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**Phonetic Changes in the Speech of  
Anglophone Expatriates**

Master's Diploma Thesis

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**2012**

*I declare that I have worked on this thesis independently,  
using only the primary and secondary sources listed in the bibliography.*

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Author's signature

## Acknowledgement

I would like to thank my supervisor PhDr. Kateřina Tomková, Ph.D. for her endless patience, support, and invaluable advice. My thanks also go to Mgr. Jana Pelclová, Ph.D. for her support and guidance. I would like to express my deepest gratitude towards all the participants (you know who you are); I would have never written this thesis without you. And, finally, many thanks to Mgr. Libor Juhaňák for answering my endless questions concerning Moodle, to Ing. David Herman for our discussions on scientific methodology and statistical procedures, and to Matthew Mahady for his friendship, energy, and support in the times of need.

# Table of Contents

Introduction .....	1
1 What is first language attrition? .....	4
1.1 Definition of first language attrition .....	4
1.1.1 Change, attrition, and loss .....	4
1.1.2 Native language system .....	6
1.1.3 The Bilingual who is acquiring and using a second language .....	8
1.1.4 Detailed definition of first language attrition .....	10
2 Approaches to the study of first language attrition .....	11
2.1 Psycholinguistic approaches .....	12
2.1.1 Jakobson's Regression Hypothesis .....	12
2.1.2 Universal Grammar and parameter setting .....	13
2.1.3 Accessibility, activation and forgetting .....	13
2.2 Neurolinguistic approaches .....	14
2.3 Sociolinguistic approaches .....	15
2.3.1 Language contact .....	16
2.3.2 Politeness .....	17
2.3.3 Immigration context and the loss of contact with L1 .....	18
2.3.4 Gender and education .....	20
2.4 Typologies of L1 changes .....	21
3 Language attrition on the phonetic level .....	24
3.1 The influence of other languages on English phonetics .....	24
3.2 The influence of English on the phonetics of other languages .....	29

4 Hypotheses .....	31
4.1 List of hypotheses .....	31
4.2 Testing the hypotheses .....	33
5 Participants and the collection of data .....	34
5.1 Stage 1: Sampling and interviews .....	34
5.1.1 Sampling of the Focus Group .....	35
5.1.2 Recording and interviewing the Focus Group participants .....	37
5.1.3 Description of the Focus Group .....	41
5.1.4 Control Group 1: Sampling, recording, description .....	46
5.1.5 Control Group 2: Sampling, recording, description .....	47
5.2 Stage 2: Creation of electronic questionnaires .....	48
5.2.1 Editing of the recordings .....	49
5.2.2 Website with electronic questionnaires .....	49
5.2.3 Electronic questionnaires .....	50
5.2.4 Testing the website .....	54
5.3 Stage 3: Sampling of the Assessors .....	54
5.3.1 Sampling of the Assessors .....	55
5.3.2 Description of the group of Assessors .....	55
6 Analysis of the data .....	58
6.1 Quantitative data from the electronic questionnaires .....	58
6.2 Phonetic Analysis and analysis of qualitative data .....	66
6.2.1 L1 attrition group .....	67
6.2.2 L1 minor changes group .....	72
6.2.3 L1 non-attrited group .....	73
7 Conclusion .....	74

List of references .....	77
Summary .....	81
Czech Summary .....	83

# **Introduction**

The present thesis investigates phonetic changes in the speech of Anglophone expatriates coming from the Inner Circle of English, i.e. the traditional bases of English including UK, USA, Canada and Australia (Kachru, 1982), who live in the Czech Republic. As no research has been done in this field in the context of the Czech Republic, this thesis presents a pioneering study aimed primarily at demonstrating that there are detectable changes (attrition) in the speech of Anglophone expats living in the Czech Republic, and providing an analysis of these changes.

The author first became interested in the field of first language (L1) attrition when several of her friends from the expat community started complaining and joking about losing their English. “Now I sound like Dracula, too,” was the comment that set the author to investigate L1 attrition on phonetic level in expatriates living in the Czech Republic. The present thesis is the result of the author’s enquiry.

Linguists started to be interested in L1 attrition only relatively recently and so there remains a lot to be examined in this field; debates about theoretical frameworks and methodologies are still in progress, scholars have been coming up with contradictory results. Moreover, there is an alarming lack of longitudinal studies. In short, L1 attrition research presents an exciting challenge for a linguist. The study of L1 attrition can bring invaluable insights into how brain, mind, language, and society are interconnected (Köpke, 2007). Findings from such interdisciplinary investigation will provide arguments in the current debate on immigration and immigrant assimilation, multiculturalism, and native versus non-native proficiency in a language.

But there are also more practical, down-to-earth applications of findings from non-pathological L1 attrition research. For example, the findings can help understand the nature of pathological language loss better and contribute to search for a treatment of such condition. Also, people who live in the L2 environment and use L1 as the source of their income (e.g. teachers, editors, translators) might benefit greatly from the knowledge of how L1 attrition works, what developments to expect, and how to prevent the possible negative impacts of L2 on their L1.

The first chapter of the present thesis introduces the notion of first language (L1) attrition and discusses several definitions of this phenomenon. A definition of language attrition used for the purposes of the present thesis is then introduced.

The next chapter provides an overview of the scientific approaches to the study of language attrition, including psycholinguistic, neurolinguistic, and sociolinguistic approaches. Special attention is paid to the last mentioned approach, as the research has been conducted within sociolinguistic framework. The last part of this chapter deals with the classifications of types of changes, as proposed by two scholars, and provides a comparison of these models.

The third chapter of the present thesis reviews some of the findings on first language attrition on phonetic level. Works devoted to the attrition of English on phonetic level are discussed in greater detail. The findings from previous research present an important basis for the formulation of the set of hypotheses in the following chapter.

The fourth chapter introduces the hypotheses tested in the present research. Arguments supporting each hypothesis are provided in this chapter as well, including

the findings from previous research, differences between Czech and English phonetic systems, and sociolinguistic notion of politeness.

The next chapter consists of two parts. Firstly, it provides a description and a discussion of the sampling methods used, and it gives a detailed description of the pool of participants. Secondly, a detailed description and discussion of methods used to gather the data needed for the analysis is provided. The chapter also includes a discussion of the ethics of the research.

Finally, the sixth chapter is devoted to analysis of the data gathered and to the discussion of the results in terms of the hypotheses proposed in the fourth chapter.

# **1 What is First Language Attrition?**

The aim of this chapter is to introduce the notion of first language attrition and provide a definition of this phenomenon. Further, various aspects of the definition of L1 attrition are discussed in greater detail.

## **1.1 Definition of First Language Attrition**

Many definitions of first language attrition have been devised, some more precise and more specific than others. For the purposes of the present thesis it has been decided to adopt the following definition of first language attrition (also referred to as first language loss or mother tongue attrition/loss): L1 attrition is “a change in the native language system of the bilingual who is acquiring and using a second language” (Pavlenko, 2009, p. 210). The following subsections provide an in-depth analysis of this definition in comparison with other definitions by a variety of scholars.

### **1.1.1 Change, Attrition and Loss**

The terms *attrition* and *loss* are rather controversial and need to be discussed in the first place in connection with the definition of L1 attrition. It has to be pointed out here that the author of the present thesis feels rather uncomfortable about using terms *language attrition* and *language loss*. They carry very negative connotations and do not describe accurately what is happening to the language of expats in the Czech Republic. Expatriates who come from the Inner Circle of English (Kachru, 1982) are not forced to assimilate into Czech culture and society. In fact, quite the opposite is true; English is

considered a very prestigious language. If the native English speakers living in the Czech Republic do learn Czech, they do so voluntarily. In such circumstances, learning and using L2 has immense positive effects, as reflected in the classical Czech proverb “The more languages you know the more of a human you are.” Furthermore, as pointed out by Cook (2003), we cannot really label many L2 on L1 effects as good or bad, as much as it is unacceptable to label a dialect or an accent as good or bad. Cook (2003) also points out that some of the effects of L2 on L1 might be virtually untraceable, unless state-of-the-art technology is used.

Apart from the negative connotations and imprecision of the terms *language attrition* and *language loss*, there is yet one more problem concerning the use of these terms. These terms are, in fact, used to refer to many different ways language skills can be lost. Among these are aphasia (loss of language skills due to brain damage), dementia, language death (the extinction of an entire language), and, finally the loss of L1 or L2 skills as a result of lack of use, or limited use (Köfer, 1991, p. 5). De Bot (1999, p. 348) also finds it useful to distinguish between *language loss* and *language shift*, “in language shift the input for generation B is a limited version of the language as it was acquired by generation A. So the language user in the shift situation simply never acquired certain elements of the language.” In other words, L1 attrition or loss is experienced by the first generation of immigrants, whereas L1 shift is a phenomenon experienced by subsequent generations who acquire attrited version of the language from their parents. Again, this is a very negative approach, suggesting a deformation of a language in immigrant context.

Sometimes the term *language maintenance* is used instead of the terms *loss* and *attrition*. While it certainly carries more positive connotations, it again does not provide a precise description of what native speakers of English experience in Czech context.

The word *maintenance* suggests a conscious activity or effort aimed at preserving the language. Yet, this is not what is happening in the Czech context. There is no expatriate society dedicated to the maintenance of English, or protection of English from Czech loanwords and code-switching. In the present research, only one participant reported a conscious effort to maintain a feature of his English (enunciation of the English dental fricatives). In fact, most participants in the present research reported they used a more standard version of English than they would back at home. The reason for this, however, is not the strife to protect and care for the native tongue. It is, quite simply, the necessity to make oneself understood, as Czechs learn standard version of English at schools, and many participants feel it impolite to stick to their local dialects. The extensive use of Standard English could, in itself, actually lead to the loss of the local dialect in the native speaker of English. As can be seen, *language maintenance*, albeit it carries more positive connotations, is not a useful term in the context of the present thesis.

The author of the present thesis would, for the reasons presented above, prefer to use neutral term *L1 change* when referring to L2 on L1 influence phenomenon under investigation. However, the term *language attrition* has been used in the scholarly discourse for more than 30 years and its position is now quite firm (even though some scholars feel the same uneasiness about it as the author of the present thesis). Therefore, the traditional term *L1 attrition* will be used throughout the thesis.

### 1.1.2 Native Language System

Schmid and Köpke (2007, p. 1) note that “it is unanimously recognized in linguistic science that the L1 is [...] different in specific ways from any language

learned later in life.” As such, it was seen as much more stable, almost unchanging, especially in comparison with L2 learned later in life. Accordingly, L1 attrition is different from L2 attrition (which has at one time or another been probably experienced by all learners of foreign languages, and thus has been studies by scholars more extensively); L1 attrition seems to be slower and more subtle in nature. Cook (2003) adds yet another reason why L1 attrition has been given so little attention:

If the L1 of the L2 user[s] were different from that of monolingual native speakers, S[econd] L[anguage] A[cquisition] research that used the native speaker as the target would be based on shifting sand. (p. 5)

For a long time, it has therefore been assumed that only L1 is somehow immune to the influence of L2. For example, Weinreich (1953), in one of the first books on contact linguistics, states that “[t]wo or more languages will be said to be in contact if they are used alternately by the same person” who is “the locus of contact” (p. 1). However, Weinreich in his book examines almost exclusively only L1 on L2 influence, even though his definition of language contact does not exclude L2 on L1 influence.

The influence of a second language system on a person’s native language first started to interest scholars in late 1970s, more systematic research has been conducted since late 1980s (Yağmur, 2004). However, no definite conclusions have been drawn thus far, as the evidence is often contradictory and methodological issues are still a great concern. As Yağmur (2004) puts it, “there are more questions than answers concerning the theoretical framework and research methodology of language attrition” (p. 134). In spite of this, researchers have found evidence of language attrition on all linguistic levels concerning both production and reception:

- phonetics: see detailed account in Chapter 3 of the present thesis (pp. 24-30);

- morphology: e.g. Anderson's (1999) study of gender agreement morphology attrition;
- lexicon and semantics: it has, in fact, been suggested that this linguistic level is the most vulnerable to language attrition and thus researched most extensively; however, this assumption is problematic, as correctly pointed out by Pavlenko (2009); language attrition on this level is probably merely the most easily noticeable one;
- syntax: e.g. Schmid's (2002) detailed account of morphology and syntax of German Jews in Anglophone countries;
- pragmatics: Pavlenko (2004) cites the experience of Kyoko Mori (1997), a Japanese woman, who, after living in the Midwest for 20 years, lost her competence in distinguishing real and symbolic invitations in Japanese, and had difficulties finding the correct level of politeness;
- and, finally, stylistics: two linguists Ulla Connor (1999, as cited in Pavlenko, 2004) and Suresh Canagarajah (2001, as cited in Pavlenko, 2004) described difficulties with structuring their papers in their native languages scholarly style.

