- mi sta dando molto fastidio (.5) il fatto che - cioè (5)
     me is giving much bother the fact that that is
   It really bothers me the fact that... I mean...

  R. Cosa?
    What?
    What?

  S. Che sia così, capito?
    That be so understand
    That he's like that, do you understand?

  R. Così come?
    So how
    Like that how?

  S. Che mmm (3.5) {loud sigh}Mmm- mm C'è tanti modi di controllare una
    persona!
    That   There is many ways of control a
    person
    That... There are many ways of controlling someone!

The two long pauses (5 and 3.5 seconds) hint at how much difficulty Silvia is experiencing with the retrieval. The very loud sigh could be an expression of her frustration with the retrieval process, since it is immediately followed by message abandonment.

One final observation from Silvia's interaction with all of her interlocutors was her use of verbal fillers (such as *cioè, praticamente, insomma,* etc.) as well as non-verbal ones (such as humming, vowel lengthening, etc.) which she uttered while attempting to retrieve lexical items in order to maintain her turn. In example 10, in which Silvia is

attempting to retrieve the Italian adjective for *selfish*, we see her using such a strategy since she utters five different verbal and non-verbal fillers before finally resorting to code-switching and requesting assistance. It has been suggested that the (over)use of fillers to maintain a turn may be more or less useful CS, and that its effectiveness may be dependent on the language (Röver, 1998, in-class communication). It seems quite plausible that in a conversation among Italians of equal-status, a participant who hesitates and pauses frequently without using any filler would end up losing his or her turn quite often; whether the same is less likely to occur in another language, all other factors being equal, remains to be seen.

Finally, Silvia's CS use during the testing did not substantially differ from the more informal conversations. Again, there was a great emphasis on systematic lexical retrieval, especially, and for obvious reasons, in the cloze task (Test 2B). Most of the time, her systematic retrieval was successful. In performing the narrative task related to the illustrated story, Silvia had some difficulties with the lexical item for cashier. At first, she used codeswitching, then she requested assistance from the researcher. Finally, when that did not materialize, she moved on to other parts of the narrative task but returned to the missing lexical item at the end, and correctly guessed the Italian word *cassiera*.

While taking Test 2B, Silvia attempted but failed to retrieve the correct verb for item 4 (it could have been *pesava* or *dispiaceva*, burdened or annoyed). She went back to the missing item several times over the course of the testing, but each time was unable to retrieve the appropriate verb. While expressing her frustration with the difficulty she encountered, she commented on how systematic retrieval often failed because, in her words: "It's like a broken record. I keep coming up with the wrong word."

When it comes to analyzing Silvia's CS choice, clear patterns are not obvious, and it is difficult to pinpoint the reasons for her choices. As I stated above, Silvia makes frequent use of codeswitching with the English speaking researcher but refrains almost completely from it when talking to her non-English speaking interlocutors. However, on at least one occasion, she eventually resorted to code-switching by using the English word developer in the conversation with her non-English speaking partners. At that point, it appears from the transcripts that there may have been a communication failure.

As for other CS, it seems that the participant may prefer circumlocution over systematic retrieval when she is attempting to retrieve a low-frequency lexical item that pertains to a "new" (that is to say, "American") domain, and for which she may have never known the corresponding Italian word. Conversely, systematic retrieval seems to be the CS of choice when Silvia feels that she knew a particular lexical item and should be able to remember it, albeit with some effort.

Abandonment seems to be the preferred CS in those circumstances where the participant has already provided information that approximates somewhat the intended meaning (usually by using paraphrase) and where the sustained retrieval effort becomes frustrating. In particular, it occurs during some of the interactions with the researcher, who, keeping in mind the interaction's purpose, occasionally requests the participant to be more specific even though communication may be vague but satisfactory enough for non-research purposes (see Kasper, 1997).

CONCLUSION

In response to the first research question, I found that many linguistic features in Silvia's speech are affected by attrition in varying degrees. Specifically, her lexicon and morphology are affected by attrition in greater measure than her phonology or syntax. Of the two, her lexicon is probably the most affected area since a great deal of transfer occurs here, as well as some internally induced attrition during on-line retrieval (the cognitive load that Silvia has to process in different tasks seems to greatly affect her production ability). In particular, her use of prepositions, while more affected by attrition in certain discourse domains, shows that some reverse transfer occurs regularly and has become a stable part of her lexicon. Additionally, the uncertainty which Silvia experienced in judging idioms' acceptability may mean that, in the lexical area, her competence has also been affected to some degree.

