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Acquisition of French and English accents within the process of second language learning

By CODY ROSENBARKER

ABSTRACT

Human language is extraordinary in its complexity and in the ability of our species to pick up on its intricacies. It has been said, however, that this ability lessens as a child develops, and suddenly becomes almost impossible once a person reaches puberty. This is known as the critical period hypothesis (CPH). I will argue that the CPH does not exist in the way that it is commonly presented to us. I will also talk about the one area of language development in which strong empirical evidence suggests age makes a difference: accent acquisition. With the area of accent acquisition being most effected by age, I will then propose a method of acquiring an accent for those who have surpassed childhood and are now trying to master a novel phonology.

Introduction

Everyone has an accent. An accent is defined as a "systematic phonological variation," and as long as one speaks, he or she does so in a way that varies phonologically, or in the sound system of a language, from other people. He or she has a mode of pronunciation that is both personal and highly influenced by the surrounding linguistic group; it is inevitable that one should speak with an accent (Hesson, 2010). What will be focused on here are foreign accents, or those whose phonological
variation is the result of the inability to imitate a native-like accent. Language Learners have the task of acquiring, or attempting to acquire, one of these accents along with the semantics, morphology, pragmatics, and syntax of a language. This essay addresses French and American English accent acquisition within the context of second language learning. It begins by reviewing the essential research on the subject, and suggesting a method for attaining native-like acquisition.

In the English and French languages there exists something called the standard accent, to which all speakers are compared. In American English, the midland dialect is considered the Standard American English (SAE). In French, the point of reference has become the variety of French that is spoken in Paris and its surrounding area. This is because Paris has become its own linguistic "melting pot," with people coming from all over France and producing a "neutral" variety of French which has become the standard (Battye, Hintze, and Rowlett, 2000). People recognize these regional varieties of the French and American English languages as being the most neutral and "without accent," even if they live in another part of the country and speak with a different accent (Do you speak American?, 2005). These varieties become the linguistic Holy Grail for any non-native speaker who wishes to go beyond simply being able to communicate effectively and be able to blend in seamlessly with the native population. This, however, seems to be very difficult for some people, especially learners who make this effort later than their teenage years (Oyama, 1976). Yet, this is happening more and more often as people learn English as the international language and others are learning French for any number of reasons, not least of which being, like myself, a student of the French language in college.

The central issue for accent acquirers is that of “fossilization.” Fossilization, which is a term that was first coined by Selinker, is “the permanent retention of non-native interlanguage forms in the learners developing linguistic system” (1974). Here, the term will refer to this process not of the linguistic system in general, but more specifically in the realm of phonology. This is an important
concept, and is especially important for those wishing to acquire native-like accents. Perhaps the most important issue concerning accent acquisition is whether fossilization is as permanent as it sounds. The essay will follow the following progression:

1) Reasons for Difficulty in Second Language Acquisition in Adults
2) Specifically, Reasons for Difficulty with Accents
3) Pedagogical Implications
4) My Research

What's the Point?

First, however, it has to be proved that the effort of acquiring an accent is worth it. Accents are, in some ways, desirable, for they evoke a sense of exotic-ness and/or intelligence, since the person in question has obviously learned more than one language. However, according to a study carried out at the University of Chicago, people with accents are considered by native speakers to be less truthful. The experiment consisted of native speakers listening to trivia statements, read by a variety of accented speakers and native speakers. The results were that when a person is speaking with an accent, we as native speakers of a language are less likely to believe them (Keysar, 2010). These were the results despite the fact that the subjects were told that the trivia was postulated by researchers and that the people reading the statements were random and had no connection with the verity of the statement itself. Interestingly enough, when the subjects were told that it was an experiment to gauge truthfulness and accent, the bias was somewhat dampened but the readers with the heaviest accents were still given scores significantly lower on the truthfulness scales. Additionally, Jean-Benoit Nadeau in his book Les Français Aussi ont un Accent (The French Have an Accent, Too) states:

“... an American accent is often perceived as a social tar because French speakers group all English speakers into the eternal aggressor. It’s for the most part wrong, but it results in a
constant reminder of their difference, this even coming from friends whom we thought to be
above this sort of distinction (2006).” (personal translation)

We can see, then, that neither the French nor Americans are beyond being biased when judging non-
native speakers, whether it is specifically towards one accent or another or accents in general. When
a person is judged as being less truthful or as having a "social tar", it can result in it being much more
difficult to obtain a job, make friends, etc. Therefore, even in today's cosmopolitan world, or perhaps
especially, a native-like accent marks a speaker as an insider, which, sadly, is important for success.

Additionally, Herberet Myron suggests that people will have a stronger desire to learn more
of the language if they have a good accent. This desire to learn, as will be shown later, leads to a
higher ability to learn a language, and therefore these two aspects of language feed off of each other.
Therefore, there are many reasons to learn an accent of a language as best as possible, the question
remains how.