### **1.1.3 The Bilingual Who Is Acquiring and Using a Second Language**

It is important to point out that the term *L1 attrition* is used in the present thesis to refer to “gradual loss of a language by an individual” (Schmid, 2002, p. 7); *individual* being the key word. L1 attrition research has been interested in what happens with the speech of an individual exposed to an L2, as opposed to more traditional socio-linguistic approach which studies changes of the language in contact situation on the level of the wider community of speakers. Weinreich’s (1953) study *Languages in*

*contact* is an example of the traditional approach concerned with the language of community rather than an individual.

Most commonly, researchers have focused on L1 attrition among late bilinguals – i.e. postpuberty learners and users of L2 – in immigration contexts (Pavlenko, 2009). Some authors go as far as to include the loss of contact with L1 in their definition of language attrition. However, Schmid and Köpke (2007) hold that the loss of contact with L1 is not a necessary condition for L1 attrition (in line with Pavlenko's definition cited in the beginning of this chapter), but they admit it is possible that a “particular mix of L2 circumstances brings about a more immediately visible version of a process of change in the L1 that all bilinguals undergo to some degree.” (p. 3). Pavlenko (2009) stresses that “L2 influence on L1 is a natural consequence of the competition of more than one linguistic system in the same mind/brain” (pp. 210-211). If Pavlenko and Schmid and Köpke are correct, then all learners of a foreign language experience changes (very subtle ones) in their native language system. In fact, “[p]ycholinguistic research has established that bilinguals process language in a way which is slightly different from that of monolinguals” (Schmid & Köpke, 2007, p. 3). Cook (2003) adds yet another interesting perspective:

The consequence of the widespread use of second language is that monolingual native speakers are hard to come by. Where in the world can one find people who have not at least a second language in school? (p. 13)

This fact brings about difficulties in methodology when trying to research L1 attrition. If there is no monolingual, there is then no solid base for the measurement of the extend of L1 attrition. A very commonly used solution to this problem is to compare the language of minimal and maximal bilinguals (Cook, 2003), which was also adopted

for the present thesis. A more detailed discussion of methodological issues follows in Chapter 5 (p. 47).

#### **1.1.4 Detailed Definition of First Language Attrition**

As already stated above, L1 attrition is “a change in the native language system of the bilingual who is acquiring and using a second language” (Pavlenko, 2009, p. 210). This change is not of pathological nature (such as brain damage), nor caused by temporary influence of drugs or emotional state of shock. Changes are detectable on all linguistic levels and they may encompass both language perception and production. Subtle changes occur in all bilinguals; however they are more pronounced under specific circumstances which include loss of contact with L1 and extensive use of L2, especially in immigration context.

## **2 Approaches to the Study of First Language Attrition**

The present chapter provides an overview of several different approaches to the study of first language attrition. According to Issurin (2011),

[t]he major divide is along the lines of sociolinguistics and psycholinguistics. The former is concerned with the social factors contributing to the decline [...]. The latter focuses on [...] the intrinsic metalinguistic, cognitive and psychological factors that are involved in the process of first language attrition. (p. 205)

However, psycholinguistics and sociolinguistics are not the only frameworks within which the research on language attrition has been conducted. Another important framework is that of neurolinguistics (Köpke, 2004).

The main principles of each framework will be outlined in this chapter. As the present research has been conducted within the sociolinguistic framework, this approach will be discussed in greater detail (including the discussion of various sociolinguistic variables in connection with L1 attrition).

It needs to be pointed out, however, that many scholars believe that the study of first language attrition would benefit greatly from a wide interdisciplinary approach, because, as Köpke (2004) puts it,

different mechanisms may be operating simultaneously at different levels: namely environmental (input, linguistic norms, attitudes, etc.), psycholinguistic (interference, trace decline) and neurolinguistic (activation thresholds, resource

attribution) factors. Conceivably, the interplay of several of these mechanisms is necessary to generate attrition. (p. 22)

Finally, the last part of this chapter deals with the classifications of types of L1 changes and provides a comparison of two classification models.

## 2.1 Psycholinguistic Approaches

Schmid and de Bot (2004) list three main approaches used to study language attrition within psycholinguistic framework, namely Jakobson's regression hypothesis, Chomsky's Universal Grammar and parameter setting, and general theories on accessibility and forgetting.

### 2.1.1 Jakobson's Regression Hypothesis

Schmid (2002) neatly summarizes the main principle of this hypothesis as “last in, first out” (p. 12). In other words, layers of language that have been learned most recently are the first ones to undergo attrition. According to Schmid and de Bot (2004), the regression hypothesis was first fully integrated into a linguistic framework by Roman Jakobson and was mostly focused on phonology in aphasics (Jakobson, 1941, as cited in Schmid & de Bot, 2004). This hypothesis “has been the subject of much debate in research on both pathological and non-pathological loss. Where aphasia is concerned, it has come to be generally accepted that this hypothesis does not provide a conclusive framework.” (Schmid, 2002, p. 12).

It has been hypothesized that the sequence of L1 acquisition might influence the sequence of non-pathological L1 attrition as well. Surprisingly, very little research

(especially of longitudinal nature) has been devoted to test this hypothesis, and therefore no definite conclusions can be drawn (Schmid, 2002). In view of the conflicting nature of the little empirical evidence there is, Köpke (2004) feels that “Regression Hypothesis may yield more promising results for L2 than for L1 attrition.” (p. 6)

### **2.1.2 Universal Grammar and Parameter Setting**

Similarly to Jakobson’s regression hypothesis, this approach also relates language acquisition and attrition. It is “based on Chomsky’s notion of a UG which contains a set of fixed principles and certain open parameters which are set during the acquisitional process.” (Chomsky, 1981; Ingram, 1989; Seliger & Vago, 1991; as cited in Schmid & de Bot, 2004, p. 214). First language attrition process then, seen from Universal Grammar perspective, is a process of re-setting or neutralizing L1 parameters when acquiring and using L2. But whether (and how) it is possible to change the setting of parameters remains an open question, as very little research has been conducted within this framework (Schmid & de Bot, 2004).

### **2.1.3 Accessibility, Activation and Forgetting**

There are several approaches to L1 attrition that take into account more general psychological notions such as accessing, processing and forgetting information. There have been extensive debates as to whether L1 attrition is an irreversible process or whether it only is a temporary problem of accessibility. In other words, whether and to what extent L1 attrition affects person’s competence and performance. The evidence gathered so far seems to indicate that non-pathological L1 attrition is of temporary nature (Schmid & de Bot, 2004).

One of the approaches used to investigate the L1 attrition phenomenon is the Activation Threshold Hypothesis, which explains the relation between frequency of use of a linguistic item and its availability to the speaker:

The more an item is activated, the lower its activation threshold is. The threshold of activation raises if the item is inactive, i.e. unselected (and disused). It is more difficult to (re)activate an item with a high activation threshold. In other words, when a particular linguistic item has a high activation threshold, more activating impulses are required to reactivate it. (Paradis, 1997, as cited in Gürel, 2004, p. 55)

This competition of two systems might lead to L1 attrition, if L1 happens to be the less often activated system. The Activation Threshold Hypothesis has also been used in neurolinguistic approaches.

## 2.2 Neurolinguistic Approaches

According to Köpke (2004), neurolinguistic approaches are “still scarce amongst the bulk of attrition research” (p. 6). It needs to be said here that there is no clear-cut boundary between neurolinguistic and psycholinguistic approaches to first language attrition; there are, in fact, many overlaps. Neurolinguistics is, however, more interested in studying the role of different brain mechanisms involved in first language attrition.

One of the important brain mechanisms considered within this framework is brain plasticity, the ability of the nervous system to modify its organization and its function (Kolb, Gibb, & Robinson, 2003), because

[f]aster language learning due to greater plasticity might also imply strong L1 attrition in young immigrants, whereas in older immigrants, reduced brain

plasticity would both hinder the adaptation to the L2 environment and prevent L1 attrition. (Köpke, 2007, p. 11).

Other important brain mechanisms that have been discussed in connection with L1 attrition are neural activation (Activation Threshold Hypothesis) and neural inhibition. In L1 attriter, it seems, “the use of L1 may be doubly impeded: by lack of activation of L1 on the one hand and the need to strongly inhibit the highly active L2 on the other.” (Köpke, 2007, p. 13) Here, it is truly important to consider the language situation of the individual speaker, as those who speak their L1 often will have lower activation threshold than those who do not; and those who use L2 predominantly might need to inhibit it more strongly when speaking L1 (Köpke, 2007).

Involvement of subcortical structures of brain in L1 attrition is yet another phenomenon studied by neurolinguistics. Subcortical structures are the seat of emotion in the brain, and as the process of first language attrition and effort spent on first language maintenance are very often accompanied by strong emotions, this part of brain probably plays an important role, which, however, has not yet been fully researched in this context (Köpke, 2007).

## 2.3 Sociolinguistic Approaches

As the present research has been conducted within sociolinguistic framework, it will be discussed in greater detail than psycholinguistic and neurolinguistic approaches. The following subsections provide an overview of the role of language contact, politeness, immigration context, gender, and education in connection with L1 attrition.

### 2.3.1 Language Contact

Sociolinguistics has traditionally studied languages (or dialects) in contact situation. As Schmid (2002, p. 7) puts it, “[t]he one tenet that seems to be almost universally accepted nowadays is that extensive language contact is conducive to language change.” Yet, scholars have been predominantly interested in changes on societal level, studying phenomena such as language death or emergence of creoles. It has been only recently that scholars started to be interested in language loss in an individual in contact situation (Schmid, 2002). As Schmid and De Bot (2004) observe,

[t]he notion that in situations of language contact [...] the modifications that can be observed in the linguistic system of one of these languages are entirely or in parts due to one language’s encroaching on the other is fairly widespread and probably true to extent. [...] Studies of attrition within this framework have to be based on a comparison of linguistic features of both languages, trying to isolate phenomena that can only be due to interlanguage effects against mistakes that are internally induced. (p. 212)

Schmid & de Bot (2004) further mention two hypotheses used within the framework of language contact situation. One of the hypotheses is that L1 features which do not have counterparts in L2 are more likely to be lost (in the present research it could be the case of aspiration of voiceless plosives under stress, present in English but non-existent in Czech). An alternative hypothesis (devised by Seliger, 1991, as cited in Schmid & de Bot, 2004, p. 213) has it that due to a lack of L1 input, rules of L2 will be used if they are less complex and have wider linguistic distribution (in the context of the present research, the Czech rule “do not aspirate voiceless plosives” is less complex

than the English rule “do not aspirate voiceless plosives, unless under stress”, and this fact would lead to loss of aspiration in attriters).

In the context of language contact, it is important to consider the length of this contact as an important variable. A common-sense assumption is that the longer the contact of the two languages, the more pronounced the L1 attrition. However, the relationship between time and attrition is not as straightforward as it may seem. There are many other factors at play, and each of these factors has different explanation power in different contexts. For example, in Schmid’s (2002) study of linguistic situation of German Jews living in Anglophone countries, it was the degree of suffering they experienced in Nazi Germany prior to the emigration that correlated with their L1 (German) attrition most strongly, not the length of L1 and L2 contact. However, Schmid and de Bot (2004, p. 220) conclude that “it seems generally agreed for L1 attrition that what attrition of linguistic skills takes place does so within the first decade of emigration.”

### 2.3.2 Politeness

The sociolinguistic notion of politeness has not, it seems, been discussed much in connection with L1 attrition. Yet, in the interviews for the present research, many native speakers of English living in the Czech Republic mentioned adjusting their language in order to be polite. More specifically, the participants often mentioned speaking more slowly, enunciating, using more standard version of English and abandoning their local dialect, and, finally, several American speakers reported switching to British English, as it is studied more commonly at schools, and also

required by some language schools and students. Several participants directly stated that they found speaking to Czechs like “back at home” extremely impolite.

The above described conscious changes in the speech could be viewed as positive politeness strategy (Brown and Levinson, 1987). Positive politeness strategies attend to the hearer’s positive face attempting to make the hearer feel good about themselves. Positive politeness strategies often involve statements of friendship and solidarity (Brown and Levinson, 1987). By speaking more slowly, switching to a more legible dialect, and enunciating, the native speaker of English shows understanding of the Czech hearer’s needs, lowers the language barrier, and clearly makes an effort to include the hearer into communication as much as possible.

It could be hypothesized that after a period of consistent usage of the above described language features, these get firmly incorporated into the speech of an expatriate and become one of the elements constituting first language attrition. This hypothesis, however, would only work in situations and contexts similar to the one researched in the present thesis, i. e. in a situation in which the speaker’s L1 is a prestigious language, commonly taught at schools as L2, and so the speaker is not forced to use L2 for daily communication in the L2 community and so uses their L1.

### **2.3.3 Immigration Context and the Loss of Contact with L1**

Pavlenko (2000) in her summary of a large body of L1 attrition studies concludes that L2 influence is more pronounced when L2 is of higher prestige than L1 of the immigrants, and when the immigrants wish to assimilate in L2 society and interact more with L2 community members. In other words, speakers with high L2 exposure and low L1 exposure experience more L2 influence in their L1.

