SECOND LANGUAGE ACQUISITION IN HOLOCAUST REFUGEES
WHERE POLITICAL AND LINGUISTIC IDENTITIES COMBINE

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ABSTRACT

In this thesis I evaluate recordings of free-spoken L2 English data from five German-Jewish Holocaust refugees for evidence of a Critical Period-like shape of decline in language learning ability. I propose that the Critical Period – as defined by Lenneberg (1967) – can be extended past its typical end if extreme psychosocial forces are involved, like those suggested by Gardner and Lambert (1972), Larsen and Smalley (1972), and Schumann (1976). Ultimately, I find no evidence in support of this hypothesis, and instead find that the five refugees demonstrate a pattern of decline that fits snugly with the one proposed by Lenneberg. I present a brief discussion of the results of two refugees in particular to discuss how such psychosocial forces might have been able to induce an extension of language-learning ability, and then conclude with a general summary of possible sources of experimental error.
I. INTRODUCTION

This thesis explores language acquisition. More precisely, this thesis explores second language acquisition – a topic that is indeed conceptually narrower, but still one that defies easy explanation. Two questions stand out from the rest: Do we learn second languages the same way we learn a first? Do we ever lose the ability to learn a second language? This thesis focuses on a hybrid of the two questions – asking whether our ability to acquire second languages necessarily degrades over time.

Specifically, it approaches the question through a lens of phonology – narrowly defining the idea of acquiring a language as learning to pronounce it. (Perhaps this definition is narrow to the point of being unsuitable – but with this sort of sustained intellectual exercise at this academic level, simplification eventually becomes necessary.) Furthermore, this thesis tackles the question by examining a very limited population: German Jews who immigrated to North America as refugees from Nazi Germany during the World War II era. Admittedly, this research population is selected primarily on the basis of the author’s personal interest (as explained below). However, the life experiences of Holocaust refugees also permit examination of many theories of language acquisition (which are defined later, in Section Two). Refugees’ experiences permit analysis of psychosocial theories of language acquisition – like those of Gardner and Lambert (1972), Schumann (1976), and Flege (1987). They also enable discussion of cognitive and neurological theories – like the ‘less-is-more’ cognitive theory of Newport (1990) and importantly, the Critical Period hypothesis of Lenneberg (1967).
A. Purposes, Assumptions, and Hypotheses of This Thesis

Schmid (2002, 2004, and 2012) examined the linguistic profiles of Holocaust refugee populations in considerable detail, and this thesis takes much influence from her work. Though Schmid’s work is principally concerned with first language attrition (i.e., loss), it also presents a detailed display of second language acquisition. In these studies, Schmid found extreme variability in both the qualities and quantities of Holocaust refugees’ success in acquiring English (which was for most a second language). At one end of the spectrum, some individuals acquired English to a native-like degree of fluency. At the other end, some achieved only very limited success. Additionally, while the errors made by the research population were quite varied – despite having a common first language – some errors were made systematically.

I propose that the ability to acquire a second language can be augmented by the presence of extreme psychosocial forces. To make this hypothesis, I accept the idea that there is a pattern of decline in language-learning success that is explicitly linked to age. Furthermore, I accept that this pattern of decline is consistent with what is posited by the Critical Period hypothesis of Lenneberg (1967) – namely, that there is a massive decline in second language-learning success around age 14. I will refer to this shape of decline as the Critical Period.

I believe that extreme psychosocial forces – like feelings of strong resentment of one’s linguistic identity, and intense pressure to acculturate into a new society – once featured prominently in the lives of German-Jewish Holocaust refugees¹ who immigrated to North America as children or young adults. I believe that such forces enabled refugees to acquire English with considerable native-like success, even past the end of the Critical Period – thus contributing to a shape of decline that is reminiscent of the Critical Period, but milder than its typical representations.

¹ I do not mean to imply that these forces were not influential on Holocaust refugees from other countries.
Though I intend to use the example of German-Jewish Holocaust refugees to paint a more gradual shape of decline in language-learning ability, I do not wish to argue against the existence of the Critical Period. Instead, I wish to present such individuals as an exception to the rule – and in doing so – provide support for the psychosocial theories of language posited by Gardner and Lambert (1972), Schumann (1976), and Flege (1987).

B. A Personal Note

The inspiration for this thesis comes from my grandfather – Peter – who himself is a Holocaust refugee from Czechoslovakia. In 1941 – when he was 14 years old – he fled to the United States in the company of his immediate family. While it was amazing that they managed to escape together, it was more amazing that they got out at all. Of course, during the Holocaust escape was never easy or certain – but 1941 was an extremely late time for escape. They were exceptionally lucky, it seems. (For that, I guess I am too.)

I think one of the most fascinating things about my grandfather is the way he speaks – or better put, the way he doesn’t speak. English is not his first language; Czech is. But incredibly, he has completely forgotten his Czech – not even remembering a single word. And more stupefying is that he speaks English with no discernible foreign influence whatsoever. My grandfather uses no bizarre vocabulary, and generates sentences with perfectly regular syntax. His accent is a cross between New York and Chicago.

Put simply, my grandfather sounds like he has only ever spoken English. I do not remember when I first learned about the Holocaust, or when I first learned about my grandfather’s experience with it. However, I do remember being enthralled as a young child by the fact that he did not sound like a foreigner – even though he technically was one.
This thesis, then, is not actually an attempt to understand language acquisition as it pertains to linguistic research. Its real purpose is to better understand my grandfather, and I dedicate it to him.

II. REVIEW OF RELEVANT LITERATURE

Following Jia (1998), we can divide contemporary theories of language acquisition into five broad categories: neurological accounts, cognitive accounts, environmental accounts, social-psychological accounts and the interference account. The neurological and cognitive accounts can be grouped together as maturational accounts, and the environmental, social-psychological, and interference accounts may be grouped together as non-maturational accounts.

The summaries below of the various accounts are meant to be quite general; admittedly, they do not mention a number of points that are important for more involved studies of language acquisition. The summary of the neurological account is particularly guilty of this conceptual simplification. Its real purpose is to establish the basics of the critical period and the shape of decline in language-learning ability that it posits (the central object of investigation of this thesis).

A. Overview of Maturational Accounts and the Critical Period Hypothesis

The neurological and cognitive accounts group together because they both posit that a) there is a decline in ability to acquire language as a function of age, and b) that this decline is due to maturational changes within the brain. The accounts differ, then, in what they consider to be those changes to be. The neurological account holds that the changes are structural: our brains
eventually lose the ability to re-localize various mental functions (“plasticity”), which leads to a massive deterioration of our language-learning ability. The cognitive account holds that the changes are more abstract: we acquire reasoning skills as we grow up, which actually change – negatively – the way we approach the task of learning a new language.

Both accounts assume the existence of the Critical Period Hypothesis (“CPH”), which links language acquisition biologically to age. More specifically, the CPH holds that language can only be completely acquired during some specific developmental stage of life, after which acquisition becomes considerably more labored and difficult – if it is possible at all. The underpinnings of the CPH come from work by Hess (1959), who observed that graylag goslings are able to successfully “imprint” only in the first few hours of their lives: a specified development stage. Penfield and Roberts (1959) were the first to extend this notion to language acquisition, and Lenneberg (1967) later developed it extensively. Lenneberg set the beginning of the critical period as birth and the end as the onset of puberty – i.e., 12 – 13 years old – a timeframe that has been largely accepted (Fromkin et al. 2007: 53, many others).

i. The Neurological Account

Basser (1962) showed that language function is largely delegated to the left cerebral hemisphere, but that a small amount of language function was also delegated to the right hemisphere. He cited examples of children whose left hemispheres had been removed or who had had lesions on their left hemispheres: they quickly suffered dramatic losses in their language abilities, but usually made complete or nearly complete recoveries. To explain this, Basser proposed that the language functions returned for the children because the brain had been able to relocate them to the unaffected and healthy right hemisphere. Curiously, however, adults’ brains
appeared to lack this reassignment capability. Past the onset of puberty, a lesion on the left hemisphere and/or the hemisphere’s removal coincided with a permanent (and no less dramatic) reduction of language ability or its outright loss. Lenneberg describes the decline:

By the time of puberty, a turning point is reached. Aphasias that develop from this age on that have not had time to clear off completely by this stage, commonly leave some trace behind which the patient cannot overcome. These youngsters characteristically regain language and can carry on a conversation; but there will be odd hesitation pauses, searching for words, or the utterance of an inappropriate word or sound sequence that cannot be inhibited... In the middle teens the prognosis for recovery rapidly becomes the same as that for the adult patient. (Lenneberg 1967: 150).