1) Second Language Acquisition in Adults

There are two main threads of thought regarding why a person loses the ability to learn an
accent as he or she ages resulting in fossilization. One says that there is a Critical Period in which
the brain is simply better able to learn everything, and by extension better able to learn an accent.
The second hypothesis says that second language learning degradation is the result of social and
educational variables (Hakuta, Bialystok, and Wiley, 2003). We will first address the Critical Period
Hypothesis and then address the social and educational differences in early and late language learners.

Critical Period Hypothesis- The Changing Brain

It is thought that a language could only be effectively learned in a small window of time from
eyearly infancy until sometime before puberty (Lenneberg, 1967). This became what is known as the
Critical Period Hypothesis, which is the de facto theory for today regarding language acquisition.
The book *A Little Anthropology* states it like this: “There is controversy about the best way to learn a language, but we do know that children are apt to learn it more quickly than adults . . .” (Nash, 1989, p. 84). There is research to support this theory, one being a study done by Johnson and Newport comparing the grammatical structures of non-native speakers who came to the United States between the ages of 3 and thirty-nine. The results showed that language learners who began the process before puberty had a clear advantage over those who did not. However, those who started learning English after puberty were unpredictable in their proficiency in grammar, with no correlation being found for age of arrival, motivation, amount of experience, self-consciousness, or American identification (1989). This does not give much hope to those of us who are adults or even adolescents just beginning to learn French or American English in school, for our jobs, or because of a recent change in scenery.

When a person reaches adolescence, his or her brain is changing along with the rest of the body. PET scans and fMRI have allowed researchers in more recent times to study this phenomenon to a depth that was previously unreachable. Beginning at puberty, there is a significant amount of new synaptic connections formed in the grey matter and frontal lobes of the brain as well as growth of the cerebellum and thickening of the fat layer around the neurons (Arnett, 2010). In order to understand the Critical Period Hypothesis, one must look at the process of lateralization in the adolescent brain and how it might affect language processing and language learning abilities.

**Childhood Learning**

Lateralization, which is sometimes also referred to as cerebral specialization, is when an area or hemisphere of the brain specializes to take on a specific function. How, when, and why this process takes place is not yet fully understood by scientists (Eberich et al, 2006). What is clear is that, eventually, language tends to become lateralized into the left cerebral hemisphere (Olsen and Samuels, 1973). The question becomes, then, what exactly happens in the adolescent brain going through its
own pubertal changes that might contribute to the loss of language learning capabilities.

The infant brain does not function in the same way as adult brains. Behavioral studies have suggested that motor lateralization starts to occur even in prenatal fetuses. However, another study was conducted to investigate this claim using more sophisticated instruments and came to the opposite conclusion (Erberich et al, 2006). This study worked with neonates with preconception ages ranging from thirty-eight to forty-nine weeks. Using functional magnetic resonance imaging (fMRI), the researchers sough to map out any lateralization of the sensorimotor areas of the brain occurring in these infants as it happened. The results showed that there was only a slight preference for the contrilateral (the other side) dominance, having about 57% of the brain activation occurring contrilaterally and the remaining 43% occurring ipsilaterally (the same side), which would be the norm in adult brains. This suggests that the brain needs to develop significantly in the way of lateralization before reaching adult levels.

However, some areas of the brain seem to be developing faster than others. Infants start being able to process some parts of speech, for example, very early on. Phonology, prosody, and word segmentation is at least partially understood by infants and possibly even in the womb. When infants were exposed to forward speech, their brains typically showed a preference for the left hemisphere and in the temporal lobe. What this means is that the infant brain as early as 31 weeks of gestation is already segmented into functional regions, one of which seems to control language comprehension and production. The activation is not, however, confined to the primary auditory cortices of the infant’s brain. Instead, it is confined to areas of the brain that are either directly or indirectly involved in adult speech processing, and does not extend to other areas. It is different to adult brain activation, too, in that a familiar language for adults will induce a greater activation in the regions of the brain known as the left superior temporal sulcus, or fissure in the brain, and the left angular gyrus, or ridge
in the brain allowing efficient axon connectivity. Additionally, an infant’s brain does not distinguish between speech played forwards or backwards, while an adult brain treats backwards speech like it would a foreign language (Dehaene-Lambertz, Dehaene, and Hertz-Pannier, 2002). Therefore, the lateralization of activation in infants is only partially similar to speech activation in the adult brain. What differences in the adolescent brain could account for the differing ability to acquire language is what will be addressed next.