It is very common that immigrants find themselves enjoying a lower status than they had prior to emigration. This might result in a wish for complete assimilation which would enhance the social status of an immigrant. In order to achieve that, immigrants might reject their L1 while trying to achieve a native-like competence in L2 (Schmid & de Bot, 2004). In some contexts, speakers might be even forced to abandon their L1. Pavlenko (2000) summarizes that the influence of L2 is more pronounced if L2 has higher prestige. This is not, however, the case in the present research. In the context of the present research, the participants are speakers of a prestigious language, and as such they might be actually required to use their L1 in their work environment (especially as teachers of English), or by their Czech friends who wish to improve in this language through conversation. Thus, the native English speakers do not lose opportunities to speak their L1. However, as has already been mentioned above, they might adjust the way they speak in terms of politeness, and so lose their regional dialect and perhaps some of the more advanced vocabulary.

Another important factor at play in the immigration context is the density and type of L1 networks in L2 country. Hulsen (2000, as cited in Schmid & de Bot, 2004, p. 222) found out that “the density of L1-speaking networks in the country of emigration correlated significantly with the degree of L1 maintenance.” In other words, the denser the community which has not rejected L1, the smaller is the loss. However, in a study conducted by Vartiainen (1996, as cited in Latomaa, 1998) on American expat community in Finland, it was the amount of contact within this community that proved to lead to more occurrences of L2 influence. The explanation offered in the study is that among American expats, the mixture of L1 and L2 (English and Finnish, in this case) is an accepted, mutually legible code, the use of which might cause stronger influence of L2 on L1. Those informants who only used English with

monolingual speakers “back at home” showed less influence from L2. (Vartiainen, 1996, as cited in Latomaa, 1998)

It has also been hypothesized that a higher degree of ethnolinguistic vitality (a notion devised mainly by H. Giles, R. Bourhis, and A. Landry; it includes factors such as prestige of a language, its demographic distribution, institutional support, and representation in the media) predicts stronger maintenance of L1 (Schmid & de Bot, 2004). This hypothesis was tested by Yağmur (1997, as cited in Schmid & de Bot, 2004, p. 222) on the case of speakers of Turkish in Australia, but no significant direct relationship between ethnolinguistic vitality factors and L1 loss was discovered.

### 2.3.4 Gender and Education

Gender and education present two very important sociolinguistic variables. However, there have been only very little research into how these factors influence the degree of L1 attrition.

Schmid & de Bot (2004) mention only one study in which gender was investigated as an independent variable. In this study, gender did not show any significant influence on first language attrition (Köpke, 1999, as cited in Schmid & de Bot, 2004, p. 221). As for the present research, the author has made a lot of effort to balance the pool of participants in terms of gender, so that it could be treated as an independent variable.

Concerning the level of education, Köpke (2004) hypothesizes that literacy/illiteracy in a language might play an important role in first language maintenance in children because it ensures more contact with L1 and “generates a second body of

representations and/or connections” (p. 15). However, not much research has been conducted in this direction (Köpke, 2004).

Schmid and de Bot (2004) in their overview of the research in the field mention two studies investigating the role of education in first language attrition. These studies show contradictory results: Köpke (1999, as cited in Schmid & de Bot, 2004, p. 220) did not find any significant relationship between education and L1 attrition; Jaspaert and Kroon (1989, as cited in Schmid & de Bot, 2004, p. 220), on the other hand, found the level of education to be the most important explanatory factor for language loss. In the present research, education is a controlled variable as most of the participants studied at a university and/or hold highly demanding professional positions requiring ongoing education in their respective fields.

## 2.4 Typologies of L1 changes

This subchapter briefly presents two typologies of L1 changes, namely Köfer’s (1991) and Pavlenko’s (2000), and provides a comparison of these two models.

In her thesis, Köfer (1991) proposes four types of loss of language skills: impoverishment, convergence, obsolescence, and drift.

- *Impoverishment* is defined as “the reduction in the complexity and richness of a person’s L1 linguistic resources” (Köfer, 1991, p. 5). Köfer (1991) hypothesizes that impoverishment first occurs in the productive system, but later on affects also the receptive system.
- *Convergence* refers to “the replacement of linguistic elements by those of another system” (Köfer, 1991, p. 6).

- *Obsolescence* is defined as “the supercession of linguistic resources or the ‘falling out of step’ with the developments that occur in the L1.” (Köfer , 1991, p. 6). In other words, not having contact with a person’s L1 means not noticing the current changes in the language.

It needs to be pointed out here, however, that this type of language change is probably not as pronounced as it could have been twenty years ago. It is indeed very difficult *not* to be in touch with one’s L1, mainly due to the widespread use of the Internet and mobile phones.

- Finally, *drift* refers to “the evolution of language, to those changes which occur in each individual’s language system” (Köfer, 1991, p. 6).

Clearly, Köfer’s (1991) classification of L1 changes is rather a pessimistic one. It does not consider any positive effects of L2 on L1 in terms of enrichment; it only hypothesizes the negative effects of L2.

Pavlenko (2000, 2004) is more optimistic in her classificatory Crosslinguistic Influence framework. This framework includes five types of L2 influence on L1:

- *Borrowing* refers to addition of L2 elements to the L1 system
- *Restructuring* refers to deletion of certain L1 elements and/or addition of L2 elements into L1 resulting in substitutions or simplifications; it is similar to Köfer’s (1991) notions of *impoverishment* and *convergence*.
- *Convergence* refers to creation of a system distinct from both L1 and L2
- *Shift* is move away from L1 structures to approximate the structures of L2
- *Attrition* is used to refer to the inability to produce, perceive, or recognize particular elements of L1 due to L2 influence.

Pavlenko's (2000, 2004) framework considers changes of L1 under the influence of L2 in greater detail than Köfer's (1991) classification, and views language attrition as only one of the possible outcomes of L1 and L2 contact. On the other hand, Pavlenko's (2000, 2004) framework does not include loss in terms of Köfer's (1991) obsolescence; in other words, it does not consider the lack of addition of new L1 elements into L1 due to lack of contact with L1. Strictly speaking, nothing gets lost, forgotten, or changed in the mind of the speaker. However, the process of obsolescence results in an observable difference between the language of an “attriter” and the language spoken in their home country. As such, this phenomenon should be included in any L2 on L1 influence classificatory framework.

### **3 Language Attrition on the Phonetic Level**

As has already been stated in the Introduction, it was complaints about sounding “like Dracula” that inspired the present research. Köfer (1991) describes a similar experience in the beginning of her thesis. Yet, to this day, scholars seem to disagree on whether fully-acquired L1 phonetics can be influenced by the L2 phonetics. As early as 1953, Weinreich wrote that “[t]he practice of the same phonetic habits in both languages is an efficient way of easing one’s burden of linguistic devices.” (p. 24). Nowadays, some scholars, e.g. Schmid (2002) and Schmid and Köpke (2007) tend to marginalize or ignore the findings in this area, whereas others, e.g. Pavlenko (2000) and Major (2010), cite many studies documenting the L1 loss on phonetic level. The present chapter provides an overview of several important studies on how phonetics of English as L1 has been influenced by various L2 phonetic systems, and how the phonetic system of English as L2 has influenced various L1 phonetic systems. The findings are discussed in relation to the context of the present thesis, particularly in connection with the hypotheses proposed by the author.

#### **3.1 The Influence of Other Languages on English Phonetics**

Major’s (1992) study of the influence of Brazilian Portuguese on the phonetics of American English is probably one of the most well-known and most meticulous works on L1 attrition in the field. Major (1992) investigated the amount of aspiration of voiceless plosives under stress in terms of voice onset time (VOT) in the speech of American expats living in Brazil. Unlike in English, voiceless plosives (/p, t, k/) are not

aspirated in Portuguese. Therefore, Major (1992) hypothesized that the aspiration of voiceless plosives in the speech of American expats living in Brazil would be reduced. All of the participants in his research were demonstrated to have lost the amount of aspiration to some degree; the degree of proficiency in Portuguese was positively correlated with the loss in English. The degree of L1 loss was shown to be greater in casual style than in formal style (in which more attention is paid to speech production). Major's (1992) research is of particular importance for the present thesis, even though the method of collecting and analyzing the data in the present thesis differs significantly. There are, however, two important similarities. First of all, voiceless plosives do not get aspirated in Czech language. Czech could, therefore, have the same influence on English as Portuguese. Next, Major (1992) points out that his participants used English in their everyday lives, similarly to the participants in the present research. In other words, the participants in both studies do not experience a lack of opportunities to speak English, their L1.

Pavlenko (2000) further analyzed Major's (1992) results in terms of her classificatory Crosslinguistic Influence framework. Within this framework, Portuguese influence on English in the phonological domain could be classified as both shift and convergence, as some participants abandoned the aspiration of English voiceless plosives under the influence of Portuguese, and some participants developed an intermediate form of these plosives somewhere between English and Portuguese.

Latomaa (1998), who studied language situation of Americans living in Finland in great detail, reported changes in the intonation patterns of the speech of these expats. The participants felt they spoke more slowly and paid more attention to the correct articulation. Regarding the intonation,

many informants reported that their English had been strongly influenced by the monotonous intonation of Finnish as it had ‘faded’, become ‘flat’ or ‘emotionless’ while they had been living in Finland. Several informants have been made aware of this change when they had visited their relatives and friends. (Latomaa, 1998, p. 64)

One of Latomaa’s (1998) informants acquired a very strong foreign accent and was no longer perceived as a native speaker of English. Pavlenko (2004) cites this example from Latomaa’s study as well, and classifies the situation in which “the L2 user would no longer be perceived as a native speaker of his or her L1 when interacting with monolingual speakers of the L1” as attrition within her Crosslinguistic Influence framework.

It could be hypothesized that Czech intonation will have the same effect on English as Finnish had in Latomaa (1998) study, since Czech intonation is also somehow flatter and less pronounced. This hypothesis could be further supported with Kučera’s (1990) observations of Czech influence on English in some areas of the USA with history of Czech settlement. The most obvious influence occurred, of course, on lexical level, English adopted some Czech words. There were, however, changes on the level of phonetics, albeit subtle, as well. Kučera (1990) observed that Americans coming from different areas could “recognize certain ‘foreign color’” (p. 149). He speculates that the reason for this might be “relatively small range of the melody of speech” (1990, p. 149). The influence of Czech intonation on English might be even more pronounced in the environment where Czech is the dominant language.

Köfer (1991), who studied the language of American expats living in Austria, proposes a number of hypotheses within her classificatory framework on how Austrian

German might influence phonetics of English. Even though these hypotheses were not tested in her thesis, they still present interesting and inspiring insight as Köfer, experiencing attrition of her L1 (English), partly based the hypotheses on introspection. Köfer (1991) hypothesizes the following types of changes and their manifestations in phonetics:

- impoverishment (reduction of complexity): there will be a loss in the precision and in the number of variants on the phonemic level, and a loss in the number of intonation patterns used and understood by the speaker;
- convergence (replacement of linguistic elements with ones from the other system): there will be a tendency to substitute elements of a more standard form of the language; and a tendency to substitute American English pronunciation with RP (as RP was learned and spoken in Austria at the time of writing);
- obsolescence (not being aware of up-to-date changes in the system): newly introduced phonemes (e.g. in loan words) and newly introduced intonation patterns will not be necessarily part of the speaker's productive system;
- drift (changes in the language system of an individual speaker): there will be a tendency to overgeneralize word-stress patterns. By this Köfer (1991) means placing stress in the word according to the most general stress pattern, as is usual with language learners. She gives an example of the word *hotel*, where the stress would be placed on the first syllable according to the common stress pattern of two-syllable nouns.

Last but not least, it is important to mention here that it is not only foreign languages that have the power to influence the way the native speaker of English sounds. As Major (2010) puts it,

L1 attrition also includes dialect attrition, for example, after living in New York for several years, a native of Birmingham, Alabama has experienced attrition if he or she has lost some of the Birmingham accent and also has lost some of the ability to discriminate Birmingham from non-Birmingham accents. (p. 164)

Jones (2001) conducted a sociolinguistic study on how British expats living in the USA cope with the Americanization of their British English. It turned out that the length of stay in the USA affected the degree of Americanization most significantly: all but one participant who lived in the USA for a period shorter than 2 years did not show Americanization of their accent; however, those who had stayed in the USA for between six and ten years spoke with the most Americanized accent.

However, it seems that one does not necessarily have to live in a different Anglophone country to start speaking a different variety of English than the native one. Latomaa (1998) observed that Americans living in Finland adopted British vocabulary, probably due to the fact that it is British English that is taught and spoken most commonly in Finland. There is no mention of adopting British pronunciation as well; however, the adoption of British vocabulary is an important piece of evidence that Americans do adopt British features when living in Europe. In the present research, several participants coming from North America reported adopting British features in their speech as well. In line with Köfer (1991) it could be then hypothesized that due to the prevalence of British English in Europe, the speakers of American varieties adopt some British phonetic features.