With respect to the processes at work in Silvia's attrition (research questions # 2 and 3), externally induced attrition seems to be prevalent, especially with lexical attrition. However, morphology appears to be an area where internally induced attrition is evident, especially as a result of on-line processing. Here we can observe the principles of redundancy reduction and markedness at work, operating on Silvia's inflectional morphology when she simplifies moods. Her derivational morphology also shows occasional instances of attrition, although to a much lesser degree. With respect to syntax, we have seen that the only reverse transfer feature occurring fairly regularly in Silvia's speech is related to the Pro-Drop rule. As for phonology, instances of attrition are extremely rare, and all are externally motivated.

In response to research question # 4, it is clear that Silvia's on-line production ability is affected by attrition. Moreover, it appears that her competence may be slightly affected too, even if only to a small degree and only in those areas where reverse transfer and/or redundancy reduction have contributed new lexical items or rules used on a regular basis. Silvia's morphological competence has probably not been significantly affected since

each mistake she made in Test 1B could easily have been caused by reasons unrelated to attrition. She certainly seemed to find Test 1B easier then the previous one, which tested her lexical competence. It remains to be seen how quickly she would regain her competence in the most attrited areas, given sufficient exposure.

In response to the second set of research questions (numbers 5, 6, 7), I have found, not surprisingly, that Silvia's lexical gaps occur mostly with low-frequency lexical items or in discourse domains with which she has greater familiarity in English than in Italian. When she has to resort to using CS, her choices do not substantially differ from those of most advanced NNS experiencing difficulties with lexical retrieval in their L2. In fact, whenever she had retrieval difficulties she made ample use of compensatory strategies, such as circumlocution, paraphrase, and systematic word retrieval; interactive strategies, such as code-switching and request for assistance; and reductive strategies, such as message abandonment. Additionally, she appeared to use fillers on several occasions to maintain her turn while attempting systematic lexical retrieval. Finally, her strategy choice seemed to be influenced both by the nature of the missing lexical item (e.g., low-frequency word from a new "American" discourse domain), and by the expectations that she has of her interlocutor(s) (e.g., monolingual Italian versus bilingual Italian-English).

For the most part, the results seem to conform to current research findings. In addition to the predictable predominance of reverse transfer over internally induced attrition (de Bot &Weltens, 1995), I have found that redundancy reduction can operate in tandem with markedness (Seliger, 1996) to create simplified rules. Specifically, redundancy reduction seems to combine with language internal markedness in Silvia's speech to supply unified rules based on less marked L1 forms.

In keeping with Zuengler's (1993) work on topic and discourse domain in pragmatics, I have found that topic and discourse domain also play a significant role in Silvia's lexical on-line production, not just with content words but also with function words. One under-researched area of attrition that seems worthy of further analysis is the effect of topic and discourse domain on other linguistic areas. For example, how does discourse domain affect morphology or syntax, which seem to be processed at a more unconscious level than the lexicon? More generally, what does the interaction of topic and attrition teach us about the way in which bilinguals process different linguistic elements in their different languages?

In this case study, even though I attempted to do an overview of how attrition affects many areas of Silvia's speech, I purposely left out pragmatics, partly because of the relative scarcity of baseline studies about Italian pragmatics. To my knowledge, to date, no study has been published analyzing pragmatic attrition in any language, and it is my

hope that the ways in which pragmatic attrition may affect bilinguals will not remain unexplored much longer.

Further research going beyond the well-researched area of lexical attrition is needed to throw additional light on the cognitive processes underlying the nature of language loss and help us understand how bilinguals process different languages, and within each language, different linguistic areas. Most importantly, gaining a deeper understanding of the attrition process may enable us to find solutions to prevent or reduce language loss.

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APPENDIX 1: TEST 1A

Part 1: Acceptability rating (1= most ungrammatical -- 5= most grammatical)

1)   A volte faccio fatica a   dare del   tu a persone più anziane di me, anche se sono loro a
     At times do   fatigue to give of the you to persons more old   than me even if are   they to
     Sometimes I find it hard to use the "tu" form with people who are older than me, even if they

     chiedermelo.
     ask-me-it.
     ask me to.