Lenneberg took Basser’s findings as evidence of a critical period for language acquisition. Concluding that brain plasticity declines dramatically after the onset of puberty, Lenneberg speculated that cerebral lateralization and plasticity are the overarching factors that govern language acquisition. He explains:

Thus we may speak of a critical period for language acquisition... Its termination seems to be related to a loss of adaptability and inability for reorganization in the brain, particularly with respect to the topographical extent of neurophysical processes... The limitations in man may well be connected with the peculiar phenomenon of cerebral lateralization of function, which only becomes irreversible after cerebral growth-phenomena have come to a conclusion. (Lenneberg 1967: 179).

Though Lenneberg’s work concerned first language acquisition, the CPH has been extended to cover second language acquisition without much modification (Krashen 1975, many others). This extension is suspect for several reasons. To start, acquisition of first and second languages may be qualitatively different (a point which is reflected in the cognitive and interference accounts). Additionally, other researchers have found different timeframes for the critical period. For example, Oyama (1976) found evidence that second language learning success – based on prevalence of foreign accent – began to decline as early the age of four, and called her results indicative of a “sensitive” period (instead of a critical period). Finally, Lenneberg seems to equate language recovery with language acquisition. The process of
recovering previously acquired language skills may not be identical to how they are developed in
the first place, or to what language skills are required for second-language acquisition. The
ramifications of this final point are not known, because language acquisition research seems to
have made little attempt to address this issue. (This thesis also leaves the point unexamined, but
it is an interesting one and seems to have heretofore been little made.)

Nevertheless, many studies have found abundant support for a critical period for second-
language acquisition. An example of one such study is Asher and García (1969), which assessed
English pronunciation among 71 Cuban-born children living in San Francisco who all spoke
English as their second language. To grade the children’s accents, Asher and García assembled a
judging panel of 9 American high school students, all of whom were native speakers of English.
The judges were instructed to rate recordings of the Cuban children speaking English along a
four-point scale: Native, Near Native, Slight accent, and Definite accent. Later, the researchers
evaluated the ratings along three criteria: age of arrival in the United States, number of years
lived in the United States, and gender.

Comparing the children by age of arrival, the researchers found that 68% of children who
arrived between the ages of 1 and 6 (n = 19) exhibited a Near Native level of English
pronunciation, that 32% exhibited a Slight accent, and that no child exhibited a Definite accent.
In the group of children who had been between the ages of 7 and 12 upon arrival (n = 37), 41%
were graded as being Near Native. 43% exhibited a Slight accent, and 16% exhibited a Definite
accent. Finally, in the group of children who had been between the ages of 13 and 19 upon
arrival (n = 15) only 7% exhibited a Near Native level of pronunciation. 27% percent were
judged as having a Slight accent, and 66% were deemed to have a Definite Accent. In all
groups, no child was deemed to have a Native level of English pronunciation.
These results show a clear inverse correlation between level of accent and age of arrival. On this basis, the authors conclude “… that some variable within child development is a powerful determinant of pronunciation fidelity for second languages. This variable may indeed be biological” (Asher and García 1969: 341). Though the authors note that the occurrence of excellent, near-native pronunciation in some of the oldest children may pose an issue for this conclusion, the general trend is clear. (A side note: I do not summarize the authors’ findings on the influence of gender or number of years lived in the United States because the general version of the CPH only concerns age of initial exposure to a language, which corresponds here to age of arrival. Thus – for this thesis – the variables of gender and number of years lived in the United States are irrelevant.)

The results of Hakuta et al. (2003) constitute strong counterevidence to the CPH, by documenting a completely different shape of decline in language-learning ability when measured against age. The authors evaluated English proficiency among 2,300,000 native Spanish and Chinese speaking immigrants to the United States by consulting the questions in the 2000 Census that pertained to respondents’ English abilities and a number of affective factors. The census form had asked respondents to rate their English proficiencies along a 5-point scale – “not at all”, “not well”, “well”, “very well”, and “speak only English” – and to report on current age, year of arrival, and educational background (Hakuta et al., 2003: 32-33).

To test for a CPH-like shape of decline, the authors looked for discontinuities in regressions of English proficiency on age of immigration. Age of arrival was taken to signify the respondents’ first real exposure to English, and thus the first time they had begun to use (or try to use) the language with any real activity. The authors created and ran regressions in two models. The first used 15 years – or the onset of puberty – as the cutoff point, while the second set the
cutoff point at 20 years. The first model was meant to reflect the traditional conception of the critical period, while the second was created in response to local regression curves – which suggested that if such discontinuities existed they occurred after puberty (Hakuta et al., 2003: 35).

After a host of statistical tests – which I do not summarize here, but suffice it to say that the data were statistically significant and indicative of a trend – the authors did not note a sharp break in English proficiency against a puberty-era age of arrival (i.e., around 15 years of age) as would be predicted by the CPH, or even a slightly-later age of arrival. In fact, the authors did not note any clear break in English proficiency whatsoever – not even in the second model. Instead, the authors found a linear shape to the pattern of decline, or that “…degree of success in second-language acquisition steadily declines throughout the lifespan” (Hakuta et al. 2003: 37). While the authors concede the existence of weaknesses in their data – i.e., they did not gather it themselves, and could not assure that all respondents evaluated themselves in likewise fashion – they nevertheless believe that the sheer amount of data collected was enough to overcome these weaknesses. As such, they consider their results to still be valid (Hakuta et al. 2003: 32). Flege et al. (1999) also found evidence of this linear shape of decline, in a study of English pronunciation success in 240 native Korean speakers who immigrated to the United States.

ii. The Cognitive Account

Newport (1990) proposes a different age-related maturational decline in language learning success, something she nicknamed the “less-is-more” hypothesis. Newport theorized that children are indeed more facile at acquiring language than adults, but only because they lack various problem-solving skills that are acquired throughout life. Because of these skills, adults
ultimately approach learning a second language quite differently from how children learn a first. Such skills – whether adults realize it or not – impede the process of language acquisition.

Newport was not the first to articulate this theory. Krashen (1975: 220) hints at this idea, for example, writing that the shift that occurs around adolescence to construct theories “… may inhibit ‘natural’ language acquisition… This may make him unwilling to approach language [by] more than one rule at a time, hence the presence of rule isolation in language teaching systems.” He continues, explaining that “… [t]he adult’s desire to have a conscious understanding of language may be just what prevents him from attaining full competence”. Additionally, Felix (1985: 50) articulates a “Competition Model”, which posits that adults’ diminished capabilities for learning new languages are the result of two cognitive systems in conflict with one another: a cognitive structure specifically geared towards language acquisition that is retained from youth, and a general problem-solving system developed through adulthood. The latter compromises the former by being “inappropriately transferred onto the domain of language acquisition without the possibility of excluding it either consciously or unconsciously from operating on the relevant input data”.