## **3.2 The Influence of English on the Phonetics of Other Languages**

One of the first L1 attrition studies concerned with changes in phonetics brought about by the influence of English as L2 is Eberhart's (1985) thesis on the language situation of Austrians living in the USA. Eberhart (1985) conducted interviews with four Austrians whose dominant language was English. She noticed the following changes in their German: the use of dark /l/ and retroflex /r/, stronger aspiration of voiceless plosives, adoption of English phoneme /æ/, adoption of English phoneme /w/ in German words spelled with w in the beginning, and adoption of English stress in words that have similar appearance in both languages. The range of loss on the phonetic level varied for each participant; one of the participants, for example, did not show any loss at all, and, moreover, she retained a broad dialect from the area she grew up in. These results were not, unfortunately, correlated with the length of stay or any other sociolinguistic factor. However, Eberhart's (1985) findings can still be used for the constructions of hypotheses of how Czech phonetics influences English. It seems that the participants in Eberhart's (1985) study adopted some very common English phonetic features that are non-existent in German. It can be hypothesized, that the expats in the Czech Republic experience a similar process, even though Czech is not their dominant language. They might cease to aspirate the voiceless plosives, as this feature does not exist in Czech; they might replace /w/ with /v/, as Czech does not have this consonant, and they might adopt some Czech stress patterns.

Regarding intonation patterns, Andrews (1999, as cited in Pavlenko, 2000) documented adoption of English intonation patterns by native speakers of Russian living in the USA. The participants used English high falls and rise-falls when speaking

Russian; they adopted English rising tone in yes/no questions where falling tone was expected in Russian, and falling tone in declarative utterances where rising tone was expected. From this follows that it is possible for an expatriate to adopt intonation patterns of L2, despite the fact that these patterns might be in the exact opposition to those of their L1.

A look at how English influenced Czech could be also inspiring for construction of various hypotheses. Henzlová (1981) mentions loss of palatalization, loss of sounds that do not exist in English, such as /x/ and /θ/, and voicing consonants /b, z, g, v, d/ at the end of word which is not typical for Czech but common for English. As for intonation of American Czech, Henzlová (1975, as cited in Kučera, 1990, p. 111) describes the following qualities: loan words from English do not have stress on the first syllable (which is otherwise a very important feature of Czech), and syllables which are not under stress get reduced. These features give the American Czech a very different rhythm. It could be hypothesized that Czech affects English in the Czech Republic in exactly the opposite way. Expats might lose the sounds that do not exist in Czech such as /w, ð, θ, ɳ, ɻ/ (as listed in Skaličková, 1974). Consonants at the ends of words that would normally be voiced might become assimilated. It could be also possible that word stress moves to the first syllable, as is common in Czech language, and syllables that are normally reduced in English do not get reduced to the same extend. The last two changes mentioned would have a considerable impact on the rhythm of expats' speech.

## **4 Hypotheses**

The hypotheses to be tested in the present thesis are based on the hypotheses and findings of several works on L1 attrition in phonetics (namely Major, 1992; Köfer, 1991; Eberhart, 1985; Latomaa, 1998), Henzl's (1975, 1981) and Kučera's (1990) account of phonetic features of American Czech and of Czech influence on American English, Skaličková's (1974) comparison of Czech and English phonetics, and, last but not least, observations by the participants and the author of the present thesis herself.

### **4.1 List of Hypotheses**

The author proposes the following hypotheses:

1. Czech (L2) influences phonetic features of English (L1) of the native speakers living in the Czech Republic. The changes are noticeable by native speakers of English who have never been in close contact with Czechs, Czech language, and Czech environment.
2. The changes might manifest themselves in
  - the lack of aspiration of voiceless plosives /p, t, k/ under stress when followed by vowel as is common in Czech language;
  - replacement of phoneme /w/ which does not exist in Czech by the phoneme /v/ in the beginning of words;
  - replacement of phonemes /θ/ and /ð/ which do not exist in Czech with phonemes /f/ and /d/ respectively;

- replacement of phoneme /ŋ/, which in Czech presents itself as an allophone of /n/ when before /k, g/ and as such is not very common (Skaličková, 1974), with phoneme /n/;
  - adoption of word stress on the first syllable as is common in Czech;
  - smaller reduction of unstressed syllables as is common in Czech;
  - flatter intonation and adoption of Czech intonation patterns.
3. Further, the speakers are likely to abandon their regional accent and shift towards a more standard accent of English in order to make themselves understood more easily. They might also speak more slowly than they would in their country of origin. Speakers of US English might shift towards British English.
4. The length of stay, the amount of contact with Czechs and Czech language, the amount of contact with speakers who have very strong Czech accent when speaking English, and the amount of contact with other L1 speakers influences the scope of changes.

In other words, the degree of language attrition/change/sounding foreign presents the dependent variable; the length of stay, the amount of contact with and use of Czech language (L2), the amount of contact with English spoken with strong Czech accent, and, finally, the amount of contact with other native speakers of L1 (English) present the independent variables. The variables that are held constant are education, and socio-economic class. Gender, age, and country of origin of the native speaker participants will only be investigated as independent variables if significant patterns arise.

## **4.2 Testing the Hypotheses**

The author has conducted interviews with twenty native speakers of English living in the Czech Republic. These participants present the Focus Group of the research. Further, the author has conducted interviews with four Czechs who are proficient in English (Control Group 1), and five native speakers of English who have never been in touch with Czech or Czech environment (Control Group 2). The recordings obtained in the interviews present the material for testing the hypotheses. Drawing on the method of triangulation, i.e. combining data sources (and different type of data) to study the same phenomenon (e.g. Babbie, 1989; Dörnyei, 2007), the following procedures have been proposed to test the hypotheses (see Chapter 5, pp. 34-47 for more details):

1. To invite native speakers of English who have never lived in the Czech environment to listen to the recordings, and ask them to distinguish between the three groups of participants (Focus Group, Control Group 1, and Control Group 2), comment on the degree of sounding native/foreign, and identify the foreign elements in the speech of the participants.
2. To ask the expatriates participating in the research to share their experience with language attrition in the interview, and to listen to the recording of themselves and comment on any unusual features.
3. The analysis of the recordings by the author herself, focused on pronunciation and intonation irregularities as indicated in subchapter 4.1, with special attention to be paid to the recordings of speakers identified as having a foreign accent.

## **5 Participants and the Collection of Data**

The present research consists of three stages: contacting and interviewing the participants, creating a website containing questionnaires with the recordings of participants, and inviting non-influenced, non-attrited native speaker of English to assess the recordings online. The present chapter's aim is to meticulously describe each stage, in chronological order, step by step, while providing arguments why certain methods have been chosen over others, and discussing the strengths and weaknesses of the chosen methods in the context of the present research. This chapter also contains a detailed description of the groups of participants (Focus Group, Control Group 1, Control Group 2, Assessors) in terms of sociological characteristics and independent variables proposed above (p. 32 of the present thesis). Last but not least, the discussion of various ethical issues the author had to deal with in the course of the research is imbedded in the present chapter as well.

### **5.1 Stage 1: Sampling and Interviews**

This subchapter describes the methods of selection of participants for the Focus Group (Anglophone expatriates), Control Group 1 (Czechs proficient in English), and Control Group 2 (non-influenced speakers of English); and how the recordings of and interviews with the participants have been conducted.

### **5.1.1 Sampling of the Focus Group**

It has been decided that the participants should meet the following criteria:

- Have already reached the age of 18 prior to having moved to the Czech Republic, as the process of L1 attrition in children and teenagers seem to have different causes and different development than in adults (Flores, 2010). Moreover, if the participants were younger than 18 years of age, it would be necessary to obtain permission for participation from their parents which would further complicate the research.
- Have lived in the Czech Republic for more than 6 months at the time of the interview. It has not yet been established firmly when the first language attrition starts to manifest itself, partly because of the many factors at play and partly because of the lack of longitudinal studies in the field. However, it seems that L1 attrition in adults is rather a slow process and it is not very likely that it would start manifesting itself shortly after arrival in the foreign country. That is why the period of six months has been chosen as one of the criteria for the present research.
- Come from a monolingual family. Having grown up in a multilingual family and therefore having acquired other language(s) next to English as first language might possibly influence the English of the participants. The only exception to this criterion is that of Czech-Anglophone families, which will be treated as border-line cases.
- Come from the Inner Circle of English, i.e. the traditional bases of English including UK, USA, Canada, and Australia where English is the native language of most of the inhabitants (Kachru, 1982). English is, of course, acquired as first language all over the world, and it should not be considered

inferior to the English acquired in the Inner Circle, or be overlooked in scholarly studies, but there are two important factors to consider. Firstly, Outer Circle Englishes, e.g. Nigerian and Indian (Kachru, 1982), might be perceived by the listeners as having an exotic or unusual flavor which could be mistaken for the influence of Czech language. Secondly, De Bot (1999) points out that the language acquired by the second generation of immigrants might be influenced by changes in the language system experienced by the expatriate parents.

As there is no publicly available exhaustive list of expatriates living in the Czech Republic, it was not possible to employ any of the nonprobability sampling methods which would yield a representative sample in terms of statistics. Therefore, the author had to use nonprobability sampling methods, namely the convenience and snowball sampling. The author has recruited participants for the Focus Group by:

- asking her friends and colleagues from the expat community to participate in a sociolinguistic research;
- posting a message about a sociolinguistic research in three big international companies;
- posting an advert about a sociolinguistic research in several libraries;
- asking the participants to pass the information about the research to their friends (snowballing).

All participants were offered a bottle of wine as a compensation for their time and effort.

Dörnyei (2007) points out several problems connected with the above listed respondent self-selection methods. Most importantly “volunteers may be different from non-volunteers in their aptitude, motivation or some other basic characteristics” (p.

101). In other words, the results obtained from such a sample of volunteers might not be generalizable for the whole target population. This issue will be further discussed in 5.1.3 (p. 41).

### **5.1.2 Recording and Interviewing the Focus Group Participants**

The Focus Group participants were not told prior to the interview what the exact nature of the research is. This was mainly due to two reasons: the Hawthorne effect and possible avoidance strategies developed by the speaker to compensate for the language loss. The principle of Hawthorne effect is that participants perform differently when they know they are being studied, as they are often provided with cue to the anticipated results of the project. As a result, they may begin to exhibit performance that they believe is expected of them; in other words, they might try to “please” the researcher (Dörnyei, 2007). Further, according to Schmid and de Bot (2004), the possible existence of avoidance strategies should be taken into account when designing a survey on first language attrition; they warn that if these strategies are perfected to a certain level, the speech might show no interferences.

However, methodological considerations should not override ethical principles of scientific work. The author has therefore employed the following measures:

- firstly, the participants were informed that the data they provided would be treated as confidential and that they could withdraw from the research at any time; they were also asked to come up with a nickname to be used in the thesis instead of their real names;
- secondly, the author explained about the Hawthorne effect and asked for a permission to reveal the purpose of the study after the interview;

- thirdly, the participants were asked for a permission to record the interview;
- and, lastly, the author asked for a permission to use the recording for the purposes of the present thesis (including its posting in an online questionnaire) after she had explained what the focus of the research is.

The interviews were conducted with individual speakers either in their home, their offices, or in cafés. In order to obtain (relatively) free spoken data for the analysis (as recommended by Schmid and de Bot, 2004), the author asked three questions unrelated to the focus of the research, and recorded the answers of participants: What are the benefits of learning a foreign language? What are the difficulties when a person is learning a foreign language? In your opinion, is there Anglo-American cultural imperialism?

Having obtained at least five-minute long recording of the speech of the participant, the author explained the objectives of the research (as already mentioned above), answered questions raised by the participant, and asked for a permission to proceed with the interview and use the recording for the online questionnaire.

In the following part of the interview, the author asked the participant questions aimed to measure the independent variables of the research:

- ***the length of stay***
  - How long have you lived in the Czech Republic?
- ***the amount of contact with and use of Czech language (L2)***

It is important to highlight two things in connection with this variable. Firstly, Czech language might actually be L3, L4, or even L5 of the participants, but at the time of the interview it was used by the

participants much more often than other foreign languages, and so it is referred to as *L2*. Secondly, as pointed out by Schmid and de Bot (2004, p. 221), this variable “is difficult to put into quantifiable terms, since it is not discreet. Moreover, it can only be established on the basis of self-report data” which might not be accurate. Further, different indicators of this variable might be of different importance and might influence the speaker in different ways. Bearing these limitations in mind, the author has decided to employ the following indicators of the amount contact with *L2*: amount of active study of Czech language and use of Czech for communication, amount of TV/radio broadcast in Czech. It has also been decided to limit the enquiry to the period of six months prior to the interview, due to accuracy considerations.

