Chapter 4

Discussion and Conclusions

This final chapter is dedicated to the interpretation and explanation of the results described in Chapter 3, examining the evidence in light of the original hypotheses. The results are a source of information about bilingualism and language contact, and the interpretation and explanation of these results are done with a hope to draw stronger links between bilingualism as seen by researchers of SLA and researchers of language loss. Components of this chapter include a discussion of implications of this study, a discussion of its limitations, and suggestions for continuing this line of research.

4.1 Interpretation and explanation of Analysis 1

Immediately upon preliminary data gathering, variation among speakers could be found to be more common than not. Although in some instances nearly 100% of the speakers gave the same responses (converged), this was not the case for the majority of verbs. Furthermore, variation cannot be interpreted in the same way for all verbs. There are instances in which there is convergence among many speakers toward the use of a classical Veneto form and frame with variation (divergence) away from this norm (either as the use of the Spanish form or frame or both). There are also cases of convergence toward an innovated form and/or frame with variation evidenced by the use of a more classical form/frame among a small number of speakers. Although there are cases in which variation is extreme (such as with *puyarse su par*), the tendency still is to find a certain degree of convergence. Convergence can be toward one norm, or in some instances, two. The Veneto verb choices to which speakers converge and the degree to which speakers converge correspond to age, which in turn are a function of whether the linguistic change has begun recently or is more advanced.

The ubiquitousness of variation indicates the uncertainty speakers have regarding community speech norms and their own intuitions about grammaticality. In other words, often the speakers might agree on the use of a form but not agree on the frame. Other times the speakers do not agree even on the form of the verb. For certain verbs such as *puyarse su par*, variation is extreme with respect to both form and frame. However, amongst the variation, there are patterns of divergence and convergence.

First of all, neither convergence nor divergence is exclusive to either age group. However, the patterns of convergence and divergence covary with age. For example, when older speakers converge at the same time that younger speakers diverge, it is the older speakers who use more conservative form or frame in Veneto while the younger speakers use divergent speech. When younger speakers converge at the same time that older speakers diverge, it is because a new norm is being created while only traces of the classical form and frame remain.

In addition, not all innovative speech used by younger speakers is present among older speakers, but the opposite is true. When older speakers use innovative speech, this same speech is also found among the younger speakers, but to a greater degree. Take for example the frame shift of the verb *rider*. The shift to the reflexive *riderse* was not seen with any older speakers but was beginning to occur among younger speakers. Another example is that of the verb *logarse*. The shift to a non-reflexive *logar* was seen among only two older speakers, but among nearly 30% of the younger ones. In these cases, shift is a fairly recent phenomenon.

However, for most cases, we can establish that shift has been occurring since older generations. For example, the use of *catarse co* is present in the speech of 100% of younger speakers and two-thirds of older speakers. The fact that so many older speakers use the hispanicized frame probably means that this change had already begun at least a generation earlier.

Furthermore, we have some instances of variation within the same speaker. This is seen primarily through self-correction during the interview sessions. Interestingly enough, not all self-correction was in fact correction since in some instances the speakers used the classical frame originally and then corrected themselves with the Spanish frame or corrected the use of a Spanish frame with the use of another Spanish frame. For example, an older woman used the classical non-reflexive *stracar* (Sp.

‘cansar’, Eng. ‘tire’) but immediately self-corrected to the innovative *stracarse*. The methodological design allowed the researcher to observe only immediate self-correction in the context of a brief interview. However intra-individual variation was discovered by chance encounter when a female teenager who had originally used the classical Veneto *logarse* (Sp. ‘caber’, Eng. ‘fit’) in the interview session was overheard about a week later using the innovated *logar.* Interestingly enough, this is the same participant who apologized by saying, “me equivoqué en unas palabras” immediately upon completing the translation task, although we can only speculate on what words she was referring to.

This type of variation indicates on an individual level the confusion regarding the use of frames and forms. It demonstrates an ability among these bilinguals to simultaneously access the frames of both languages for certain lexical items, indicating that both the Spanish and Veneto frames are linked to the verb form representation in an intermediate process before the Veneto frame is lost. However, it also indicates that in cases of immediate self-correction, the speaker may be consciously aware of two (or more) potential verbal choices, or at least arrive to some level of conscious linguistic awareness at the moment of the task.