Jia (1998) uses the process of learning morphology – which is predicated on being able to isolate and recall constituent pieces of complex linguistic stimuli – to exemplify the cognitive account. Children have shorter attention spans than adults, and thus may focus on individual morphemes instead of complete words and sentences. This is a highly efficient strategy for learning morphology; it leads to acquiring morphology as a generative system of underlying rules that can be adapted to novel situations. Adults, in contrast, are better suited to remembering complete words and sentences, on account of their longer mental spans. But this leads to learning words and sentences as crystallized surface constructions and not as products of
rules – which curtails adults’ ability to generate new forms and thus impedes their overall acquisition of the language. Newport (1990) finds evidence of this child-adult contrast in learners of American Sign Language (“ASL”), where late learners of ASL seemed less able to understand morphemes of the language on a componential scale. More often, they used morphemes as built groups, rather than separating them and using them in novel situations. (One can imagine how this might limit what such learners could express with the language.) Early learners more frequently used some component morphemes but omitted other required ones and produced morphemes consecutively instead of concurrently. This behavior suggested that early learners understood morphemes on the basis of their individual functions, and were experimenting with the rules for their organization.

In regards to the actual shape of decline, Newport hypothesized that the inverse relationship between something like age of arrival in a linguistically foreign country and ultimate proficiency should hold only while one develops new patterns of problem solving. Put differently, when the maturational changes complete, the decline plateaus (Newport, 1990: 20). Consequently, one could expect a three-year old learner of a second language to speak it far more proficiently than a 20-year-old learner. However, the 20-year-old learner and a 50-year-old learner could be expected to speak the language quite similarly.

Other research in this area has generated results that both support and weaken Newport’s hypotheses. Of the former, Snow and Hoefnagel-Höhle (1982) found that adults and older children outperformed younger children on tests of morphosyntax and pronunciation for a short time after being first exposed to a second language, but that younger children rebounded to surpass them within a year. Of the latter, Fathman (1975) found that older children performed better than younger children on tests of morphosyntax while younger children did better on tests
of pronunciation. (Beyond weakening Newport’s hypotheses, Fathman’s results also complicate
the issue by suggesting that all fields of language acquisition are not learned with similar
dexterity.)

B. Overview of Non-Maturational Accounts

As Burling (1981: 279) notes, the maturational accounts “... turn the postadolescent into
a different kind of learner from the younger child”, which may be an erroneous distinction. The
brain is no doubt important, but as Flege (1987: 167) elaborates, “... the CPH proposes an
overly simple view of the speech learning process... speech is importantly influenced by ‘mind,
matter, and manner’” (personal communication from John Ohala to Flege).

The notion that language acquisition is better considered as holistic process gives rise to
the group of non-maturational accounts: the environmental, social-psychological, and
interference accounts. The environmental and social-psychological accounts posit that if there is
an age-related decline in language-learning success, it is primarily the result of wide-ranging
external factors and not structural changes within the brain. Changes within the brain and the
critical period may form part of these two accounts, but they are not required assumptions.

i. The Environmental Account

The environmental account concerns second language learning exclusively – proposing
that any decline in language-learning ability is due to differences in the qualities and quantity of
language input available to the learner. Burling (1981) offers an example of this account, though
he does do anecdotally rather than as a formalized study. Burling documented his attempts at
learning Swedish while on sabbatical at a Swedish university during the 1979 – 1980 academic
year. He made little progress over the course of the year – despite being extremely motivated – and afterwards speculated as to why that could have been the case. Ultimately, Burling concluded that the speech input he had received was to blame; it was too intricate. It seemed to be laden with complex grammatical structures, and words whose meanings were heavily dependent on context or on other supporting words. To Burling, such qualities made the input less fit for early practice – especially when compared to the input and linguistic environment given to children. He explains:

A first-language learner begins with concrete words, not always nouns by any means, but with words that he can learn in the context of events that surround him and that are in no way dependent upon other aspects of the language … *titta* “look at,” *tappa* “loose,” *hoppa* “jump,” *kasta* “throw,” *ramla* “fall down,” *ligga* “lie down,” *lägga* “put,” “place,” *slånga* “throw,” “throw away,” *sjunga* “sing,” *släcka* “put out,” *gunga* “swing,” *öppna* “open,” *hänga* “hang,” *leka* “play,” *sitta* “sit,” *dricka* “drink,” *åka* “go,” *stanga* “shut,” *ringa* “ring,” “telephone,” *ätta* “eat” … At a stage when I had a far more extensive vocabulary than did Tina,2 I still lacked some of these most fundamental of all words. I was, for instance, not even aware of the word *ramla*, the everyday word for “fall down” that every young Swede masters in the course of gaining stability on his legs. Instead of Tina’s concrete verbs, I was using the Swedish equivalents of can, need, use, want, try, speak, talk, remember, begin, and finish as well as verbs for a good many more concrete activities.

Most of my words could not be learned by direct association with events in the world around me, but required a complex linguistic context. I usually learned them, of course, with the help of English translations. I was fighting my way into relatively abstract levels of the vocabulary without having laid the concrete foundation. Even in my first two months in Sweden I needed ways to be polite, to ask questions, to express doubt. I needed to say “Ten minutes to four,” “Five crowns 25 öre,” and “Do you have a danish pastry?” and I even would have liked to be able to say such things as “I wonder if you would be good enough to get me another glass of water?” On the other hand, I felt no need for “fall down,” and I would have been regarded as quite eccentric had I gone about falling down and muttering *ramla*, even though it is through exactly such physical acts that a small child first builds up the tight associations between words and events that will last him throughout a lifetime.

A child’s first words must be learned in a context that is not dependent upon the rest of the language. Tina’s first verbs needed the context of actions, rather than other words, to give them meaning… The words that I wanted, however, usually needed the support of other words. I had to extract most of my words from a complex linguistic environment,

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2 A 16-month-old infant in the early stages of learning to speak.
and, from the beginning, I had to use words as mere pieces of larger wholes (Burling 1981: 282-283).

To use a metaphor, it seems that Burling was pushing himself – and being pushed – into the deep end. Furthermore, it did not help that many of Burling’s colleagues were adept at speaking English and would frequently speak to him in English rather than Swedish. This, Burling felt, gave him less opportunity to practice and learn. Not that he found the colloquial Swedish he heard from other sources to be much more helpful; it was almost too quick to understand, and was significantly different from the formal Swedish that he could consult independently in the form of grammar materials, newscasts, etc. Concluding that his experience was unsurprising and routine for any adult learner of a second language, Burling adds that the reasons for his difficulties seem to be so simple and obvious that they generally are not included as part of the maturational and social-psychological accounts.

The implicit idea in Burling’s writing is he feels he might have improved his Swedish proficiency with simpler, more child-like input. However, even if this is the case, his idea is from authoritative because it depends on a number of assumptions that may be incorrect. First, the speech of children may not be as simple as Burling makes it out to be. Though it may be that children’s speech generally concerns a more narrow range of explicit subject matter – and uses simpler vocabulary – than adult speech – children are able to instantiate a number of abstract, semantically complex concepts like prevarication and counterfactual scenarios (D. J. Napoli, personal communication, October 2012). Additionally, Burling’s apparent assumption that some type of speech input is necessary at all to develop language is seriously challenged by the work of Goldin-Meadow and Mylander (1990), who documented deaf children that created full sign languages in the absence of any speech input from adults whatsoever.
However, Burling’s ideas are not entirely meritless, and with other research they do suggest that there is an environmentally determined part to language acquisition. In a study of children, teenagers, and college age adults learning Russian that controlled for L2 input, Asher and Price (1967: 1225) found that adults outperformed children on listening comprehension tests. From this, the authors theorized that adults might be superior to children if they learn second languages under the same conditions as children.\(^3\) Hatch (1976) found that the speech input received by children is linguistically less complex than that received by adults, and Asher (1981) concluded that child learners of a second language derive speech input from an acquisition-enriched environment wherein most of the language is easily understandable from context (in Flege 1987: 168). Additionally, Snow and Hoefnagel-Höhle (1982) concluded that child-directed speech is simpler, more correct, and more redundant than adult-directed speech.