The following questions were asked:

- How often have you actively studied Czech in terms of using textbooks, doing grammatical exercises, and/or having lessons of Czech over the past six months?
  - How often and how much have you watched Czech TV, films in Czech, and/or listened to the Czech radio in hours a day or week?
  - How often have you used Czech for communication over the past six months?
- ***the amount of contact with English spoken with strong Czech accent***

Surprisingly, the amount of contact with *L1* spoken by the *L2* speakers (and thus subject to various non-standard and incorrect usage) has not been investigated as an independent variable in the bulk of first language attrition research. The author of the present thesis hypothesizes that

frequent contact with “Czenglish” and strong Czech accent might influence the speech of expats, especially of the teachers among them.

The author asked the following question:

- How many hours a day/ a week do you spend on average speaking English with Czech speakers whose English is intermediate or below this level and/or have strong Czech accent?
- ***the amount of contact with other native speakers of English***
  - How many hours a week do you on average spend talking to other native speakers of English living in the Czech Republic?
  - How many hours a week do you on average spend talking to other native speakers of English living in your home country?

In the last part of the interview, the author asked the participants about their experience with first language change or attrition:

- Have you noticed any changes in the way you speak?
- Has anybody from your home country made any remarks about the way you speak since you have lived here?

The participants were also asked to listen to the recording taken in the first part of the interview and comment on their speech.

Finally, the author asked the participants to provide the following personal data: age, the country of origin, occupation. All the answers were filled in a form created prior to the interviews.

### **5.1.3 Description of the Focus Group**

The author has conducted interviews with twenty expatriates living in the Czech Republic. Five recordings, however, were not of sufficient quality due to the noise in the background, and it has been decided not to use them. One participant decided to withdraw from the research. Therefore, the final Focus Group consists of 14 participants, 6 women and 8 men. The mean age of the participants is 38. As for the country of origin, 7 participants come from the USA, 5 participants from the UK, and only 2 participants from Australia. All volunteers are white, middle-class, well-educated professionals working in two main areas: Education and IT industry. The average length of stay in the Czech Republic is 7.5 years. See Table 1 and Table 2 below (p. 44) for demographic details of each participant.

Several remarks have to be made here concerning the representativeness of the Focus Group sample. According to Ministry of the Interior of the CR, there were 617 Irish, 795 Canadians, 471 Australians, 4,840 British, and 5,860 Americans living in the Czech Republic as of 30 September 2011. Women make up roughly 2/5 of these figures. All in all, it is 12,583 foreigners that come from countries where English is a major language (however, some of them might not be speakers of English). These numbers include only those registered with Ministry of the Interior, the actual number of native speakers of English in the Czech Republic might be slightly higher due to illegal immigration and due to the fact that native speakers of English might also come from countries where English is not a major language. Quantitatively speaking, 14 native English speakers do not present a representative sample. However, it has to be born in mind that first language attrition is defined as changes in the language system in an individual speaker. As such, it has been always studied on small samples of speakers,

case studies being very common. In fact, the Focus Group of the present thesis ranks among the more numerous ones in the body of L1 attrition research.

As for the demographic variables of age, education, the area of occupation, and the length of stay, Nekvapil, Sloboda and Wagner (2009) observe that the use of English in the Czech Republic increased significantly after 1989, since the opening of the borders enabled foreigners from the West to travel to and settle in the Czech Republic. The authors also inform that “native English speakers are characterized by secondary or tertiary education [...], they often do not consider the knowledge of Czech to be a condition for survival in the Czech Republic.” (p. 80). All participants match Nekvapil’s, Sloboda’s and Wagner’s (2009) description. However, there are no comprehensive statistical materials describing this particular group of foreigners in terms of age, education, the area of occupation, and the length of stay.

Finally, it needs to be pointed out that as the participants were self-recruited or come from the author’s immediate surroundings, they are interested in science in general and languages and linguistic matters in particular. Most of the volunteers learn Czech voluntarily, either because they enjoy learning languages, or because they think it polite to speak the language of their host country. It can be hypothesized that the Focus Group of the present research differs in these characteristics from the rest of the native English expatriates. This fact will be taken into account for the analysis of the results. Further, even though the author aimed for the greatest variety of the Focus Group possible, only three participants live outside South Moravia region, and none of the participants live in the capital Prague where the concentration of expatriates is the highest. Life style and language attitudes of Prague expatriates might differ significantly and it is possible that different dialects of L2 have different effect on L1.

However, no research has been conducted thus far on the influence of rural versus urban environment and influence of different L2 dialects on L1 attrition.

As for the exposure to Czech language and contact with non-attrited speakers (Table 3, p. 45), it has to be taken into account that all data are self-reported and might be biased in one way or another. Further, some participants found it difficult to quantify some of the variables, especially the amount of communication in Czech and English. These methodological pitfalls have been widely discussed in L1 attrition literature, yet no final solution has been found. The author explained the content and purpose of her questions in the course of the interview in order to obtain as precise data as possible.

The participants of the Focus Group show a lot of variation in terms of exposure to Czech language. Four participants have a very good command of Czech (and so do not engage in active study of this language anymore), others spend between 0 to 3 hours a week actively studying Czech. The participants do not, in general, get too much of Czech broadcast input, 3.7 hours a week on average. As for the communication in Czech, the values range from 5% to 95%, the average being 41% of daily communication. The amount of communication in English with various groups of speakers (Czechs with a strong Czech accent, other expatriates, and non-attrited speakers “back at home”) proved to be a variable most difficult to quantify by the participants, and the values are the most varied within the group. This is mainly due to the fact that the participants work in different environments and positions and have different family backgrounds. The amount of communication with Czechs with strong Czech accent ranges from none to a hundred hours a week. The amount of communication with other expatriates is either quite high (around 30 hours a week) or very low (less than an hour). The amount of communication with non-attrited native English speakers “back at home” is usually less than an hour a week.

Table 1

*Focus Group – Demographics of Female Participants*

Nickname	Age (years)	Country of Origin	Area of Occupation	Length of stay (years)
Fran	60	Australia	Education	3.5
Jane	37	UK	Education	12
Jenn	did not volunteer	UK (family is Czech)	Education	6
Melanie	34	USA	Maternity leave	9.5
Selene	34	USA	HR	0.3 (married to a Czech for 9 years)
Yogo	41	USA	Education	7

Table 2

*Focus Group – Demographics of Male Participants*

Nickname	Age (years)	Country of Origin	Area of Occupation	Length of stay (years)
Charles	72	UK	Business	17
Cole	31	USA	Education	6 (and 1 year in Slovakia)
Jimmy	32	USA	IT	4.5
John	47	Australia (lived in UK and Ireland for 10 years)	Education	7
Lawrence	28	USA	Education	2 (lived abroad in various countries for 10 years)
Mickey	38	UK	IT	3
Roy	47	UK	IT, Business	21
Strom	35	USA	Education	7

Table 3

*Focus Group – Exposure to Czech*

Nickname	Active study of Czech (hours a week)	TV/radio in Czech (hours a week)	Communication in Czech (%)	Amount of communication in English (hours a week) with:		
				Czechs (strong accent)	Other expats	Non- attrited
Fran	1	5	5 %	25	A lot with husband	2
Jane	0	0	50 %	0	21	0.3
Jenn	0 (is fluent in Czech)	10	30 %	40	“A lot every day.”	1
Melanie	0	4	70 %	2	1	1
Selene	0 (studied Czech at university)	2	25 %	20	30	0.5
Yogo	1	3	5 %	“It varies.”	35	0.25
Charles	0	0	95 %	1	0.1	“An hour a month.”
Cole	2-3	2	50 %	15	0.5	0.5
Jimmy	3	0	50 %	“Rarely.”	“Rarely.”	“Once a month.”
John	0	8	50 %	21	1	“Very rarely.”
Lawrence	0	4	20 %	80-100	0	0
Mickey	1	6	5 %	“Great amount.”	7	0.25
Roy	0 (is fluent in Czech)	7	80 %	“Rarely.”	0.1	1
Strom	0 (has a good command of Czech )	0.5	45 %	30	1	0.25

#### **5.1.4 Control Group 1: Sampling, Recording, Description**

Control Group 1 consists of three Czechs who display a near-native command of English. The reason of employing the recording of Czechs in the present research is to allow for comparison with the recordings of expatriates showing high level of influence of Czech on their accent; the author hypothesizes that the scores and comments for these groups in the electronic questionnaire will be similar to the point that attired speakers of English might be regarded as Czechs.

The sampling process for Control Group 1 was quite straightforward; the author simply explained the objectives to her friends and colleagues who have been studying English since their childhood and show near-native command of English and asked them to participate. Unlike the Focus Group participants, the Control Group 1 participants were informed in great detail about the nature of the thesis and reasons for the employment of the control groups prior to the recording itself. Permission to use the recordings in an online questionnaire was also obtained prior to the recording process. The Control Group 1 participants were asked to answer the same questions in the recordings as the Focus Group participants, namely: What are the benefits of learning a foreign language? What are the difficulties when a person is learning a foreign language? In your opinion, is there Anglo-American cultural imperialism? A three-minute-long recording was obtained from each participant.

Four volunteers were recorded all in all, but it has been decided not to use one of the recordings, as the speaker was fully bilingual since the age of five and would present a border-line case further complicating the present research. In the end, then, Control Group 1 consists of three speakers (numbers in the brackets indicate age): two females: Cathy (50) and Meg (24); and one male: Harmon (30). The area of occupation of all participants in this group is Education, they are all middle-class South Moravians.

As has been said above, all speakers show a near-native proficiency in English and have been studying and using this language since childhood.

### **5.1.5 Control Group 2: Sampling, Recording, Description**

One of the methodological demands for the research in the field of L1 attrition is “comparison of the data to non-attrited speech [...] from a monolingual control group” (Schmid & de Bot, 2004, p. 228). However, as Cook (2003) correctly observes, “monolingual native speakers are hard to come by. Where in the world can one find people who have not at least studied a second language in school?” (p. 13). This methodological problem is often solved in the following ways (Cook, 2003):

- bilinguals whose L2 is different than the focus L2 are included in the non-attrited monolingual control group,
- and/or people who have had the least possible exposure to another language are included in the non-attrited monolingual control group.

Both approaches have been used in the present thesis: Control Group 2 consists of three native English speakers who have never learnt Czech and never lived in the Czech environment (but learned other languages and lived in the environments of these languages), and at the same time have not used their L2s for a considerable amount of time prior to the interview with the author.

The sampling of Control Group 2 was very similar to the sampling of Control Group 1. The author simply contacted her friends who met the criteria mentioned above, explained the objectives of the research and arranged Skype interviews with the volunteers. Permission to use the recording of the Skype interview in the online questionnaire was obtained from the participants. The Control Group 2 participants were asked the

same questions for the purposes of the recording as the Focus Group and Control Group 1 participants.

Control Group 2 consists of two females: Ellen (59) and Mare (64), and one male: Joseph (38). All participants come from the USA and are white middle-class professionals. Joseph works in the IT industry, Ellen in Law, and Mare is retired.

## 5.2 Stage 2: Creation of Electronic Questionnaires

Schmid & de Bot (2004) suggest employing an independent group of judges in a research on L1 attrition, saying that

it might be valuable to have free spoken data collected from the attritors subjectively rated by native speakers in order to establish to what degree the data sound “native” or “foreign” – based on features such as accent, sentence structures, or lexical choices. Such intuitive judgments might provide us with valuable insights into the perception of attired proficiency. (p. 228)

The author of the present thesis has decided to follow this recommendation: to create an online questionnaire with the recordings and invite native speakers of English to listen and comment on the degree of “foreignness” in the individual speakers. After all, it very often is the speakers “back at home”, relatives and friends, who notice and comment on the first language attrition of expatriates. For example, Köfer (1991), an American living in Austria, started her research on first language attrition after having been told that she “no longer sounded like an American” (p. 1), and several participants in Latomaa’s (1998) study reported the same experience.

### **5.2.1 Editing of the Recordings**

First of all, it was necessary to edit the recordings in terms of their length. It has been decided that a minute-long stretch of speech suffices to reveal any possible L2 influences, and at the same time is short enough as not to put the listeners off or take too much of their time. Further, it was necessary to cut out the interviewer's speech, and stretches of speech that would identify the speaker as a member of the Focus Group or one of the control groups.

In the editing process, some of the recordings turned out to be of insufficient quality due to the background noise, and so it was decided not to use them in the online questionnaire. Further, one of the participants decided to withdraw from the research and so his recording could not be used. Thus, the total number of recordings used in the online questionnaires amounts to 20:

- 14 recordings of expatriates living in the Czech Republic – Focus Group
- 3 recordings of Czechs speaking English – Control Group 1
- 3 recordings of non-native speakers of English – Control Group 2.

### **5.2.2 Website with Electronic Questionnaires**

The author has decided to run the electronic questionnaires under Masaryk University's Moodle (electronic learning system). There are several reasons for this. Firstly, Moodle already contains a tool for creating and running questionnaires within a user-friendly interface. Secondly, the recordings can be easily embedded into the questionnaires. Thirdly, Moodle allows guests with password to fill in and submit questionnaires. This feature ensures anonymity of the users. Lastly, the system has a good technical support both at the University and in the wider Internet community.