Finally, self-correction and variation also bring up the question as to whether one can measure a person’s underlying competence in a language by looking only at his or her production. In other words, if a person alternates between two (or more) choices, it is difficult to determine which of these choices is governed by the person’s competence. And, if a person does not alternate and instead is quite consistent with his or her production, it may mean that production accurately reflects competence, but it could also mean that production may be constrained in some way and does not reflect competence. A third possibility is that the person consistently produces one response to the exclusion of another (such as the use by young speakers of the form *infisar* to the exclusion of *bardar* (Sp. ‘fijar’, Eng. ‘attend to’), which is used primarily by older speakers), omitting the production of one to compensate for lacking competence.

4.2 Interpretation and explanation of Analysis 2

4.2.1 Discussion of hypothesis 1

A primary purpose of this study was to ascertain whether the phenomenon of cross-lexical influence, which has been shown to occur in the speech of an incipient bilingual (Hall and Ecke, in press; Hall and Schultz, 1994), may also occur in the speech of members of a bilingual community. Evidence of CLI among speakers in a bilingual community is of central importance to answer the first hypothesis of this project:

> The language contact situation and the ensuing bilingualism of the members of the Chipilo community have effects on the lexical architecture of Veneto, as seen in the use of Spanish syntactic frames of translation equivalents.

Any evidence supporting this is crucial since it indicates that the mechanisms through which a learner accesses underlying concepts through their L1 lexicon are the same ones that mediate heritage language lexical access among members of a bilingual community undergoing language shift. Therefore, evidence of the majority language lexicon influencing the minority language lexicon in cases of language shift could possibly then be used to support claims that language loss and language learning exploit the same cognitive mechanisms.

The speech of all speakers in this sample is characterized by some degree of influence from Spanish. Instances of borrowing Spanish word forms as well as syntactic frames are found throughout the sample. It is important to emphasize the overall patterns of evidence of this study. Two patterns were apparent even before a

detailed analysis was carried out: firstly, that there is robust evidence in this sample that cross-lexical influence is a real phenomenon in the speech of bilingual heritage language speakers; and secondly, that in addition to CLI, there is ample evidence demonstrating linguistic variation across fluent native speakers of a minority language.

The first pattern is of key importance to the first hypothesis of this study: that bilingualism and language contact have subsequent effects on the architecture of the bilingual mental lexicon. In the case of the majority of the verbs in this study, there is at least a minimal amount of evidence that either the form or frame (or both) of a Veneto verb are linked to the underlying concept via the Spanish translation equivalent. In some cases, it is the verb form that is borrowed, as in the case of *osar* → *atreverse,* 'dare'. Although borrowing itself is an interesting socio- and psycholinguistic phenomena, it is not the centerpoint of this research but is discussed in Chapter 3 and mentioned again here to strengthen the evidence of the interrelation and interdependence of two (or more) mental lexicons.

While lexical borrowing can be expected in cases of language contact, the borrowing of syntactic features is not as common according to Romaine's (1995) discussion of the hierarchy of linguistic borrowing. Although there is strong evidence of grammatical borrowing in cases of language contact and criollization, such as research documented by Gumperz and Wilson (2000 (1971)), to date no person has looked specifically at the borrowing of a verb's syntactic frame outside of the context of a second language learning situation. It is for this reason that establishing even a tentative presence of frame CLI in a situation of minority language contact is of great interest.

However, besides simply establishing the presence of frame CLI in Veneto, which would have perhaps been sufficient to answer hypothesis 1, this study seems to demonstrate the ubiquitousness of parasitic architecture of the mental lexicon. In other words, not only has frame CLI been documented, it has been documented with such a high number of instances, that seemingly it is omnipresent, being found even in the speech of the most conservative speakers and in relatively substantial numbers.

In overall numbers, evidence of frame CLI is found in 40.5% of all verbs. Compare this to 39.8% in which the verb is free of both form and frame CLI. The extent of frame CLI is beyond sufficient to substantiate the first hypothesis.

When looking at individual verbs, the numbers there, too, are indicative of the extent of frame CLI in Veneto speech. While some verbs such as *rider* (Span. 'reirse', Eng. 'laugh') demonstrate minimal evidence of being linked to the underlying concept via Spanish, other verbs such as *catar* (Sp. 'encontrar', Eng. 'meet') are strongly linked to the concept via Spanish, as evidenced by an almost 100% use of the Spanish verb's frame by speakers.