### ii. The Social-Psychological Account

The social-psychological account suggests that differences between children and adults in degree of language learning success result from factors like motivation to learn, attitude towards a target language, and cultural identification (Jia 1998: 18). Briefly put, its main thrust is that learners of new languages achieve varying levels of ultimate proficiencies depending on how much they actually want to learn those languages and how their desires supported or weakened. The account makes no assumptions about shapes of decline in language-learning success, and has almost no application to first language acquisition.

Guiora (1972: 144) introduces the concept of language ego (or linguistic identity, as I call it). In his view, language is an important means by which we separate ourselves from the

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\(^3\) Two notes: rigorously controlling for language input conditions is not realistic, and this conclusion seems to place the authors at considerable odds with proponents of the cognitive account.
surrounding world. Just as one “… gradually acquires a body image, becomes aware of his physical boundaries and is thus able to distinguish himself from the object world around him” (Schumann 1976: 222) – so too does one develop a language ego, built with the boundaries of accent, vocabulary, and other aspects of language. Development of the language ego is a maturational process; there is a lengthy identity-forming period in which the ego’s boundaries can fluctuate. However, eventually this period draws to a close. When it does, the language identity is complete, and the ego’s boundaries are generally fixed. To Guiora, this explains why children – who do not have fully-formed linguistic identities – seem able to acquire new languages with substantial ease.

Based on the Lenneberg-esque idea that – in many speech dysfunctions – vocabulary and syntax seem to suffer worse losses than pronunciation, Guiora (1972: 144-145) concludes that pronunciation “… is the most salient aspect of the language ego, the hardest to penetrate (to acquire in a new language) [and] the most difficult to lose (in one’s own)”. The impermeability of this boundary in particular may explain why native-like pronunciation generally proves so elusive for adult learners of a second language; learning a second language requires adopting a second identity, which as a psychological task is extraordinarily difficult (Guiora et al. 1972: 422).

As cultural identification is so important to the social-psychological account, the account’s main tenets are easy to describe via the example of learners of new languages in situations of cultural crisis. Consider immigrants to foreign countries; for such people learning the new language is typically essential to reorient oneself, surmount culture stress, and establish successful – or at least manageable – lives in their new countries. Immigrants often fall prey to

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4 “Maturational” is used here in an abstract sense; it is not used in the same way as in the section about the neurological and cognitive accounts.
culture shock, or the bewilderment and anxiety one may feel upon entering a new culture (Schumann 1976: 212). In this situation, previous coping and problem-solving mechanisms do not always help immigrants to feel better or grow more adapted to the new society. This may lead to culture stress, where they begin to question their identities.

In the new society, immigrants’ old identities may be unacknowledged or even belittled. Unable to identify with the local people – and without any supportive membership group of their own – immigrants may feel completely isolated, as Schumann (1976: 212) explains. This crisis of identity may begin to foster a sense of anxiety, which can affect immigrants’ acquisition of the new language. As Smalley (1963) explains:

As the newcomer comes into a whole new world where he knows no language at all, he is stripped of his primary means of interacting with other people … He is unable to display his education and intelligence, the symbols which gave him status and security back home. He meets intelligent and educated people but he responds to them like a child or an idiot because he is not capable of any better response.

Many people have a mental block against practicing something they do not understand … They find themselves in a vicious cycle – unable to learn, unable to get along without learning. They cling to the crutch of translation and desperately try to find out how to translate the things they want to say … into the local language, and they let this substitute for a knowledge of the language… Through this process they have missed whole portions of [the language] … and the portions they have missed are ever-present sources of anxiety as they [continue to] miss much of what is going on around them (Smalley 1963: 54).

The difficult task of learning the new language – and the accompanying adoption of the new linguistic identity – can be made easier if 1) the learner has high motivation to learn the language and 2) if he or she has a supportive group of some kind that places the new language in positive light.

Gardner and Lambert (1972: 4) provide a useful starting point for evaluating motivation by drawing a distinction between integrative and instrumental orientations. Both orientations involve desire to learn a new language, but based on different reasons. The instrumental
orientation is decidedly more utilitarian; it considers the successful acquisition of another language as a means to an end, as if for the purposes of accruing prestige within a particular social group or advancing in one’s career field. The integrative orientation reflects “... a willingness or a desire to be like representative members of the ‘other’ language community, and to become associated, at least vicariously, with that other community” (Gardner and Lambert 1972: 14). The reasons for wanting to join the target language’s community may vary widely. The integrative orientation seems to represent a more honest desire to learn another language, and it is thought to enhance second language learning more so than the instrumental orientation (Seliger et al., 1975, Gardner and Clement 1990).

As Larsen and Smalley (1972: 46) state, learners achieve more success in their acquisition of the new language if they have a supportive group of some kind to put value on the new language. As Schumann (1976: 215) explains, “[t]he assumption is that if the learner’s community positively values the target language community these favorable views will be communicated to the learner and will enhance his acquisition of the language”. Such groups can be comprised of anyone: family, teachers, friends, etc. But they “... serve as models for linguistic and cultural behavior” that help learners solve problems associated with the acculturation process and ultimately make them independent by imbuing them with new linguistic identities (Schumann 1976: 214).

Gardner et al. (1974) describe how such positive reinforcement may occur with children. For children, parents provide the most powerful influence, and they can play either active or passive roles. Parents playing active roles actually encourage their children’s language learning; they keep track their children’s progress and attempt to participate themselves – by speaking the new language in the household, for example. Parents playing passive roles may approve of their
children’s acquisition of the new language the general sense, but otherwise communicate negative attitudes towards it by not speaking it themselves or disparaging the members of the target community in some way.

III. HISTORICAL BACKGROUND

Nazism was a political surprise; it came out of the political fringes on a resurgent wave of anti-Semitism after World War I and reversed a process of mainstreaming that the German Jewish population had been undergoing for the previous half-century. Soon after their improbable rise to national power in 1933, the Nazis began the passage of numerous anti-Semitic laws that started first as annoying – but otherwise nonthreatening – inconveniences, designed to remove Jews from certain limited parts of public and business life. The laws grew increasingly expansive and virulent until Jews had been expunged from virtually every aspect of German society, and their physical safety was uncertain.

As the threat to their lives became more pressing, many Jews attempted to emigrate. Considerable numbers ended up in the United States, where the transition to the new society was often difficult. For many of these new immigrants, the change was accompanied by an intense desire to assimilate into the new culture. The desire’s rationale was simple: many refugees felt they were no longer German. In a sense, they couldn’t be German; the escape process had destroyed their political identities, having usually left as enemies of the state. But many did not want to be German, either. The disruption of their lives and families had been so traumatic and alienating that their cultural attachment to Germany had also been destroyed. This was
especially true of children and adolescents, who were most vulnerable when they had to learn what it was like to be persecuted on an individual basis.

Language represented a powerful medium through which the refugees could acculturate. Neighborhoods where many German refugees settled – like Washington Heights in Manhattan and Hyde Park in Chicago – became linguistic communities that incorporated such an idea – namely, that by abandoning German for English, refugees could symbolically distance themselves from Germany and thus begin to construct new self-identities as American. Such acculturation could very likely bring with it emotional recovery.