                    1   2   3   4   <u>5</u>

2)   L'altro giorno ero sull' autostrada e   c' era questo tipo che guidava che sembrava ubriaco: a
     The other day was on the freeway and there was this   guy who drove that appeared drunk at
     The other day I was on the freeway and there was this guy who drove as if he was drunk:

     un certo punto m'è quasi venuto addosso, e allora l'ho persa e   mi   sono messa a
     a certain point me is almost come over   and then it have lost and me (refl.) am put   to
     suddenly he almost ran me over, and then I lost it and started

     strombazzare e   a   fargli   dei   gestacci.
     honk   and to make-him of the bad gestures.
     honking at him and flipping him off.

                    1   <u>2</u>   3   4   5

     Silvia's comment: it seems to be literally translated from English (and it was).

3)   Ieri   parlavo   con la mia professoressa, e   mi   diceva che, in ordine che possa
     Yesterday was talking with the my professor (F) and to me said   that in order that can
     Yesterday I was talking to my professor, and she told me that, in order to

     completare questa tesi, devo avere almeno dieci ore   di cassette registrate.
     complete   this thesis, must have at least ten   hours of tapes   recorded.
     complete this thesis, I need at least ten hours worth of recorded tapes.

                    1   2   <u>3</u>   4   5

4)   Ho invitato mia zia a stare da noi, e ci   sono rimasta proprio male quando, dopo un po', ha
     Have invited my aunt to stay by us and there am left   really   bad   when   after a little has
     I invited my aunt to stay with us, and I felt really bad when, after a while,

deciso   di andare a stare in albergo.
decided of go   to stay in hotel.
she decided to go to a hotel.

       1   2   3   <u>4</u>   5

5) Per preparare il pesto alla genovese   non c' è bisogno di lavorare per delle ore   in
     For prepare the pesto to-the Genoa-style not there is need   of work   for of-the hours in
     To prepare pesto Genoa-style there is no need to work for hours in

     cucina o niente: basta avere gli ingredienti e   un frullatore.
     kitchen or nothing enough have the ingredients and a blender
     the kitchen or anything: the ingredients and a blender are enough.

       1   2   3   <u>4</u>   5

6) Non vedo l'ora   di andare in Italia: questo semestre pare   che non finisca mai.
     Not see the hour of go   in Italy   this   semester seems that not end   never
     I can't wait to go to Italy: this semester never seems to end.

       1   2   3   4   <u>5</u>

8) Oggi non mi   sento in forma: sarà   perchè piove di nuovo, o forse   perchè   ho
     Today not me(refl) feel in shape will be because rains of new   or maybe because have
     Today I don't feel very well: it may be because it's raining again, or may be because I have

     l'influenza.
     the flu.
     the flu.
       1   2   3   4   <u>5</u>

9) Scusami di aver fatto tardi stamattina: la mia macchina non partiva proprio.
     Excuse-me of have made late this-morning the my car   not started really
     Excuse me for being late this morning: my car didn't want to start.

       1   <u>2</u>   3   4   5

Silvia made a correction to the second clause: "non mi   partiva la macchina"
                                                        not me (refl.) started the car
Stylistically, it sounds better, although the original is also grammatical.

10) L'uso del   computer   ci fa   la vita molto più facile: infatti, imparare a come usare il
    The use of-the computer us make the life very more easy in fact learn   to how   use the
    Using computers makes our life much easier: in fact, learning how to use a

    computer è un grande vantaggio.
    computer is a great advantage
    computer is very advantageous.

              1   2   3   4   5

    Silvia's correction: L'uso del   computer   ci facilita   la vita: è veramente un gran vantaggio.
                        The use of-the computer us make-easy the life is truly a great advantage.

APPENDIX 1: TEST 1B

Inflectional Morphology and Morphosyntax (for this, no glossing is given, just a translation)

Ho cominciato ad andare a funghi che_____cinque o sei anni. Mio papà mi portò un paio di
I started mushroom-hunting when I was five or six years old. My dad took me a couple of

volte su in montagna, sull'Appennino Tosco-Emiliano, e da allora _____abbastanza
times up in the mountains, and since then I've become pretty good.

brava. A sei anni, mio papà mi regalò una guida tascabile con tutti i funghi d'Italia, e allora
When I was six, my dad gave me a pocket field-guide for Italian mushroom, and then

_____ad imparare i nomi scientifici di tutti i funghi. Vale a dire che chiamo i funghi col
I started learning the scientific names of all the mushroom. That is to say that i call mushroom

loro "nome e cognome" latino. Questo mi _____abbastanza utile molti anni più tardi quando,
with their "first and last" Latin names. This turned out to be fairly useful many years later when,

in California, mi trovai a discutere di funghi in inglese con un micologo americano.
in California, I found myself talking about mushrooms in English with an American mycologist.