Given these data, it can be concluded that the contact with Spanish and the high degree of Spanish-Veneto bilingualism have lead to a modification of the architecture of Veneto verbs in question. In cases where the frame in classical Veneto and Spanish varied historically, in the present day we see a progressive collapse of two distinct frames of the translation equivalents into one, that of the majority language. The following figure visually demonstrates this process.

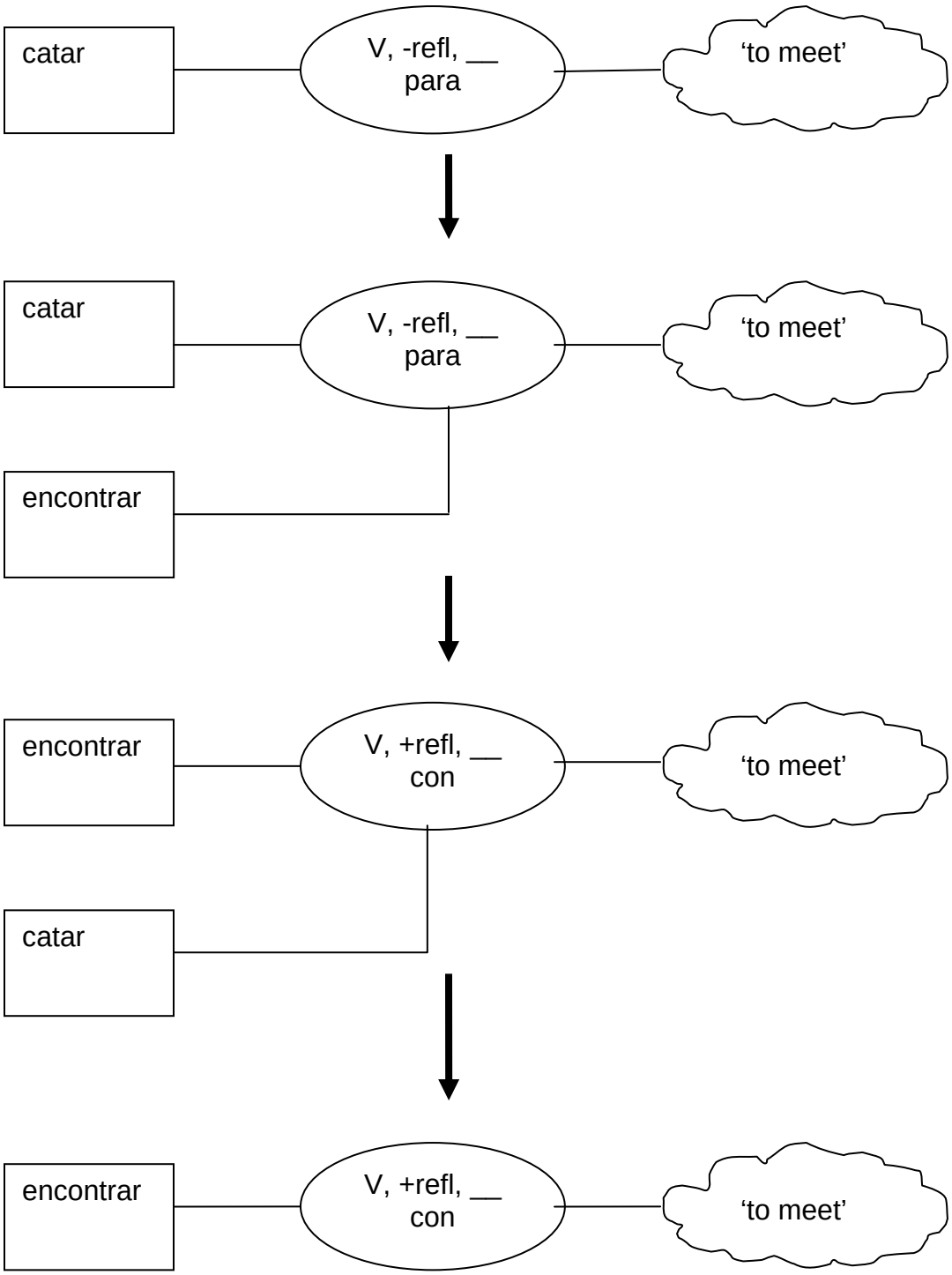

Figure 1 Proposed progression from monolingual Veneto speaker to monolingual Spanish speaker