A. Pre-Nazi Jewish Integration Into German Society

German Jews were granted full, nationwide legal equality for the first time in 1871, as part of the Constitution of the newly formed German Empire. One of the more salient benefits of this new privilege was that Jews now had access to a much wider field of employment opportunities. Socially and legally marginalized for most – if not all – of their history, German Jews could now ascend to a higher common position by working their way into the mainstream. Consequently, they entered previously closed-off careers in spades.

The Jews of the immediate pre-Nazi era were far removed from the humbleness of a generation before. By 1933, the Jews enjoyed a heightened, integrated social status that few of them would have renounced (Niewyk 2001: 11). Geography was telling. Finally able to leave the seclusion of the rural villages, most Jews now lived comfortable, cosmopolitan lives in major cities as part of the Bildungsbürgertum – a type of upper middle class associated with high levels of education (Ricker and Zimmermann 1998). There, they had achieved astounding economic success – especially when considered in light of their relatively small population.
In the early 1930s, approximately 600,000 Jews lived in Germany. This number represented about one percent of Germany’s total population at the time. But this one percent owned about 40 percent of all German wholesale textile firms, nearly 60 percent of all German wholesale and retail clothing businesses, 25 percent of all German wholesalers of agricultural products, and substantial numbers of groceries and wholesale metal trading businesses (Niewyk 2001: 12-13). Approximately 11 percent of all German doctors were Jewish, as well as 11 percent of all German attorneys. Five of the nine German citizens who won Nobel Prizes between 1919 and 1933 were Jewish – including Albert Einstein, who won the Nobel Prize for Physics in 1921 (Niewyk 2001: 40). Indeed, it seems that the Jews had moved into the mainstream – albeit the economic mainstream.

Yet even if economy were the sole example of the Jews’ integration, they did not think as much. So great was the Jews’ conception of their assimilation that they had come to think of themselves as principally German (i.e., not Jewish). As Rieker and Zimmermann (1998) explain, the Bildungsbürgertum was characterized by a high regard for all things German. Those things included art, music, and literature, of course – but they also encompassed language. Though most German Jews had ceased to speak Yiddish as their primary language a century before, they had come to stigmatize it as a degenerated dialect of German, looking down on the on the Jewish migrants from Eastern Europe who still spoke it (Rieker and Zimmermann 1998).

Furthermore, German Jews had become quite secular, distancing themselves even from the idea of a Jewish identity that was limited to religion. “For the first time, Jewish lore and values were confronted with Western ones, and many German Jews began to feel that Jewish tradition did not quite measure up to its secular counterpart”, writes Lowenstein (1989: 30). Most did not follow strict kosher regulations for the preparation of food or celebrate the High
Holidays. Many worked on the Sabbath, and some even celebrated Christian holidays like Christmas and Easter for their popular appeal.

Even while they had moved away from their Jewish backgrounds, German Jews were not completely divorced from them. Schmid (2002) writes of many self-organized groups for Jewish students, women, and youths – as well as others for Jewish history, literature, and sport – that were formed in this period. However, even these organizations cultivated a Jewish identity that was strongly rooted in German culture and history.

B. Latent German Anti-Semitism and the Rise of the Nazis

German Jews’ assimilation dovetailed with an era of German history during which anti-Semitism became dormant as a political and social cause. After 1871, Germany entered a period of unprecedented economic growth that overshadowed virtually all of anti-Semitism’s popular appeal. Most people were so content and busy that as a result they cared little for the “…propaganda and political ambitions of racist and [anti-Semitic] organizations” (Nicosia 1996: 32). To some extent, most Germans still sympathized with the views of these political organizations. But such organizations were just not politically attractive for the times.

Anti-Semitic political organizations arguably began to reassert themselves in German politics with the signing of the Treaty of Versailles in 1919, the document that formally ended World War I between Germany and the Allied Powers. Written by the victorious Allied Powers, the Treaty forced Germany to make two debilitating, almost ridiculous concessions: Germany would take sole responsibility for starting the war, and it would also pay massive reparations as punishment (Treaty of Versailles 1919). These concessions destroyed Germany’s reputation on the world stage and decimated its economy at home, sending it into a period of hyperinflation
In this especially dour time, Germans began to revert back to a simple, age-old mindset: blame the Jews. As Nicosia (1996: 32) explains, “...[t]he Jews could once again be used successfully as a simple explanation for the complex problems of a modern society, much as they had been used in pre-modern times”, and those previously marginalized anti-Semitic political groups began to take on new appeal.

One of those groups was the Nazi Party, which was founded unassumingly as an informal beer-hall “debating society” in the spring of 1919 (Bernheim 1996: 37). Even from its beginning, the group expressed an extremist, right wing, and bigoted political ideology that considered Jews a racial enemy – a message which resonated with Adolf Hitler. Hitler – a failed soldier, artist, and seething racist – joined that fall, and took to the group passionately. Over the next few years, he formalized its political program through voluminous writings, helped establish its administrative structure, and recruited some 55,000 new members. In November 1923, he staged what might have been the group’s first genuine political action by leading an armed attempt to seize control of the regional Bavarian government while its officials gathered at a Munich beer hall: the famous Beer Hall Putsch (Bernheim 1996: 37).

It was spectacularly unsuccessful. Hitler eventually fled to a friend’s home, where he was arrested while wearing his pajamas (and jailed while still wearing them). But the little Party that couldn’t became a news sensation, and the Nazis – though they remained a fringe political group – became a well-known fringe political group. They skyrocketed in political prominence over the next decade, thanks in large part to a shrewd, Joseph Goebbels-led propaganda campaign that simultaneously stoked the resurgent anti-Semitism and positioned the Nazis as the answer to all of Germany’s problems. By the late 1920s and early 1930s, the Nazi Party was a regular contender in the German national elections – but was never quite successful enough to
win real power. That all changed in January 1933, when the Nazis entered into a coalition arrangement with the German National People’s Party and took control of the national government (Bernheim 1996: 43). As Adolf Hitler became the new Chancellor – or head of government – the Beer Hall Putsch of ten years before was quickly recast as a minor setback. The coalition government was short-lived, because the Nazis’ actual priority was to expand their power. Over the next two years, they secured for themselves absolute and unopposed authority by 1) shutting down the Reichstag in March 1933, 2) declaring the Nazi Party the only legal political party in Germany the following July, and 3) combining the offices of President and Chancellor into a single, dictator-like position called *Fuhrer* in 1934 (Nicosia 1996b: 52).

C. Nazi Efforts to Marginalize German Jews and the Effect on Jews’ Self-Identities

After consolidating their political power, the Nazis redirected their energies towards targeting the Jewish population of Germany. Soon after the suspension of the Reichstag, the Nazis passed the first of their many anti-Semitic laws, which – one-by-one – stripped German Jews of their basic rights and increasingly isolated them from German society. Schmid (2002: 61) denotes three periods in the Nazi years, based on the nature of these laws and what sort of threat they posed to Jews: January 1933 to September 1935, September 1935 to November 1938, and November 1938 to May 1945 (when the Nazis lost the war). The first period starts with the Nazis’ rise to power and ends with the passage of the Nuremberg racial laws. Schmid (2002: 53) explains that the laws of this first period were meant to expel Jews from many professions and sharply limit their involvement in public life.

Nicosia (1996b: 55) offers a good survey of the major regulations of this time. The first two regulations – which both came into force on April 7, 1933 – were the “Law for the Re-
Establishment of the Professional Civil Union” and the “Law Concerning Admission to the Legal Profession”. The former expelled all Jews from the civil service, while the later barred non-Jews from retaining Jewish attorneys and from having Jewish clients (and vice-versa). The next major regulation was the “Decree Regarding Physicians Services with the National Health Service”, which was enacted on April 22. This law barred Jewish doctors from having non-Jewish patients. The “Law Against Overcrowding of German Schools” of April 25 sought to drive Jews out of German schools by mandating that schools could devote at most 1.5% of their total student body to Jewish students, and other laws passed in September and October purged Jews from the mainstream arts and media.