**Laterlization in Adolescents**

According to one study, lateralization strengthens from ages eight to twenty in both the frontal and temporal regions (Everts et al. 2009). This lateralization occurs by overproduction and pruning of synapses, which leads to more efficient but less flexible cognitive abilities and occurs with tremendous frequency during the first years of life and right around puberty (Arnett, 2010). Many animal species have laterality, too, but the amount of lateralization in the human brain has allowed humans to engage in tool use, self-awareness, and culture (Bradshaw and Rogers, 1993). This is partly because small changes in the interconnectedness of neural pathways can lead to completely new behaviors in a species, as shown with the novel functions in regards to catching prey by frogs observed by researchers (Nishikawa, 1997). Just how this lateralization possibly affects the language of adolescents is what the CPH is based on.

The adolescent benefits in many ways from this lateralization. Everts and his associates purport that with the increase in lateralization, there is a correlational increase in verbal IQ (2009). One clue as to the reason for this correlation can come from looking at Einstein’s brain and how the variations in the structure of the brain affect cognitive functions (Witelson, Kigar, and Harvey, 1999). In regards to his general cognitive functioning, Einstein had an incredible ability to connect ideas. This may have been a result of the absence of a major sulcus which would normally
separate two regions of the brain (Van Essen, 1997). Instead, Einstein’s brain was able to have axonal connections where a normal brain would not, and therefore had a higher intelligence (Stevens, 1989). Therefore, functionally related schemas can benefit from being closer together in the brain, which is in essence what lateralization is doing.

Einstein also had an atypical speech development (Highfield and Carter, 1993). This may have been from his irregular gyrus region of the brain, which has been mentioned previously as being highly activated in adult speech. Before adolescence, this abnormality may have been the cause of his delayed speech, which lead some people to believe even from an early age that he was learning disabled (Witelson, Kigar, and Harvey, 1999). This shows that the proper development of the adolescent brain is essential for proper speech development.

For an adolescent, lateralization means that the information processing for language and regions involved with speech recognition and production can all be closer together, allowing for more connectivity and therefore higher rapidity in cognition and verbal IQ. It occurs in specific parts of the brain, which, if absent of any genetic abnormality or physical damage, will house speech in an efficient and centralized location.

Therefore, this shows that for a time in a child’s life, the brain is supple and would allow for easy acquisition of a language, after which time the brain becomes lateralized and more specified. As has been shown, this has many benefits for the cognitive and linguistic abilities.

**Fossilization**

This specialization comes with some apparent detriments, however. One problem this causes is that of fossilization. The motor patterns are neurophysiologically fossilized and the brain has more difficulty with learning after lateralization has occurred, and therefore difficult to alter (McLaughlin, 1992).
Arguments Against

However, much of this research is based on the supposedly self-evident fact that children learn languages faster than adults. In fact, the inference about the relative abilities of adults and children in second language acquisition has not been based on direct experimental data (Olson and Samuels, 1973). More recently, Judith Strozer even admits that,

“Simple honesty would force us to recognize . . . that the evidence available at this stage of our knowledge is mostly at an anecdotal level, based on everyday experiences and on intuitions about what happens with language teaching, and is generally less solid than would be desireable” (1994, p. 12).

The whole idea of there being periods during which the mind is capable of unlimited acquisition of knowledge, and after which time this ability is severely handicapped, is based on dated, misinterpreted, and carefully selected data to support a pre-existing idea (Bruer, 1999). Han and Odlin point out that no study has been carried out comparing people with the same L1 learning the same L2 in similar conditions, but at different ages (2006). This idea seems to be so hard to debunk because we can see it and therefore prove that it is true, just like how the world is flat and white people have bigger brains and women are physically incapable of running a marathon. We will see next how new evidence may make the “younger is better” belief as passé as these other misconceptions. It is worth looking at two of the more persuasive arguments that exist and address them individually. In this way, one can narrow down what exactly is more difficult as age increases.

Acquisition of L1 and L2 Are the Same

An important aspect of maturational constraints and the CPH is that it relies heavily on the evidence of people trying to learn a language later in life by total immersion just as a child would learn his or her first language (L1). The most compelling evidence for such a critical period comes from
people who either had to re-learn a language because of brain injury, such as in Lenneberg’s original paper in 1967, or in extreme cases where children aren’t exposed to language, such as studies about feral children or “Genie,” the neglected girl. These observations strongly support a critical period, but for a first language (Stevens, 1999). What this does not prove, however, is that this detriment to the entire language learning process occurs with an target language, or L2.