The proposed explanation for this phenomenon is the opposite of the proposal of frame connections in cases of second language learning. In these situations, a monolingual speaker has lexical knowledge of only his or her L1. When L2 vocabulary is learned, especially in cases of beginning learners, the L2 form is linked to the underlying concept directly through the L1 translation equivalent's form. In addition, the L2 word is also linked to the L1 frame as a subsequent and automatic learning process. As the learning process advances and the L2 word is accessed more directly through the underlying concept, thereby strengthening this link, the strong links between the L2 and L1 words are weakened. This will make it more possible for the L2 learner to use the L2 word's syntactic frame with the L2 word (although this is not always achieved). The following figure is a visual model of this process.

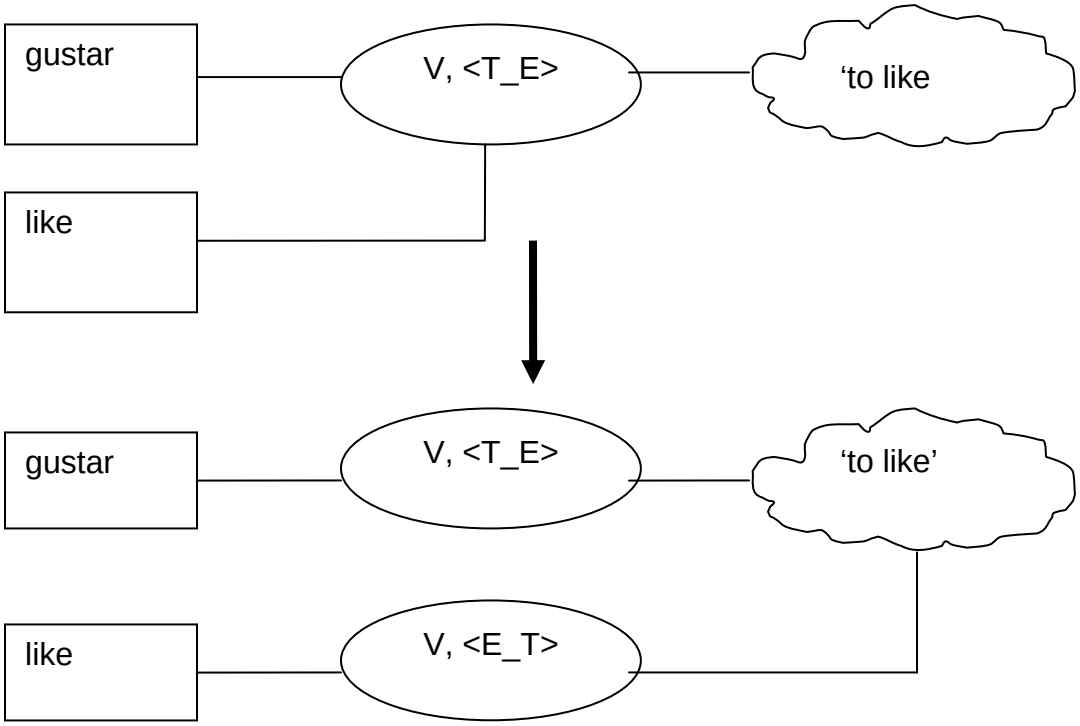

Figure 2 Increased autonomy of the L2 (Sills and Hall, submitted)

As we can see, the models of the mental lexicon which demonstrate the process of “forgetting” vocabulary in a language undergoing shift and the process of learning vocabulary in an additional language are the exact opposite. Increased contact with the majority language, accompanied with shift and decreased use of the minority language, lead to the minority language’s lexicon becoming more dependent upon the majority language’s. On the other hand, in cases of second language learning, increased contact with the second language will (hopefully) lead to greater autonomy of the L2. In other words, the cognitive processes are the same, but are mediated by the language contact situation.

4.2.2 Discussion of hypothesis 2

With the first hypothesis answered, conclusions will now be drawn about the second hypothesis:

> The degree of change due to cross-lexical influence in the lexicons of Veneto speakers will correlate first with the factors such as age and second, with the degree of contact with Spanish. The younger the speaker and the more contact with Spanish, the greater the cross-lexical influence.