Though the idea of a single German-Jewish identity had been seriously challenged, the period did have two (somewhat) redeeming qualities. First, the laws did not pose an immediate threat to the Jews’ safety, like those that would follow. Second – as Schmid (2002: 61) explains – Jews could still reconcile the German and Jewish parts of their identities in other areas. Notably, Jewish citizens of Germany were still citizens; the Nuremberg laws had not yet been passed, and consequently Jews still enjoyed a full range of civil liberties. Perhaps because of these two notions, the general feeling of the Jewish population during this time was that the Nazi movement would eventually blow over. The Party itself seemed more like a political fluke, and what it was actually doing seemed too ridiculous to be sustained.

Some Jews chose to leave Germany during this time, but they generally did not do so on account of anti-Semitic discrimination. “Those who emigrated within this first period mainly did so for professional reasons,” writes Schmid (2002: 61). Yet what Jews actually did have to endure during this period should not be downplayed. As Lowenstein (1989: 37) explains, the Nazis facilitated a “never ending barrage of anti-Jewish propaganda, newspapers [and] posters”.
Such efforts helped to cultivate anti-Semitism within the larger German society and infect public institutions with it. To this point, Lowenstein makes special mention of Jewish children and adolescents. “The assault on Jewish self-esteem was especially damaging to the psyche of those who were of school age”, he writes (1989: 37). “[They] had to submit to mistreatment in public schools or assaults on the way to school after being removed to Jewish schools”. Schmid (2002: 61) makes a similar comment, writing that “...Jewish life in Germany during this time became very difficult, especially for children and adolescents who were being made to feel inferior and marginalized at every step”.

Schmid (2002: 54) provides a heartbreaking example of one such adolescent, a fourteen-year-old Jewish girl who returned to Germany in 1934 after living in England for a year. Re-enrolling at her old school, the girl found that there was a new daily ritual: the teachers would greet the class each morning with the phrase, “Heil, German girls”, and the class would respond with “Heil Hitler”. Not knowing the ritual, the girl said nothing – and the teacher then asked her in front of all the other students whether she was even German. The girl was unable to respond. She was too alarmed with the notions that her “Germanness” had somehow changed and that she might be considered as something else. After all, she had always thought of herself as German – even while living in England. The situation only got worse. A few days later, the teacher scolded the girl and two other Jewish students in front of the entire class for making some insignificant mistake, saying, “You've got to understand that you Jews are guests here in Germany, you don't belong, and you should behave accordingly”. The girl later reflected about the whole experience:

...[T]hat was very very painful, although I knew her attitude towards us, but to tell us something like this, in front of the entire class — I mean, I was fourteen at that time, that is a difficult age in any case, even without this kind of baiting, and I must say, I was very hurt, it is exactly as if love had died, and that was the point where I realized that our love
affair with Germany was over (autobiographical interview with Lola R., in Schmid (2002: 54), emphasis mine).

The passage of the Nuremberg racial laws in September 1935 signified that the threat faced by the German Jews had intensified – significantly. These laws erased Jews’ legal equality, essentially rescinding their status as German citizens. Now defined as legally separate races, Jews and Aryans were barred from intermarrying, engaging in sexual intercourse with each other, and taking part in many otherwise benign social relationships (The Nuremberg Laws on Citizenship and Race, 1935). Breaking these laws was punishable as a criminal offense. The laws also created two levels of citizenship – one for Aryans, and another for Jews – and only Aryan citizens would continue to have a full range of civil and political rights (The Nuremberg Laws on Citizenship and Race, 1935). A serious line had been crossed. Jews were now singled out unlike ever before – as a separate, codified race – and this distinction could (and would) later be used in hundreds of subsequent laws and regulations (Schmid 2002: 55). The Nuremberg laws invited widespread harassment from the larger German population towards the Jews (Nicosia 1996b: 56), and Nazi actions now seemed to be following a path that was unmistakable: the total banishment of Jews from German society. Later laws in mid-1938 imposed stringent rules on Jews owning property, closed all Jewish businesses, dissolved all Jewish political organizations, and banned all Jewish newspapers (Nicosia 1996b: 50).

The final period starts in November 1938, when anti-Semitism reached a fever pitch after the Kristallnacht (Night of Broken Glass) pogrom of November 9-10. After a German Jew living in Paris shot and killed a member of the German consulate on November 7, a series of uprisings sprung up across Germany and Austria that targeted Jewish synagogues, businesses, and homes. German authorities did not interfere as storm troopers from the military joined crowds of civilians in killing 91 people and destroying huge amounts of Jewish-owned property.
More than 1,000 synagogues and 7,500 houses, apartments, and businesses were wrecked and looted. Authorities arrested 30,000 Jews and sent them concentration camps, and imposed a fine of 1 billion Reichsmarks on the Jewish community as liability for the whole event. German Jews’ collective safety had evaporated. As Schmid (2002: 57) notes, “... [t]his was a turning point. It was no longer a matter of laws and regulations, virtually everyone who experienced this night now knew that there was an immediate threat to their lives.”

D. Jewish Emigration from Germany

The number of Jews attempting to emigrate from Germany rose steadily throughout the first two periods of the Nazi years, increasing in tandem with the severity of the Nazi threat. Between January 1933 and September 1935, the common belief among Jews was that the Nazi regime could not last; as such, few people felt the incentive to leave. After the passage of the Nuremberg laws, the number of people seeking to emigrate picked up, but not tremendously. It was only in 1938 – the year of the union of Germany and Austria and Kristallnacht – that the number of people attempting emigration increased dramatically (Schmid 2002: 60).

As the number of Jews attempting to emigrate increased, the likelihood that they could successfully do so decreased. The Nazis made emigration for Jews a byzantine, unreliable process; potential emigrants had to secure a seemingly arbitrary number of stamps, permits, and visas from a maddening number of sources. Even then, Nazi officials would turn down completed emigration applications at random. The Nazis also passed laws that “… made increasingly sure that those people who did manage to leave Germany would do so quite literally with the clothes on their backs and nothing else”, as Schmid (2002: 59) writes. Jews were meant to leave as poor as possible, so that they would pose a big a burden on their country of
destination as possible (Hilberg 2003). In this way, the psychological burden of leaving also increased as time went by (Benz 1994: 12).

The likelihood of emigration further decreased because of increasingly restrictive immigration quotas and policies of receiving countries. For example, the United States required all those seeking visas to secure affidavits from someone already in the United States, which would ensure that the emigrant “… would not become a financial burden to the state” (Schmid 2002: 59). For many, this was impossible. Additionally, in March 1938, the United States decided to re-classify Germans and Austrians together under a single German quota, a decision that suddenly made visas for Jews of both countries much more difficult to obtain (Schmid 2002: 60). Soon afterwards, Great Britain re-instituted a policy of requiring obligatory visas and working papers for all German and Austrian citizens wishing to emigrate (Schmid 2002: 60).

There were some unique pathways to escape, while such a thing was still legal. For example, approximately 10,000 children escaped to England as part of the Kindertransportes, a series of evacuations set up by private Jewish organizations in tandem with the British government. The children were paired with host families to live, and the organizations made all the necessary legal arrangements on both the German and British ends.

Emigration for Jews became illegal in 1941. After this point, Jews took to escaping through elaborate and dangerous means. For example, a clandestine “underground railway” was established that took Jews into Holland and Belgium, through France, and eventually into Spain and Portugal where they could make safe passage to the Americas, and another such pathway brought Jews to Palestine by way of Northern and Eastern Europe (Laquer 2004: 30). Some young people shipped themselves in crates and containers from Germany to neutral countries. Others managed to enlist the help of sympathetic Aryans – who helped secure forged travel
documents and passports and died Jews’ hair blond. Escaping with siblings, parents, or other family members was rare, even while emigration was legal. Most of the children who escaped on the Kindertransportes never saw their parents again (Schmid 2002: 60).