Another important reason for using University's Moodle is that the data stays within the University and thus a greater security against illegal download of the recordings has been ensured.

### **5.2.3 Electronic Questionnaires**

Several important decisions had to be made in connection with the creation of the questionnaires: the length of questionnaire (in terms of number of recordings included in one questionnaire), number of questions and their wording, and general introduction to the questionnaires.

Dörnyei (2007) suggests that a general introduction to a questionnaire should describe the purpose of the study, include the information about the organization conducting/sponsoring it, emphasize that there are no right or wrong answers, promise confidentiality or anonymity, request honest answers, and thank the participants. At the end of the questionnaire, a contact name with a telephone number or address should be included, as well as some explicit encouragement to get in touch if there were any questions on the part of participants. In line with these recommendations, the following text has been used as the general introduction to the questionnaires:

Hi,

My name is Magda Sučková, I am a student of Masaryk University in Brno (the second largest city in the Czech Republic). I would like to ask you to help me with the research for my MA thesis. My objective is to find out whether native speakers of English living in the Czech Republic experience changes in their accent, intonation, and pronunciation; and if so, then what the changes are.

Being a Czech myself, I find it difficult to notice such subtle changes. That is why I would like to ask YOU, a native speaker of English living in their homecountry (and

thus not influenced by the Czech environment at all), to listen to some of my recordings and tell me what you hear. Do the speakers sound perfectly normal to you? Or is there a strange foreign flavour to their speech? Please note that there are also control recordings of Czechs speaking English and of native speakers of English who have never lived in the Czech Republic. The aim of these control recordings is not to test you in your ability to recognize a foreign accent, but to test my hypotheses. All your answers are of great value to me.

And this is how to go about it. I created three questionnaires, each contains seven recordings. Click on one of the links you see below (whichever you like), listen to the seven recordings (about a minute each), and answer three short questions about each of the recordings. If you find it interesting, please feel free to fill in the other questionnaires as well ;-)

There are no correct or incorrect answers, all that matters are your impressions. By completing the questionnaire you are making a great contribution to the research on mother tongue change/loss.

Please note that any data you provide in this questionnaire will be held confidential.

If you are interested in the results of the experiment, or wish to know more details about the project, please do not hesitate to contact me at: magda.suckova@seznam.cz

Thank you very much for participating.

As for the length of the questionnaires, according to Dörnyei (2007) “[m]ost researchers agree that anything that is more than 4-6 pages long and requires over half an hour to complete may be considered too much of an imposition.” (p. 110). Following this advice, the author has decided to divide the pool of recordings into three identical questionnaires, so that completing one questionnaire would not take longer than 20 minutes. To ensure comparability of the results from the three questionnaires, the questionnaires contain the same number of recordings from each group: 4 or 5

Focus Group (FG) recordings, one Control Group 1 (CG1) recording, and one Control Group 2 (CG2) recording. The recordings were assigned to the questionnaires randomly, but grouped so that the position of focus and control recordings was the same in each questionnaire. Thus, the three questionnaires contain the following recordings in the following order:

- Red questionnaire: Melanie (FG), Jimmy (FG), Mare (CG2), Jenn (FG), John (FG), Meg (CG1), Yogo (FG);
- Blue questionnaire: Selene (FG), Charles (FG), Joseph (CG2), Lawrence (FG), Strom (FG), Cathy (CG1), Fran (FG);
- Green questionnaire (contains only 4 FG recordings): Jane (FG), Ellen (CG2), Roy (FG), Cole (FG), Harmon (CG1), Mickey (FG).

For each of the recordings in the given questionnaire, three questions were asked in order to determine the scale of changes in L1 of the speakers and their nature.

To determine the degree of sounding “native” or “foreign”, the author employed the Osgood scale in the following way:

Does this speaker sound foreign (in terms of accent, intonation)?  Indicate on the scale, please.						
not foreign at all	1	2	3	4	5	very foreign
	<input type="radio"/>					

where 1 indicates no foreign accent (no attrition), and 5 indicates strong foreign accent (strong attrition).

To obtain more details about the nature of the changes, the following question was employed:

What is the speaker's country of origin?

- UK
- USA
- Czech Republic
- Canada
- Ireland
- Australia
- South Africa

If an FG speaker is identified as coming from the Czech Republic, it indicates a very strong influence of Czech on their English, a very strong L1 attrition, in other words.

If an FG speaker is identified as coming from a different country than their country of origin, it might indicate changes in their accent (especially a switch from American to British English).

Finally, the last question concerning the recording enquired about the reasons for the answer to the above questions:

Have you noticed any strange/foreign/unusual features in the speech of the speaker? If so, could you please comment on them?

|

Unlike the first two questions, the last question was not compulsory because it might discourage volunteers from completing the rest of the questionnaire if they could not pinpoint the foreign features in the recording.

At the end of each questionnaire (as recommended by Dörnyei, 2007), the respondents were asked to provide the following personal data: gender, age, and the country of residence. It was not compulsory to answer these questions in order to ensure the non-imposing nature of the questionnaire:

Indicate your age, please.
<input type="text"/>
Indicate your gender, please.
<input type="button" value="Choose..."/>
What is your current country of residence?
<input type="radio"/> USA <input type="radio"/> UK <input type="radio"/> Ireland <input type="radio"/> Australia <input type="radio"/> Canada <input type="radio"/> Other: <input type="text"/> <input checked="" type="radio"/> No answer

#### 5.2.4 Testing the Website

To ensure that the research website containing the electronic questionnaires works reliably, and that the instructions and questions are clear, the author send the link to the website to several members of her family and to the participants of the research, and asked them to provide feedback. On the basis of the feedback by three volunteers, the author changed the wording of one question, included the instructions on how to play the recording, added a missing recording into Blue questionnaire, and, most importantly, changed the way of accessing the website which proved to be problematic. Finally, the website was ready to be launched.

### 5.3 Stage 3: Sampling of the Assessors

Assessors represent a group of native speakers of English who have volunteered to fill in the electronic questionnaires, i.e. they have listened to the recordings, assessed the degree of sounding native/foreign of the recorded speakers, and provided their comments on the recording.

### **5.3.1 Sampling of the Assessors**

Finding enough respondents to the questionnaire has proved to be a daunting task. Due to temporal, organizational, geographical and financial constraints it was impossible to employ any of the non-probability sampling methods. Thus, convenience and snowball sampling methods were employed again by:

- asking the author's native English friends overseas to participate;
- asking Focus Group participants to pass the link to the research website together with the password to their friends, colleagues, and family "back at home" and ask them to participate;
- posting an advert with the link and password on Lingforum ([www.lingforum.com](http://www.lingforum.com)), an online community for linguists;
- asking all the respondents to fill in more than one questionnaire and to pass the link on to others who might be interested in participation.

### **5.3.2 Description of the Group of Assessors**

Originally, the author of the present thesis intended to include as Assessors only those native speakers of English who lived in their home country, and thus were not influenced by the Czech (or any other L2) environment. However, several native English speakers living in non-Anglophone countries filled in the questionnaires, as well as some members of the Focus Group. Having read their comments, the author has decided not to exclude these respondents as Assessors. The reason for this is that native speakers of English who live abroad very often work as teachers of English and as such are able to pinpoint (and correct) inaccurate pronunciation. As for the Focus Group respondents, having conversations with Czechs in English gives them the unique ability to recognize Czech accent, the typical Czenglish pronunciation patterns. Further,

Major (2010) showed that the ability to recognize native and non-native speakers of one's L1 does not undergo any significant attrition.

Another important point must be made here. As far as the author can tell from the feedback emails she received from the Assessors, about half of the Assessors are not linguistically naïve, quite the opposite. Some of them work as language teachers (or have trained as teachers), some are students of linguistics, most of them share enthusiasm for learning foreign languages. Therefore, the comments of the Assessors can be viewed as quite reliable.

The group of Assessors is divided into three subgroups according to the questionnaire assessed. Each questionnaire (in other words, each recording in each questionnaire) has been assessed by 12 Assessors. Some of the Assessors filled in more than one questionnaire, which adds to inter-comparability of the results from different questionnaires.

As can be observed from Table 4 below (p. 57), the three subgroups of Assessors are very similar in terms of gender, and Anglophone country of residence/Czech Republic residence ratio. The only significant difference is the higher average age of Red Questionnaire Assessors. In this subgroup, the ages of respondents are evenly distributed between 26 and 64 years of age. In the other two subgroups, the ages range from 16 and 22 respectively to 52, and are not so evenly distributed.

Table 4

*Assessors – Demographics*

	Red Questionnaire Assessors	Blue Questionnaire Assessors	Green Questionnaire Assessors
Average age (years)	45	32	32
Gender (male/female/other)	7/5/0	7/5/0	8/3/1
Country of residence	USA: 3  UK: 3  Czech Rep.: 3  Switzerland: 1  Germany: 1  Nonresponse: 1	USA: 3  UK: 2  Czech Rep.: 3  Switzerland: 1  Isle of Man: 2  Nonresponse: 1	USA: 2  UK: 3  Czech Rep.: 4  Canada: 1  Isle of Man: 2

## **6 Analysis of the Data**

The present chapter provides an in-depth analysis of the data obtained in the interviews and through the electronic questionnaires. First, the quantitative analysis of the data obtained through the electronic questionnaires and the interviews with participants is provided. Subsequently, the qualitative analysis of comments on the recordings and phonological analysis of some of the recordings is furnished.

### **6.1 Quantitative Data from the Electronic Questionnaires**

Table 5 below (pp. 59, 60) presents quantitative data obtained through the electronic questionnaires. The most important indicators of the degree of L1 attrition are the L1 attrition score and supposed country of origin.

L1 attrition score is the mean score obtained from the Osgood scale question (Question 1 of the electronic questionnaire, see p. 52), where 1 indicates sounding perfectly native whereas 5 indicates sounding foreign (i.e. having a foreign accent). In other words, the higher the L1 attrition scores in native speakers of English, the higher the degree of L1 attrition and vice versa.

The list of supposed countries of origin as indicated by the Assessors provides yet another indicator of the degree of L1 attrition. Mistaking a native speaker of English for a Czech speaker points towards strong L1 attrition, while indicating a different Anglophone country of origin than the actual one suggests only minor changes in the speech of an expat.

Table 5 includes data on Focus Group (FG) participants, as well as on both control groups (CG1, CG2) participants to allow for comparison. The participants are listed in the table according to their L1 attrition score in descending order.

Table 5

*Quantitative Data from the Electronic Questionnaires*

Nickname and Group	L1 Attrition Score	Supposed country of origin (number of guesses)	Actual country of origin
Meg (CG1)	3.6	Czech Rep. (9), Australia (2), Ireland (1)	Czech Rep.
Melanie (FG)	3.6	Czech Rep. (8), UK (2), USA (2)	USA
Strom (FG)	2.8	Czech Rep. (7), Ireland (1), USA (3)	USA
Cole (FG)	2.8	Czech Rep.(6), USA (3), Canada (2), Ireland (1)	USA
Harmon (CG1)	2.6	Czech Rep. (5), Ireland (6), Canada (1)	Czech Rep.
John (FG)	2.4	Czech Rep. (2), Ireland (5), Australia (4), South Africa (1)	Australia
Cathy (CG1)	2.2	Czech Rep. (5), UK (4), South Africa (2)	Czech Rep.
Charles (FG)	2.0	Czech Rep. (1), UK (5), South Africa (4), Ireland (1)	UK

Nickname and Group	L1 Attrition Score	Supposed country of origin (number of guesses)	Actual country of origin
Yogo (FG)	1.9	Czech Rep. (1), USA (7), Canada (4)	USA
Ellen (CG2)	1.9	USA (8), Canada (4)	USA
Jimmy (FG)	1.8	Czech Republic (2), Canada (5), USA (4), South Africa (1)	USA
Lawrence (FG)	1.8	Czech Rep. (1), USA (9), Canada (1)	USA
Roy (FG)	1.8	UK (7), South Africa (5)	UK
Fran (FG)	1.7	Australia (8), UK (2)	Australia
Jane (FG)	1.7	UK (10), South Africa (2)	UK
Mickey (FG)	1.5	UK (9), Australia (3)	UK
Jenn (FG)	1.5	UK (12)	UK
Mare (CG2)	1.4	USA (9), UK (2), Canada (1)	USA
Joseph (CG3)	1.3	Czech Rep. (1), USA (8), Canada (2)	USA
Selene (FG)	1.1	USA (7), Canada (4)	USA

The mean L1 attrition score for Control Group 1 (Czech speakers) is 2.8, the mean for Control Group 2 (non-influenced English native speakers) is 1.5, and the mean for Focus Group is 2.0. On average, then, the Anglophone expatriates living in the Czech Republic sound less native-like than their control counterparts, and at the same time sound more native-like than Czechs who are proficient in English. Further,

it can be observed that the higher the L1 score, the more often is the speaker considered to be a Czech.