Again, we find extremely robust data leading to the acceptance that CLI correlates to the speakers’ age. When looking at the use of classical Veneto forms with their frames, the speech of older speakers is statistically more conservative than the

speech of younger speakers. Conversely, younger speakers use statistically more borrowed verbs and more Veneto verbs with the Spanish translation equivalent's frame. All of these claims have been corroborated with a probability of chance of less than .01.

Regarding degree of contact, however, the figures point to no directly measurable role that degree of contact plays in degree of CLI. When comparing young speakers who scored low on the contact questionnaire with those who scored high, and also when comparing high and low scoring adults, the differences in +CLI, -CLI, and borrowing were not statistically significant. However, though seemingly there is no evidence that degree of contact plays a factor in degree of CLI, it must be remembered that the contact score for younger subjects ranged from .407 to .944, while the contact scores for older speakers ranged from .384 to .725. This means that overall, younger speakers have been exposed to more Spanish than older speakers, still keeping in mind that the overall pattern of degree of contact shows much overlap. Since these two groups' speech patterns varied according to age, we may give at most tenuous support to the hypothesis that degree of contact plays a role in CLI. Therefore, in this study, while the second half of the second hypothesis cannot be directly corroborated with t-tests, the role of degree of contact should not be discarded completely.

Since degree of CLI cannot be directly attributed to degree of contact, the main explanation is that of age, since there are clear statistically significant data corroborating this correlation. What is more important at this moment, however, it to go beyond simply attributing lexical change to age. Rather, we need a discussion of the cumulative effects of language contact on the mental lexicon of the younger speakers which will be

discussed in the following section which offers a synthesis of both analyses and details about the cumulative effects of language contact.

4.3 A synthesis of analyses 1 and 2

Just as historical language change can be seen as the accumulation of individual changes over time, so must the changes in Veneto be seen. Contact with Spanish set into motion a series of changes in the mental lexicon of the first generations of bilingual speakers. As time passed, these innovations were found more frequently in input and output and were made more concrete as more and more speakers incorporated this new norm into their underlying knowledge of the lexicon. The input to younger generations, therefore, includes innovative linguistic features of older speakers. In turn, the output of these same younger generations includes these same innovated features that have become more concrete and acceptable.

As stated in Chapter 1, in situations where linguistic norms are enforced by speakers, innovated speech may be rejected and the speaker may be corrected, thereby slowing the rate of change. However, since correction and disagreement are often marked and unfavorable (Pomerantz, 1984), overt correction may not take place, and if correction does take place, it may be in the form of modeling, for instance. In cases where linguistic norms are not agreed upon, correction through modeling may not take place due to uncertainty about the lexical choice, and linguistic innovations may continue unchecked. This leads to a showball effect, much like that described in Aitchison's (2000) discussion of historical phonemic shifts. At first, only one phoneme is changed in a limited number of words. This phonemic change is extended to a greater number of words and at a faster pace as time goes on. Then, other similar phonemes undergo shift, a few words at a time initially and then spreading to many as

the shift progresses. As the shift spreads to more words and to a greater number of phonemes, the cumulative effect of these changes makes the rate of change increase up to a point at which the shift is nearing completion and the rate of change decreases, taking the form of an S-curve.

While suggesting that the changes in frame mirror an S-curve is beyond the scope of this study, it seems that lexical changes in Veneto are gaining momentum and that as time goes by, more and more words are being affected. Innovations are spreading from speaker to speaker and across generations as is evidenced by the commencement, advancement, and completion of frame shifts (see Chapter 3). It is apparent that lexical changes, although more prevalent among younger speakers, began generations ago, as seen in the speech of many older community members.

Therefore, it is important to state that while age correlates with degree of cross-lexical influence, it is not the cause. Nor were the very first speakers to initiate changes generations ago the cause. Instead, the Veneto language found itself in a sociolinguistic environment of 1) language contact, 2) a high degree of bilingualism, and 3) language shift which allowed the parasitic cognitive process to take place. This means that Parasiticism may be an automatic cognitive process only if and when certain conditions are right for it to occur, such as the case of an L2 learner or when a minority language is being lost.