Once they had escaped, Jews became refugees: the ultimate destruction of their political identities. Once ‘just’ social outcasts, they were now enemies of the state. It was the final flourish in their fall from a social position of sophistication and mainstream status. This affected refugees’ subsequent emotional relationships to Germany in various ways. Some wholly rejected the idea that they were German, and upon arriving in their new countries made concerted efforts to acculturate into those societies. Others were more receptive to retaining some sense of German identity.

IV. Procedure

I evaluated the free-spoken L2 English of five German or Austrian-born Holocaust refugees to the United States and Canada for rates of error along six different common pronunciation mistakes. I compared the rates of error for those five individuals to see whether they collectively demonstrate a decline in language-learning ability relative to age. The refugees were between 8 and 34 years old upon arriving in North America, thus constituting a useful spectrum for determining whether there is a Critical Period-like shape of decline.

I utilized pre-recorded video interviews that were conducted by the Survivors of the Shoah Visual History Foundation5 during the 1990s as part of a larger project to document the

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5 In 2005, the Survivors of the Shoah Visual History Foundation was absorbed by the University of Southern California, and since then it has continued its operations as the USC Shoah Foundation – The Institute for Visual History and Education.
oral histories of over 54,000 Holocaust refugees and survivors. Each interview was conducted in English (though in one, the questions are asked in German and the responses are given in English), and is between approximately 2 and 5 hours in length. Over the course of the interview, the refugee recounted his or her general life story in response to the interviewer’s questions. Though the interviewers followed pre-defined types of questions, they often deviated from those questions to explore interesting themes as such themes come up. The interviews thus have the feel of free-flowing conversations rather than remaining rigid question-and-answer sessions. (This is important, because it may have helped to overcome the Observer’s paradox and encourage the refugee to speak in ways representative of their English speaking abilities.)

From each interview, I examined a combined 15 minutes’ worth of refugee speech. The 15 minutes are comprised of three 5-minute subsections, which correspond roughly to the interview’s beginning, middle, and end. The beginning section is taken from the interview’s first 5 minutes, while the middle section is taken from the five minutes between 1:00:00 and 1:05:00 and the end section is taken from the final 5 minutes. The 5 minutes between 1:00:00 and 1:05:00 were chosen on the basis of the need for a common midpoint to measure each refugee’s sustained speaking ability and the duration of the shortest interview.

It is necessary to measure each refugee’s sustained speaking ability because nonnative speakers of a language often grow tired and make more errors if they speak in that language for extended periods of time (D.J. Napoli, personal communication, October 2012). To document such an individual decline, examining smaller excerpts taken from throughout the interviews is preferable to examining a single, uninterrupted 15-minute clip. Smaller clips taken from
multiple parts of the interview allow for a more reliable display of the refugee’s speaking abilities. If taken from the beginning or middle of an interview, a single uninterrupted 15-minute excerpt might not necessarily show the decline. If taken from the end, a single uninterrupted 15-minute excerpt might show only the ultimate result of that decline – which consequently paints a misleadingly bad picture of the refugee’s English speaking abilities.

Biersack (2002) offers a thorough description of the systematic mispronunciations of English by native German speakers. From her work, I selected six common German mispronunciations of English, which are as follows:

1. Non-realization of the voiceless and voiced dental fricatives [θ] and [ð], either through elision, or complete replacement.
2. Replacement of the labiovelar approximant [w] with the labiodental voiced fricative [v].
3. Replacement of the retroflex approximant [ʐ] with the voiced uvular fricative [ʁ] (or something else).
4. Replacement of the near-open front unrounded vowel [æ] with the near-open central vowel [ə] (or something else).
5. Devoicing word-final obstruents, such as [z] or [d].
6. Non-realization of word-initial voiceless and voiced post-alveolar affricates [tʃ] and [dʒ].

These errors are easily explainable. Errors 1 – 4 are the result of the languages’ different phonemic inventories: the English sounds involved in errors 1 through 4 simply do not exist in German (Biersack 2002). Errors 5 and 6 come from differences in the languages’ phonotactic constraints: word-final obstruents are virtually always devoiced in German (error 5) and post-alveolar affricates almost never occur in word-initial positions in German (error 6). The few exceptions of words with initial post-alveolar affricates are mostly foreign loanwords.

Using this list as a guide, I assessed each refugee’s English pronunciation ability. For each 5-minute excerpt, I noted the number of times the refugee made any one of these errors (“# Incorrect”). At the same time, I also noted the number of times that the refugee successfully
pronounced the relevant English sound and avoided the error (“# Correct”). From these two figures I calculated a series of rates of success: one for the type of error in that 5-minute section, one for all the errors in that 5-minute section as a whole, and one for all the errors in that entire interview. The rate of success for the entire interview is the most important. It is the measure I use as the refugee’s overall pronunciation ability, and the one that I use to compare the refugees to one another.

I also watched each interview in its entirety and took notes on certain types of information about the refugee. I noted basic biographical information: the refugee’s name, date of birth, place of birth, age at emigration, and age at arrival in the United States or Canada. If the refugee began learning English prior to arriving in the United States or Canada, I made a note of what age he or she was upon starting, as well as how he or she began learning the language. I also paid special attention to any information that the refugee offered about his or her attitude towards acculturating, motivation to learning the English language, and lasting sense of linguistic and cultural identity. These factors are difficult to quantify, however, and as such I can only incorporate them descriptively into my evaluation of a refugee’s pronunciation mistakes (i.e., not in any systematic way).

With the help of Nathan Sanders (personal communication, December 2012), I calculated figures for y-intercept and slope for lines representing the refugees’ correct pronunciations – across all three 5-minute excerpts – of each of the six feature types. Then, using a logistic curve formula \( \text{rate} = \frac{1}{1 + \exp(-(\text{intercept} + \text{slope} \times \text{age}))} \) – where \( \text{age} \) is the age at which the refugee arrived in North America – I calculated precise rates of correct pronunciation for each feature type for each of the refugees. I also used the same formula to generate rates of correct pronunciation for hypothetical refugees aged 0, 10, 20, 30, 40, 50, 60, and 70. I
ultimately used the hypothetical refugees’ rates to produce a predictive line graph, because that would better enable me to look for a Critical Period-like shape of decline.

**A. Other Notes**

I have elected to use existing interviews collected by the Shoah Foundation – instead of conducting my own – for two reasons. First, such interviews are available to the public, easy to access, and – most importantly – free of charge. Save for travelling to the University of Pennsylvania (which is an access point for the Shoah Foundation’s archive) to actually download the interviews, using them requires no extra effort on my part. Second, however, I do not conduct my own interviews because of the ethical issue involved. Schmid (2012: 13) writes of how “… questions about hidden, long-buried memories of childhood ‘native’ languages and the search for one’s ‘roots’ may be a torment for many”. I was reluctant to conduct my own interviews and risk causing subject to relive old pain, when there is a much less troublesome alternative.

Actually acquiring the videos – and isolating the 5-minute sections – was an arduous process. The University of Pennsylvania allows access to the Shoah Foundation collection of interviews as video files that are viewable within a certain webpage that does not allow for direct download of any video clip. In order to save the video files to my own computer – where I could subsequently isolate the sections I needed – I went into the web pages’ source codes and found the actual links to where the video files were hosted. I then used the program VLC to connect to the videos and dump the raw data stream into a file on my computer. Then, I was able to open the video files up in Apple QuickTime, export just their audio tracks into AAC audio files, and then trim them as necessary.
For some interviews, the original audio required additional restoration. One interview had audio that was panned to just the left channel, while another had audio whose bass and mid frequencies were entirely too high (making the audio practically unlistenable). For the former, I used the program Audacity to re-master the audio into a usable mono track. For the latter, I again used the program Audacity to run the audio through a high-pass filter. This gave the resulting audio track a thin, tinny sound, but it was nonetheless usable.