It can then be assumed that living in the Czech environment does bring about changes in the speech of Anglophone expatriates. However, there is a considerable amount of individual variation among the speakers. Hence, several more sophisticated statistical methods need to be employed to find out which variables have the biggest impact on the degree of sounding foreign. In other words, the goal is to find relations amongst variables which are related to L1 attrition score. To do this, two techniques have been used, namely: correlation analysis and classification tree building. Since some variables consist of both numerical and string values (e.g. communication with other expats: “rarely”), the string values have been converted to numerical representations according to their meaning in order to ensure the consistency of data types for machine learning techniques. It has to be pointed out here, however, that the extracted results cannot be viewed as statistically significant because of the small sample size and its non-representative nature, but they represent yet another point of view, which might prove to yield interesting insights.

To assess the relationship between the variables (L1 attrition score and the independent variables as presented in Table 1, Table 2, and Table 3, pp. 44, 45 ), Pearson’s product-moment correlation ( $r$ ) and point-biserial correlation ( $r_{pb}$ ) have been computed. Pearson’s product-moment correlation “reflects *how closely* you can guess the value of one variable through your knowledge of the value of the other.” (Babbie, 1989, p. 412, italics in the original). Point-biserial correlation “is a special case of Pearson in which one variable is quantitative and the other variable is dichotomous” (Calkins, 2005, para.4) and as such has been used to compute the correlations between the gender of participants and other variables.

There was a positive medium correlation between L1 attrition score and the amount of communication in Czech,  $r = 0.43$ , and a negative medium correlation between L1 attrition score and the amount of communication with other expatriates,  $r = -0.50$ . No significant correlation has been found between the L1 attrition score and the length of stay, Czech broadcast input, and gender (see Table 6, p. 64, for details).

Another interesting way of looking at the relationships between the variables is through the construction of a classification tree. This is a discovery-driven technique (unlike the above presented Pearson's product-moment correlation) in which patterns are automatically extracted from data by a specialized algorithm, and a tree-like structure is then created according to the attributes which present the greatest information gain. Another way of putting it is that the participants are classified into groups according to the values of attributes they have in common (Kantardzic, 2011; Rokach & Oded, 2007). This is done by navigating "from the root of the tree down to a leaf, according to the outcome of the tests along the path." (Rokach & Oded, 2007, p. 9)

The classification tree (Figure 1, p. 65) for the Focus Group participant has been created in program Orange 2.0b using C4.5 algorithm. First, the domains of individual attributes were divided into intervals; this is called discretization. More specifically, equi-width binning has been used for discretization, with four bins for every numerical attribute in the input dataset. It has been decided to exclude the attributes of country of origin and of occupation from the dataset, because they lead to inference and production of irrelevant results.

As can be seen in Figure 1, the most important attribute (i.e. the attribute presenting the greatest information gain) for the classification of Focus Group participants into groups with similar L1 attrition score is the amount of communication

in Czech. Next important attributes are the amount of communication with other expatriates and the amount of Czech broadcast input. Other attributes (such as age and gender) did not prove to be distinguishing characteristics. However, more data is needed to validate the presented classification tree.

Although the dataset used for the above presented statistical procedures is too small to provide valid results, it seems that the amount of communication in Czech and the amount of communication with other Anglophone expatriates are important factors that should be addressed in any future research on L1 attrition in the same context.

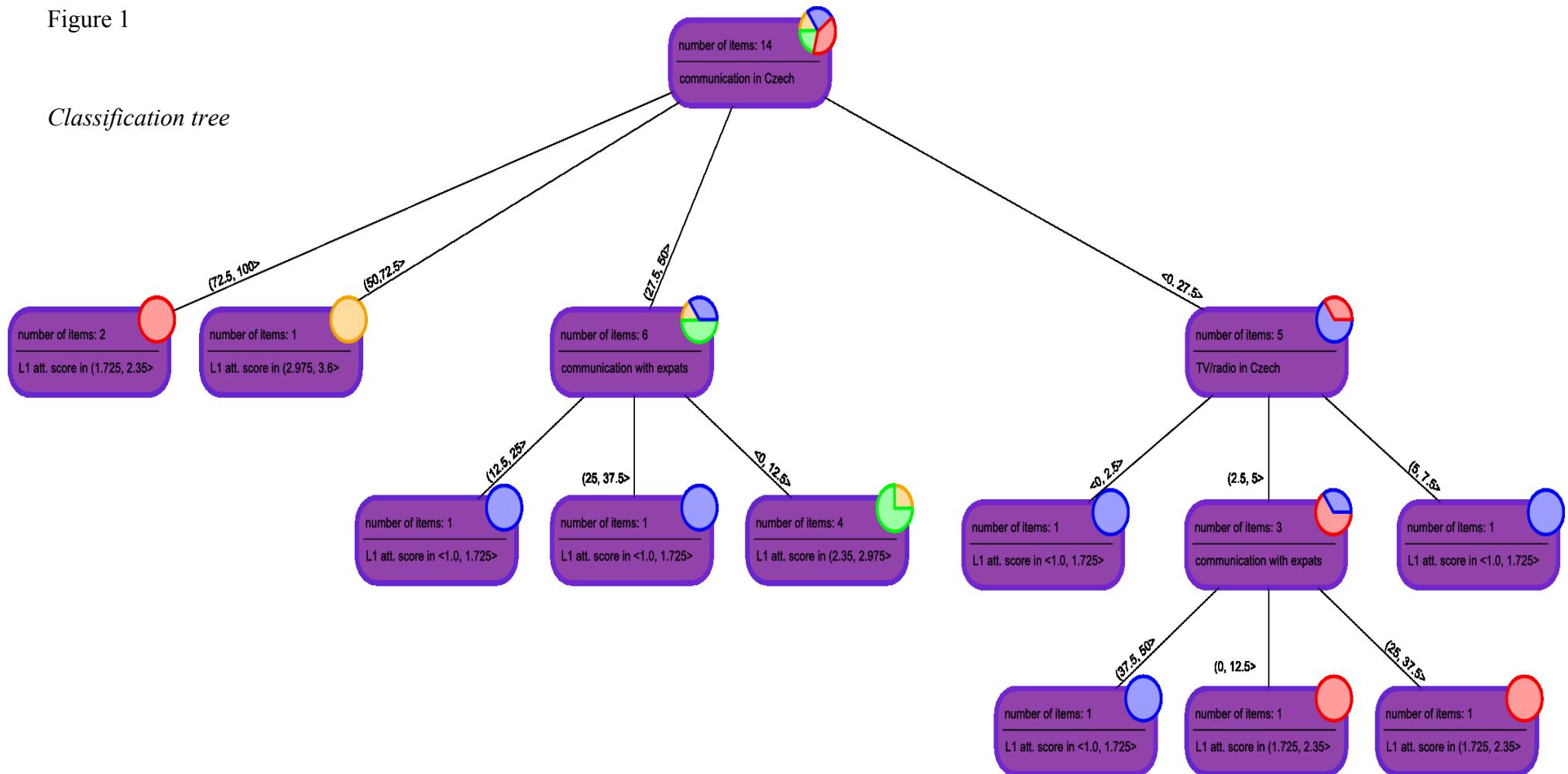
Table 6

*Pearson's Product-Moment Correlation Matrix*

	L1 attrition score	Age	Length of stay	Czech TV/radio input	Study of Czech	Communication in Czech	Communication in English with:			Gender ( $r_{pb}$ )
							Czechs (strong accent)	Other expats	Non-attrited speakers	
L1 attrition score	1.00	-0.12	0.04	-0.13	0.03	0.43	-0.27	-0.50	0.00	-0.08
Age	-0.12	1.00	0.46	0.00	-0.21	0.31	-0.31	0.16	0.23	-0.29
Length of stay	0.04	0.46	1.00	-0.10	-0.39	0.77	-0.63	-0.23	0.03	0.08
Czech TV/radio input	-0.13	0.00	-0.10	1.00	-0.29	-0.23	0.35	0.21	0.40	0.03
Study of Czech	0.03	-0.21	-0.39	-0.29	1.00	-0.17	-0.13	-0.07	-0.07	-0.31
Communication in Czech	0.43	0.31	0.77	-0.23	-0.17	1.00	-0.62	-0.63	-0.17	-0.15
Communication with Czechs (strong accent) in English	-0.27	-0.31	-0.63	0.35	-0.13	-0.62	1.00	0.00	-0.14	-0.24
Communication with expats	-0.50	0.16	-0.23	0.21	-0.07	-0.63	0.00	1.00	0.59	0.50
Communication with. non-attrited speakers	0.00	0.23	0.03	0.40	-0.07	-0.17	-0.14	0.59	1.00	0.14
Gender ( $r_{pb}$ )	-0.08	-0.29	0.08	0.03	-0.31	-0.15	-0.24	0.50	0.14	1,00

Figure 1

*Classification tree*



## **6.2 Phonetic Analysis and Analysis of Qualitative Data**

In the previous subchapter, it was established that Czech (L2) influences phonetic features of English (L1) of the native speakers of English living in the Czech Republic, and that the changes are noticeable by native speakers of English. In the present subchapter, several individual cases of L1 attrition will be analyzed in order to establish what the exact nature of the changes is. Attention is paid especially to the following phonological features: the lack of aspiration of voiceless plosives /p, t, k/ under stress when followed by a vowel; replacement of phoneme /w/ with the phoneme /v/ in the beginning of words; replacement of phonemes /θ/ and /ð/ with phonemes /f/ and /d/ respectively; replacement of phoneme /ŋ/ with phoneme /n/, adoption of word stress on the first syllable; smaller reduction of unstressed syllables; unusual intonation patterns.

As can be seen from Table 5 (pp. 59, 60 of the present thesis) there are considerable differences in the degree of L1 attrition between the Focus Group speakers. However, on the basis of L1 attrition score, supposed country of origin, the Assessors' comments and the FG participants' own comments, the Focus Group can be roughly divided into three groups:

- L1 attrition group: Melanie, Strom, Cole

The participants are no longer perceived as native speakers of English, their L1 attrition score and supposed country of origin is similar to that of Czech controls, as well as the Assessors' comments. Both the participants and their family and friends “back at home” have noticed the changes in their speech.

- L1 minor changes group: John, Charles, Yogo, Jimmy, Lawrence, Roy

The L1 attrition score of this group is slightly higher than the score of non-attrited controls, the supposed countries of origin include very often a mix of Anglophone countries. These speakers have not noticed any particularly strong changes in their speech, comments from family and friends “back at home” on their English are relatively rare. The Assessors provide fewer comments on phonological changes than for the previous group.

- L1 Non-influenced group: Fran, Jane, Jenn, Mickey, Selene

The L1 attrition score of these participants is similar to the score of non-attrited controls, the Assessors have guessed correct country of origin of the speakers in most instances. The participants do not feel that their English has changed in any dramatic way. There are only a very few comments by the Assessors on foreign elements in the speech of this group’s participants.

### **6.2.1 L1 Attrition Group**

As already stated above, the participants in this group share the following characteristics: they are no longer perceived as native speakers of English by more than half of the Assessors, their L1 attrition score and listed supposed countries of origin are similar to that of Czech controls (see Table 5 on pp. 59, 60 for details). Both the participants and their families and friends “back at home” have noticed the changes in their speech. Further, the participants in this group share a relatively high amount of communication in Czech, and small amount of communication in English (which are the two variables that have proved to have the greatest influence on L1 attrition score in

the present research). Therefore, the recordings of this group might be the most telling ones concerning the hypothesized phonetic changes.

Let us now turn to the examination of the recordings of each speaker belonging to this group. First, the Assessors' comments documenting the scope of L1 loss on the phonetic level in the participant will be cited and analyzed, and then the most prominent non-native like elements most probably constituting the foreign accent will be listed for each speaker.

- Melanie
  - "I guess this is a Czech person who has spent a lot of time in the US. Accent & pronunciation is excellent, very close to native US, but the vowel sounds tell me she's not native US."
  - "Possibly studied in USA?"
  - "This person speaks English very well and is very easy to understand. Pronunciation is excellent but you can tell that they are foreign by the accent."
  - "Accent definite and obvious, although this was not in any way a detriment to comprehension. Both intonation and enunciation are exceptionally good for a foreign speaker. Nevertheless, the accent is plain."
  - "Slight but hard to trace accent. Could be a Czech with very good English or a native speaker with a quirky style of speaking. Or a native speaker living in CR."
  - "Does not sound like American English."
  - "Czinglish"

It is clear from the above comments that Melanie is considered to be a proficient Czech speaker of American English. Melanie herself reported frequent code-switching (which she terms "Czechglish) in interactions with her bilingual family in the Czech

Republic: "For example I say: I have to get kočárek and we will go for a walk." (kočárek = stroller, Melanie put stress correctly on the first syllable and did not aspirate /k/; her pronunciation of this considerably difficult Czech word was 100% accurate). Upon listening to her recording, she commented: "It is funny to hear myself – I hear some kind of accent – I cannot specify it, but it is different from what it was."