In cases of heritage language shift, once parasitic links through the majority language have initiated, an environment is created in which innovations will spread from person to person and from word to word, just as in classical cases of language change. For instance, in the data presented in this study, we consistently find that the innovations that are present in the speech of older speakers are also present in the speech of younger speakers, but to a

greater degree. The accumulation of these cross-generational changes is leading to permanent changes in the architecture of this lexical entry. Linguistic changes already in motion are spread to other lexical items, which, as time goes by, may also become accepted as a norm and incorporated into the speech of younger generations.

Therefore, although language contact is a causal factor in a parasitic linking of two lexicons, degree of contact with Spanish does not itself determine the degree of CLI. Instead, contact with other speakers whose language has already undergone change accumulated over at least two generations, matched with unclear speech norms, explain why it is the younger generation that uses such innovated speech.

4.4 Implications

This study has a variety of implications at different theoretical levels in the field of linguistics, especially the areas of bilingualism, language contact theory, and language shift. Firstly, we have the implications for the Parasitic Model of the bilingual mental lexicon. Initially, the Parasitic Model served only to explain vocabulary acquisition phenomena in the language classroom. However, in the case of this study, the Parasitic Model serves to explain phenomena that occur in the bilingual mental lexicon when a language is undergoing shift. Therefore, the presence of parasitic linking could be seen as a symptom of a language contact situation in which the two languages are not represented with equal strength in the minds of the speakers.

Secondly, this study lends support to the theory put forth by Anderson (1989) regarding the similarities between language loss and language learning. We have direct evidence that vocabulary learning and vocabulary loss are constrained by the

same psychological mechanism, but working in opposite directions. This study should be seen as one more link between SLA research and research into language shift and loss. Therefore, researchers should take a more interdisciplinary approach when doing descriptive linguistics of languages undergoing shift and incorporate knowledge from SLA research.

Taking an interdisciplinary approach by bringing together socio- and psycholingustic perspectives to explain the same linguistic phenomenon gives these explanations greater validity. While parasitic linking of lexical items seems to be an automatic process among L2 learners, it also seems to be fairly automatic in situations of community bilingualism when sociolinguistic circumstances permit. In other words, sociolinguistic factors limit the amount of input speakers receive of a minority language which in turn leads to a situation that allows linguistic change to take place at the pycholinguistic level. It is the belief of this researcher that numerous linguistic phenomena such as the linguistic changes seen in this study, among many others, could be better explained if looked at simultaneously through the lens of a sociolinguist and a psycholinguist.

4.5 Limitations

The principal limitations of this study concern methodology. There are several reasons to state this, starting with the challenge presented to a non-Veneto speaking researcher who had to rely entirely on Veneto advisors to help with the initial stimuli list. Taken as a whole, this challenge was successfully met for this particular study. However, the researcher often relied more upon her advisors than she did on the

linguistic features of the Veneto words under study. Because of this, a number of Veneto verbs with frames that differed from the Spanish translation equivalent were eliminated prematurely, because they were prejudged by one of the Veneto speaking advisors as being almost “immune” to frame change. An example of this is the verb *caer do co* (Sp. ‘caerse’, Eng. ‘fall down’). Therefore, the stimuli which were selected for this study may have been chosen based in part on intuitions by the advisors that those particular verbs were already undergoing frame changes. The problem with only including certain “pre-approved” verbs is that the results were prejudged and may have been skewed to reflect the types of changes occurring in the language. This also means that the stimuli list may not have been representative of Veneto verbs. Although looking back, all verbs which had frames differing from the Spanish equivalents should have been included in the study, given that the researcher relied heavily on the advisors and trusted their judgment, this unfortunately was not done.

A second limitation to methodology was the use of a translation task as the only source of linguistic information about form-frame choice. Although the pilot results indicated that of the three methods tested the oral translation task was the most efficient method for data gathering, it is still important to mention the difficulties that can be found during a translation task. This is due to the cognitive demands associated with performing translations, especially oral ones. Firstly, the translator must understand the meaning of what is to be translated and must have a memory sufficient to recall the original message. While some informants asked that sentences be repeated and therefore were exposed to the message again, the oral mode means that language exposure was temporary.