V. DATA AND DISCUSSION OF RESULTS

The five refugees do appear to demonstrate a decline in language-learning ability that is affected by age of arrival. Furthermore, the decline appears to begin around age 15 or so, thus offering support for the Critical Period hypothesis as put forward by Lenneberg (1967). The data do not support the hypothesis that psychosocial forces can enable children or young adults to achieve native-like proficiencies in English past the end of the Critical Period.
Figure 1. English pronunciation success charted against age of arrival.

Precise data used in this chart are given on the next page.
As the data do not support the original hypothesis, an extended discussion of the results in light of the social-psychological account is unnecessary. However, the refugees offer interesting examples of how psychosocial factors – like extreme motivation to acculturate and desire to reject one’s prior cultural and linguistic identity – might be manifested, even if they do not actually enhance the language-learning ability.

A. George Meyer

Figure 2. Observed rates of correct pronunciation for the five refugees, and predictive rates of correct pronunciation.

<table>
<thead>
<tr>
<th>Name</th>
<th>Early TOTAr:</th>
<th>Middle TOTAr:</th>
<th>Late TOTAr:</th>
<th>TOTAL TOTAr:</th>
<th>Feature</th>
<th>y-intercept</th>
<th>slope</th>
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</thead>
<tbody>
<tr>
<td>George</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F1 &amp; F2</td>
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<td></td>
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<tr>
<td>Theodore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F3 &amp; F4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herman</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F5 &amp; F6</td>
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<td></td>
</tr>
<tr>
<td>Morris</td>
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<td></td>
<td></td>
<td></td>
<td>F7 &amp; F8</td>
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<tr>
<td>Helga</td>
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<td></td>
<td></td>
<td></td>
<td>F9 &amp; F10</td>
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Rate of Correct Pronunciation

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<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
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<td>160.89</td>
<td>144.12</td>
<td>239.14</td>
<td>45.44</td>
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<td>9</td>
<td>157.71</td>
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<td>239.96</td>
<td>45.29</td>
<td>304.18</td>
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<td>239.96</td>
<td>45.29</td>
<td>304.18</td>
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</tr>
</tbody>
</table>

Figure 3. Free spoken L4 English data for George Meyer.
George Meyer may not be an ideal candidate for evaluating whether the Critical Period can be extended past its typical end. He immigrated to the United States at age 9 – well before the Critical Period is expected to end – and is extraordinarily linguistically talented; before learning English, he also learned French, Flemish, and Spanish (and of course, German). However, over the course of his interview, he exemplified how refugees may feel a strong desire to reject their prior German identities for integrative purposes.

After moving to Brooklyn and enrolling in public school, Meyer began to get into fights with the other students, who would make fun of his German accent and call him a “Nazi”. To Meyer, this was beyond cruel, given the traumatic experience of his escape from Europe and the fact that Nazis had taken away and killed some of his immediate family. He recounts:

Nazi… is the one word that if you call me in a derogatory way (rather than [just using it] in conversation, I become irrational or in those times I became more irrational. And what I’m really saying is the people, they don’t really believe that I had dealings with the police in Brooklyn, because they were called to see this kid who got in horrible fights and in these horrible fights, this kid hurt other kids.

Eventually, Meyer left the public school and transferred to a private school, where he found more sympathetic company and completed his studies without further incident. However, even as he transferred, Meyer made it a priority to assume a new American linguistic identity (and not just learn to speak in English). He says, “… in those days, it was a curse. The curse was to be Jewish, to be German, to have a German accent. I lost my German accent in this country as quick as I could.”

Meyer also describes how his parents felt no such desire, continuing to speak German at home. This passive role signifies that Meyer’s motivation to linguistically acculturate must have been quite strong. For example, his sister – who was born in the United States – grew up with a German accent. Indeed, it appears that the George Meyer giving the interview is one who has
integrated into the American community. Wearing a bolo tie, white jacket, and blue dress shirt, Meyer is the picture of a modern Texan cowboy.

Towards the end of his interview, Meyer lets the extent of emotional detachment from Germany become clear. While he feels he could travel to the border of Germany again, Meyer states that he could not possibly step foot inside. He describes being furious at friends who buy Mercedes or Audi cars, and being unable to drink German wines. For this – and for having “revenge fantasies” about the Nazis – Meyer calls himself “irrational”. But given the trauma he experienced, it may not be as irrational as he thinks. Furthermore, it is a poignant example of one whose previous political identity was painfully shattered, leading to a desire to assume a new political identity whose key was found in assuming a new linguistic identity.

B. Other Refugees

Data for the other three refugees are presented below.

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<tr>
<th>拼音</th>
<th>音节</th>
<th>Section 1 Tape 1, 02:09 - 07:09</th>
<th>Section 2 Tape 3, 01:25 - 06:25</th>
<th>Section 3 Tape 6, 08:28 - 13:28</th>
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<td>% Right</td>
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<td>9</td>
<td>82</td>
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<tr>
<td></td>
<td>[r̥]</td>
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### Helga Benson

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<tr>
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</tr>
<tr>
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<tr>
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<td>Preserve word-final voiced obstruent</td>
<td>Word-initial [t], [b3]</td>
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<td>79</td>
</tr>
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Born on 11/10/1931
Arrived in US at age 8
Arrived in US at age 34
Arrived in Canada at age 23

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### Theodore Brenig

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<td>Word-initial [t], [b3]</td>
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Born on 7/17/1927
Arrived in US at age 34
Arrived in US at age 54

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### Morris Schnitzer

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<th>Section 3</th>
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</tr>
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Born on 2/4/1922
Arrived in Canada at age 23
Arrived in US at age 34
Arrived in US at age 54

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**Figure 5.** Free spoken L2 English data for Helga Benson.

**Figure 6.** Free spoken L2 English data for Theodore Brenig.

**Figure 7.** Free spoken L2 English data for Morris Schnitzer.
VI. CONCLUSION

There are a number of problems in the experimental approach used in this thesis that most likely impacted the data. First, only five interview subjects were used. While the interview subjects did represent a variety of ages, more should have been used in order to fortify and fill out the data set, particularly in regards to the middle teenage years when the Critical Period is expected to end. There were no participants used for this age range – only immediately before and after – which may lead to a too-general picture of decline. Second, these particular phonological features may have been more difficult for these five speakers. Depending on if different features had been selected, the speakers may have performed better. Third, relying on phonology as a means to evaluate proficiency in a language may be misguided. For example, Herman Zimmerman recorded a total correct pronunciation rate of approximately 70% - which would suggest that his English is good, but not native-like. If the criteria had been based on syntax and vocabulary, however, Zimmerman would have rated as having much more native-like command of English. Generally speaking, his command of English syntax and vocabulary was outstanding, making virtually no errors. The same can be said of Morris Schnitzer, who was ranked the lowest with an overall correct pronunciation rate of approximately 56%.

Phonology may indeed be the aspect of language that is most resistant to change, as Guiora (1972) posits. But it may not the most important aspect in determining linguistic identity; Zimmerman and Schnitzer call themselves American and Canadian, respectively, in absolute senses of the words, and linguistic identity may then actually be a different concept from the one defined by Guiora; i.e. one that is predominately self-constructed.
Without a more detailed study, it is difficult to make any sound judgments of the effect that psychosocial factors can have in second language acquisition. However, the results of the present study suggest that they exert no effect whatsoever.

VII. WORKS CITED


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