It needs to be pointed out here that Melanie has also made several collocation and grammatical errors, which have been noticed and commented upon by the Assessors as well (e.g. financial difficulty instead of financial difficulties). Two comments were also concerned with the unusual placement of definite articles. These have probably contributed to the high L1 attrition score as well.

#### Phonetic analysis of Melanie's recording

The most prominent feature of Melanie's speech is very small reduction of unstressed syllables and lack of word-linking. This makes her speech more easily comprehensible to Czechs, but also gives it a foreign flavor because the stress-timed rhythm typical of English is replaced by the syllable-timed rhythm typical of Czech. The other changes include:

- [æ] openness diminished
- lack of aspiration of [p] in *person*
- [t] instead of /θ/ in *think*
- *the* often pronounced as [də], even before *only*
- [f] instead of /ɸ/ in *language*
- use of very Czech sounding hesitation marker *hmm*

- Strom

- “My answer that he was from the Czech Republic was based on process of elimination... I did not feel his accent was from any of the other countries.”

- “I’m not sure. I don’t think this person is native Anglophone, so since the only other option is CR, I ticked that! But my true feeling is “none of the above”.”

- “Intonation unusual.” “Sing-song type flow.”

- “The more I listen the more it sounds foreign, even slightly Czech.”

- “This Czech has lived in a native English speaking country, I guess the Americas, but perhaps just an American teacher. [The phrase] “is possible” is a dead giveaway though.”

- “Vowels very short. Intonation at ends of words is unusual for an English native.”

Very much like Melanie, Strom is not considered to be a native speaker of English. Strom’s friend (who later moved to the Czech Republic himself) described Strom’s speech jokingly as sounding “like Dracula” (only to realize later that he himself started to “sound like Dracula” as well). Strom noticed that his pronunciation was clearer due to effort to make himself understood, and in line with this he found his pronunciation in the recording more “crisp”, in the past he would “blend the words together more.”

#### Phonetic analysis of Strom’s recording

Very much like Melanie, Strom links, “blends”, the words much less than would be normal in a non-influenced native speaker of English. Strom, unlike Melanie, does reduce the vowels that are not stressed. He, however, seems to reduce the length of

stressed syllables (e.g. in *for example, experience*), as noted by one of the Assessors above. His [æ] is, like Melanie's, less open and somehow shorter. The most prominent non-native feature of Strom's speech is probably his intonation (3 comments from the Assessors). Strom gives many of his sentences rising intonation. Intonation of the word *maybe* sounds very much like the intonation of Czech *možná* in the same context. There seem to be no consonant changes in Strom's speech.

- Cole

- “Pauses for thought in places a native speaker wouldn't pause.”
- “First syllables stressed too often. Some unusual pronunciation of vowels.”
- “Good speaker but his hesitant pace and little intonation mistakes give him away.”
- “Strange exactitude in pronunciation of some words.”
- “This sounds like a Canadian who has lived in the Czech Republic for a while. He over articulates his words too much to not be a teacher.”
- “Unusual intonation.”
- “Light Canadian.” “Mild Irish.”

Cole himself described his accent as “neutral”, neither British nor American, “maybe Canadian.” He had been told repeatedly that he sounded more sophisticated and British to some degree; like a Canadian. In his opinion, it might be due to the fact that his father was born in the UK, and that British English is preferred by his Czech students. These two influences then shift his accent towards Canadian.

## Phonetic analysis of Cole's recording

It is probably the slow tempo, frequent pauses, and monotonous intonation that make Cole's speech sound non-native like. It gives the impression that Cole is fishing for words in memory, like a student of a foreign language. Cole links the words more and distinguishes stressed and unstressed syllables more than the two previous participants. He does not devoice final consonants, nor does he put stress on the first syllable when it is not supposed to be there. His pronunciation is very meticulous, "over-articulated," as nicely put by one of the Assessors, probably up to the point of sounding mildly unusual, which might be another reason for high L1 attrition score. Only the following few deviations have been noticed:

- lack of aspiration: [p] in *person, patience*; and [k] in *country, culture, cultural*
- [ədmɪ nɪ ɔ̄streɪ tɪ f] instead of /ədɔ̄mɪ nɪ strətɪ v/

### 6.2.2 L1 Minor Changes Group

The L1 attrition score of this group lies approximately between the scores of the two control groups. The supposed countries of origin include very often a mix of Anglophone countries; Czech Republic constitutes merely a small proportion of the guesses. These speakers have not noticed any particularly strong changes in their speech, but they have reported abandoning their local dialect (because otherwise "it would be terrible" – Charles) and speaking more slowly (in order to be "understandable" – Roy). Comments on sounding different from family and friends "back at home" are rare. The Assessors provided fewer comments on phonetic changes than for

the previous group. Therefore, it can be assumed that whatever changes there are, they will be very subtle, and noticeable only by some native-speaker listeners, and very often attributed to either the speaker's idiolect, or to having spent time in a different Anglophone (*sic!*) country than the actual Anglophone country of origin of the speaker. This group's scores and supposed countries of origin lists are remarkably similar to those of Cathy, the most proficient Czech speaker of English in the present research. The Assessors are not sure of her country of origin, yet hear very slight traces of a foreign accent and attribute these trace to coming from a more exotic Anglophone country, such as South Africa and India.

### **6.2.3 L1 Non-Attrited Group**

Speakers in this group did not differ in their L1 attrition scores and number of correct guesses of their country of origin from Control Group 2 speakers, i.e. they show no foreign traces in their speech in the ears of the Assessors. What the non-attrited speakers have in common is the relatively small amount of communication in Czech; it constitutes about one third or less of their daily communication. Curiously enough, there are two proficient speakers of Czech in this group, namely Selene (studied Czech at college and lived in a Czech community in the USA) and Jenn (fully English-Czech bilingual), but their L1 attrition score and Assessors' comments do not indicate any changes in their English (even though Selene reported that one of her friends had commented repeatedly on her accent acquired from the Czech community while still in the USA).

Similarly to the previous group of speakers, the non-attrited speakers reported abandoning their local dialects and speaking more slowly in order to be understood better and also due to politeness considerations.

## 7 Conclusion

The primary aim of this study is to show that English (L1) of the Anglophone expatriates living in the Czech Republic undergoes changes on a phonetic level. Further, the author investigates sociolinguistic factors which might influence the scope of these changes, and examines the exact nature of said changes.

In order to assess the scope of the changes in individual participants, electronic questionnaires containing recordings of their speech (together with control recordings of Czechs speaking English and native speakers of English who had never lived in the Czech Republic) have been created, and English native speakers have been invited to comment on the foreign traces in the recordings of the participants. These comments have then been analyzed together with the data obtained in the interviews with expats.

The analysis shows that the majority of the participants display none or only very minor changes in their English phonetics. However, three participants seem to have suffered strong L1 attrition, to the degree of not being considered native speakers of English anymore. Therefore, it can be concluded, that L1 attrition on the phonetic level due to the influence of Czech (or, in other words, acquisition of Czech accent) is a relatively rare phenomenon. In the present research, the most important factors influencing the scope of L1 attrition turn out to be the amount of daily communication in Czech (medium positive correlation) and the amount of communication with other expatriates (medium negative correlation). The length of stay, gender, age, active study of Czech, and Czech broadcast input do not show any significant positive or negative correlation with L1 attrition score (obtained through the electronic questionnaires).

However, these results are not very sound in terms of statistics because of the small size of the dataset and the cross-sectional design of the present research. Longitudinal design and a larger pool of participants would be desirable in future research in this field.

Even though only a small portion of participants show a high degree of L1 attrition, it can be safely concluded that all the participants sound different from how they would in their home country. A vast majority of participants report speaking more slowly and abandoning their local dialect. There are probably two reasons for this: the desire to be understood better by Czechs (who are used to standard, neutral dialects from language courses), and politeness considerations (one of the participants, for example, considers it to be “very rude” if he spoke like “at home” when talking to Czechs). In connection with politeness and desire to be understood better, the participants also report lesser use of idioms, slang, and complicated sentence structures. Further investigation in this direction would indisputably yield interesting results.

As for the nature of changes in the speech of strong L1 attritors, the most prominent features are probably smaller (or none) reduction of unstressed syllables and less linking of words. Occasional unusual intonation patterns also seem to play a role (especially rising question-like intonation). Consonant changes do not seem to be as common as expected. The most prominent consonant change is the occasional lack of aspiration of /p, t, k/ under stress, which could be considered a direct Czech influence. Other changes are individual and thus could be only performance-related. It would be useful to employ a larger speech corpus in future research to assess the frequencies of the occurrence of these deviations. Further, it would be advisable to collect more types of spoken data, such as reading word lists, sentence lists, imitation of Czech accent, telling a story from pictures, and free conversations with different speakers. These sets

of data would allow for better comparison of individual phonetic features than the free spoken data recordings (one minute in length) as used in the present thesis.

Further research could also include possible grammatical deviations (especially the use of articles), code-switching in native English users of Czechs, and relationship between the proficiency in Czech and L1 changes. The author also feels that the time is ripe for a major meta-study on L1 attrition.

Finally, the author would like to humbly express her wish to abandon the term *first language attrition* in future works in this field, and replace it with neutral term *first language changes* or, better still, positive term *first language flexibility*.

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# **Summary**

The main aim of the present thesis has been to investigate whether Anglophone expatriates living in the Czech Republic experience changes in the way they sound; in other words, whether they undergo a first language attrition process on the phonetic level. Further goals have been to examine some of the factors that might influence the scope of this phenomenon in the given environment, and to establish what the changes, if any, are.

First, a discussion of the definition of first language attrition is provided, as well as a brief account of approaches to this phenomenon. Next, the results of previous work in the field are presented, namely how English influences the phonetics of other languages in individuals, and how other languages influence the phonetics of English in individuals. On the basis of the previous findings, the author formulates several hypotheses concerning the changes in the speech of Anglophone expats in the Czech Republic.

In order to test the hypotheses, the author has interviewed and recorded fourteen native speakers of English living in the Czech Republic. Having obtained free spoken data from the expatriates, the author has created a set of three online questionnaires containing not only the focus recordings, but also several control recordings of native speakers of English living in their home country and of Czech speakers proficient in English. The author then invited native speakers of English to visit the research website, listen to the recordings and comment on them in the questionnaires.

The analysis of the data has revealed that only three participants have undergone such changes that could be considered L1 attrition proper; the speakers are not

perceived as native speakers of English by the majority of the listeners. Other participants showed only minor or no changes.

It seems that most prominent features of L1 attrition in the context of the present research are: lesser reduction of unstressed syllables, less linking of words, less open pronunciation of /æ/, and unusual intonation. There does not seem to be much change in consonants.

The field offers numerous opportunities for further research, especially research of longitudinal design.

# Resumé

Cílem předkládané práce bylo prozkoumat, zda dochází ke změnám fonetické podoby angličtiny anglofonních rodilých mluvčích, kteří žijí v České republice; jinými slovy, zda u nich dochází ke ztrátě mateřského jazyka po fonetické stránce. Dalšími cíly bylo zmapovat některé z faktorů, které mohou ovlivňovat rozsah této ztráty v daném prostředí, a pokusit se ozřejmit, o jaké změny (pokud nějaké) se jedná.

V první části práce je diskutována definice ztráty mateřského jazyka a je předložen přehled přístupů k tomuto fenoménu. Dále jsou prezentovány výsledky předešlých výzkumů v této oblasti, tedy jak angličtina ovlivňuje fonetickou stránku řeči mluvčích jiných jazyků, a jak naopak jiné jazyky ovlivňují fonetickou stránku mluvčích angličtiny. Na základě těchto výzkumů jsou formulovány hypotézy o fonetických změnách u rodilých mluvčích angličtiny v České republice.

Pro otestování těchto hypotéz bylo nahráno čtrnáct rodilých mluvčích a byly s nimi provedeny rozhovory. Následně byla vytvořena webová stránka se třemi elektronickými dotazníky obsahujícími nejenom cílové nahrávky, ale také několik kontrolních nahrávek rodilých mluvčích žijících v zemi původu a českých mluvčích vykazujících vysoce pokročilou znalost anglického jazyka. Autorka vyzvala další rodilé mluvčí anglického jazyka k návštěvě tohoto webu, poslechu nahrávek a záznamu svých komentářů do dotazníků.

Analýza sebraných dat ukázala, že pouze tři účastníci prošli takovými změnami, které se mohou označit jako ztráta mateřského jazyka: tito účastníci nebyli posluchači

vnímáni jako rodilí mluvčí anglického jazyka, častěji byli označeni za Čechy. Další účastníci nevykazovali žádné nebo pouze velmi lehké změny.

Nejvýraznějšími změnami ve smyslu ztráty mateřského jazyka po fonologické stránce se v kontextu tohoto výzkumu zdají být menší redukce nepřízvučných slabik, oddělování slov spíše než vázání, méně otevřená výslovnost /æ/ a neobvyklá intonace. Konsonanty se zdají být změnami nedotčeny.

Oblast ztráty mateřského jazyka nabízí mnoho možností budoucího výzkumu, zvláště longitudinálního charakteru.