It was also found that there were many limitations to the language questionnaire. Although adapted from a questionnaire used in previous research on bilingualism by Hall and Smith (unpublished), it needs to be pointed out that this version was insufficient for a number of reasons. Firstly, the original questionnaire was written to measure linguistic abilities of monolingual speakers learning a second, prestigious, language in a classroom setting. This varies greatly with the case of Chipilo, a community in which bilingualism starting from a very young age is the norm and in which the minority language is neither taught in the schools nor has an extensive literary heritage. Therefore, the bilingual abilities of Chipileños should have been seen *a priori* as somehow different from the incipient bilingualism of English as a Foreign Language learners simply because the linguistic dynamics are so dissimilar. At the very least, a pilot of the questionnaire should have been carried out since a better designed instrument would have more precisely measured the speakers' degree of contact with Spanish and language domains of Veneto.

4.6 Future Research

The parasitic mechanism is an extremely rich area of research which reaches beyond second language learning theory. While currently the model is being extended to L3 language learning, my research indicates that if applied to community language contact situations, especially situations of minority language loss, findings have the potential of being quite significant. Therefore, the researcher proposes extending this area of research into more situations of language contact in order to describe linguistic change.

In the case of the Spanish-Veneto language pair, the languages in question for this study are typologically similar and therefore share similar grammatical structure, phonemes, and lexical items (cognates). Therefore, it would be interesting to study language change in situations of contact between two typologically different languages in order to see the effects that linguistic similarity has on mediating the degree of parasitism. It would also be interesting determine to what degree is parasitism mediated by presence or absence of cognates.

In addition, just as the Parasitic Model of the mental lexicon is currently being extended to explain language transfer in L3 learning situations, it would be interesting to study the mental lexicons of speakers of multiple languages in contact. Specifically, the Parasitic Model may be used to predict, identify, and explain the language of origin of borrowed frames and the language(s) that accepts these changes. In other words, the Parasitic Model may act as an explanation for substratum and superstratum linguistic changes.

While this study presupposes a gradual loss of the minority language and the adaptation of the majority language's syntactic frames for verbs, some anecdotal evidence gathered in the Chipilo community indicates that at times the Veneto syntactic frame is used with the Spanish form. In fact, there is documentation in one instance in this study of the use of a Spanish borrowed form with the classical Veneto frame. While this is statistically insignificant given the extent of collected data, it would be interesting to see the effects of minority language on majority language frames, perhaps in a contact situation in which the minority language is not at so much risk of shift.

It is also important to extend the Parasitic Model to different syntactic categories such as nouns, since the idiosyncratic syntactic information linked to verbs is different from the idiosyncratic information linked to nouns. The presence or absence of linguistic changes to verbs may not be representative of possible linguistic changes to the rest of the lexicon.

Furthermore, given the degree of variation found in this sample, it would be of great interest to study form/frame variation at the level of individual speakers. As mentioned above, several speakers offered self-corrections (often using the Spanish form or frame the second time around) or alternated their speech from one situation to the next. While this study looks in part at the production of certain features of Veneto in the community as a whole, it is important to keep in mind the difference between linguistic performance and linguistic competence. A potentially rich source of information, then, would be the study of the role of competence (albeit seen through performance) in the process of language change.

Continuing along the lines of looking at linguistic performance and linguistic competence is the sociolinguistic measure of linguistic security (Labov, 1972: 52). While measuring language attitudes are out of reach of this project, it would be interesting to find a link between a person's attitude toward his or her linguistic competence and the extent that this same person waivers between two or more equivalent forms. As part of the language history questionnaire, informants were asked to judge their vocabulary competence in both Veneto and Spanish. Also as part of the informal part of the interview process, informants would often comment about their attitudes about their linguistic abilities and those of other speakers. While these data were not analyzed due to changes in the focus of this project as well as the informality of some moments of the interviews, it would be interesting to have another study delving into these above issues in greater depth.

In addition to studying in greater depth the questionnaires, a great deal of information was gathered in this study that was not studied or could be studied in more detail. For example, variation was studied only as a function of age and provided rich evidence regarding the speech patterns of older and younger speakers as well as patterns of lexical shift. While in the second analysis degree of CLI could not be explained in relation to degree of contact, it is possible that investigating variation in the context of contact may be an interesting source of information.

Finally, as a general extension of this research, we extend an invitation to document language contact, shift, and loss while looking at the same or similar phenomena that have been documented in second language learning. More evidence

must be gathered in order to corroborate Andersen's statement that language learning and language loss are psychologically related.