In America, la stragrande maggioranza dei funghi non ha un nome comune, come per esempio
In America, the greatest majority of the mushrooms have no common name, as for example

"chiodino" o "pioppino";   qui, se si vuole parlare di funghi, si deve usare il nome latino.
"little nail" or "little poplar": here, when you talk about mushrooms, you have to use the Latin   name.

La California del Nord è una regione fantastica per una fungarola come me: quando vivevo lì
Northern California is a fantastic region for a mushroom hunter like myself: when I used to live

andavo a funghi tutto l'inverno; _____quintali di funghi, soprattutto galletti e porcini.
there, I used to go mushroom hunting all winter; I used to get tons of mushrooms, especially chanterelles
and porcini (Boletus Edulis).

Mi ricordo un'annata fantastica, l'inverno '91-'92; i primi porcini _____a spuntare
I remember a fantastic year, the 1991-92 winter; the first porcini started coming out around the

intorno alla metà di novembre, e pareva che non _____più smettere. Tutte le volte che si
middle of November, and it seemed like they were never gonna stop. Every time we went

andava a funghi, si _____con gli zainetti pieni di porcini. Mi ricordo che una volta, io e
mushroom hunting, we would come back with backpacks full of porcini. I remember that once,

David andammo nel nostro bosco preferito e _____a raccogliere porcini.
David and I went into our favorite woods and started to pick porcini.

Dovunque si _____lo sguardo, se ne _____. Alla fine della giornata, quando _____già
Everywhere we looked, we could see them. At the end of the day, when it was already

cominciando a fare buio, siamo dovuti andare via, ma mentre uscivamo dal bosco, continuavamo
starting to get dark, we had to go away, but while we were leaving the woods, we kept on

a inciampare nei porcini che _____dappertutto. Se_____ una pila e una carriola, _____
tripping in the porcini that were everywhere. If we had a flashlight and a wheel barrow, we

continuare a raccogliere porcini fino a tarda notte, e saremmo tornati a casa con il
could have kept on picking porcini until late at night, and we would have got home with a

camioncino carico.
full pick-up.

APPENDIX 2: TEST 2B

Quando Raffaella aveva 16 anni, _____ atletica e si allenava tutti i giorni. È
When Raffaella was 16 she used to practice sports and exercised every day. She's

sempre stata molto sportiva, fin da piccola, e nella sua vita _____ ogni sport
always been very athletic, ever since she was a young child, and in her life practiced every possibile

e immaginabile.
conceivable sport.

Fare atletica le piaceva perchè _____ al campo con le amiche, ed oltre ad allenarsi,
She liked doing sports because she would go to the track with her girlfriends, and, in addition to

aveva la possibilità di conoscere tanti bei ganzi. Gli allenamenti erano impegnativi, ma
practicing, she had the opportunity to get to know many cute dudes. The training was demanding

cambiavano programma tutti i giorni e non le _____ . Inoltre, dopo una giornata
but they changed program every day and it didn't bother her. Moreover, after a day

passata sui banchi e tra i libri, lei non vedeva l'ora di fare un po' di moto all'aria aperta in buona
spent at school and with books, she couldn't wait to go practice out in the open air, in good

compagnia.
company.

Dopo due anni, purtroppo, ha dovuto smettere, per dei problemi alle ginocchia. È un peccato
After two years, unfortunately, she had to quit because of knees problems. It was a pity

perchè se avesse continuato _____ raggiungere dei buoni risultati, la sua
because if she had continued she could have achieved good results; her

allenatrice avrebbe voluto che Raffaella si _____ con lei, magari per la maratona.
trainer would have liked Raffaella to train with her, maybe for the maraton.

Avrebbe _____ avere più tempo, anche: gli impegni scolastici sono un grosso
She would have needed more time too; school is a big

ostacolo se si vuole praticare un'attività a livello agonistico. Comunque non ha mai smesso di far
obstacle if one wants to practice sports as an athlete. At any rate, she never stopped to practice

sport, dall'atletica è passata all'arrampicata, al karate, e soprattutto al nuoto. Ora va a nuotare tutti *sport;*
from running she moved on to climbing, karate, and especially swimming. Now she swims

i giorni, e pensa che l'acqua _____ il suo elemento, e _____ poter

every day, feels that water is her element and would love

avere la possibilità di nuotare nell'oceano e fare surf anche in Italia.

to have the opportunity of swimming in the ocean and surfing in Italy as well.

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