Children Learn Languages with Ease

One misconception is that children learn a second language quickly and without the strenuous effort that is involved with language acquisition later in life. The argument for this comes from the Critical Period Hypothesis made popular by Lenneberg in 1967, suggesting that younger learners posses a more flexible brain (Lenneberg, 1967; Penfield and Roberts, 1959), more specifically a prefrontal cortex that is not fully developed and laterialized, and therefore are more apt at language acquisition (Thompson-Schill, Ramscar, and Chrysikou, 2009; Ramscar and Gitcho, 2007). However, let us take the word “little.” This is very difficult for young children to say, and they end up with many variations such as “wittwe” and “leedle.” This second variation deals with the sound “ih” represented in the English phonetic alphabet as /ɪ/, and it poses a problem for children and adult English language learners alike. Children have general trends to their mispronunciations, which can be summarized by the following:

- the fricative consonants (like /s/) are replaced by stops (like /t/)
- the velar consonants (like /g/) are replaced by alveolar consonants (like /d/)
- they tend to avoid consonant clusters and have difficulty learning the phonotactic patterning like sk
- final consonants are ommited
- unstressed syllables are dropped

- (English only) diphthongs and both pronunciations of “th” come last in accent development (Crystal, 2005)

Even when given explicit instruction, children often cannot fix their pronunciation, as anyone who has tried to teach a child how to correctly pronounce “spaghetti” knows. I saw another example of this when I was growing up. About a mile from my house, my neighbors had twins who made their own language, called a cryptophasia or idioglossia, spontaneously (for more on this subject, see Autonomous Languages of Twins by Bakker, P.). They were constantly exposed to English, and did eventually learn it within a few years of their peers, but both of them always had phonological differences from English when they spoke. Therefore, language acquisition and correct pronunciation is not as easy for a child as we may think, but when they make mistakes it is more often passed as cute, and not simply wrong. Therefore, children, just like adults, have predictable difficulties in regards to the acquisition of the phonological system of the language they are learning.

Now that the evidence most often cited by people as proof of a Critical Period has been addressed, we will now look at the more compelling evidence of the differences in brain organization and lateralization leading to fossilization.

The Changing Brain Argument

In response to the argument that our changing abilities are a result of our changing brains, there is evidence that the processes that lead to a changing brain structure don’t have as much impact on language learning as is popularly thought. During the twentieth century it was thought that only the memory centers in the brain had plasticity, but it has now been shown that there is a certain amount of neuroplasticity (adding and removing connections and cells) in our brains, in which
experience can still change its structure and organization (Gould, Reeves, Graziano, and Gross, 1999). For instance, Sandra Witelson concluded in her study that lateralization and cognitive plasticity were mutually independent. The evidence given to support this theory is that parts of the brain such as the primary motor cortex, which is involved in the execution of movements, is lateralized very early on in development. If one were to follow the inverse relationship typically associated with lateralization and plasticity, then these functions should not be able to be taken on by other parts of the brain at any part of life. However, later lesions to this part of the brain still result in much more severe deficits compared to early lesions (1987). This suggests, then, that lateralization would not inhibit second language acquisition in adolescence and beyond.

Beyond this, if the changing brain influences the Critical Period so drastically, then the periods during early childhood and during puberty in which lateralization most strongly occurs should mark definite points in a person’s life during which he or she can learn a language, and after which he or she cannot. However, age-related loss in ability is a gradual phenomena rather than a one(or two)-time event. The ability seems to be lost gradually throughout childhood and adolescence (Chiswick and Miller, 2008; Stevens, 1999). This is evident by the fact that the Critical Period supporters cannot agree on what the Critical Period is exactly. Krashen said it was at age 5, Pinker claim it was at age 6, Lenneberg said it was at age 12, while Johnson and Newport perport that it is at age 15. Figure 1 is an example of a graph showing this trend, put together by Johnson and Newport of 46 students at the University of Illinois who had all been in the US for at least ten years.

Figure 1
Therefore, it is difficult to say that there is a specific time in which the changing brain drastically effects the ability to learn a language, but rather that there is a gradual and continual decline in ability from childhood to adulthood (Abello-Contesse, 2009).

Additionally, one would think that a second language that is learned after adolescence would then be stored in the left frontal cortex and would be more concentrated in a region of the brain associated with more cognitive and reasoning functioning because it would take more effort to learn a language after lateralization has occurred. Results have shown, however, that adolescents learning more by reading and writing results in control by the left hemisphere, and those who learned it more by auditory mode have a right-hemisphere dominance for the language (Obler, Zatorre, Galloway, and Vaid, 1982). This leads to two conclusions: one, that the adolescent brain still has plasticity in order to lateralize new information, and two that there is no significant difference between different ages of second language acquisition, but rather manner of acquisition.

John Bruer points out several other issues with supporting a Critical Period for language with the changing brain argument. He points out that many arguments for this point to the fact that the absence of stimulation results in abnormal brain development. This can be seen in feral children or
severely neglected children whose language abilities are often cited as evidence of a missed critical period, and in the rats of William Greenough’s experiments who had fewer synapses when raised in an impoverished environment. This is indeed evidence of a critical period for brain development. What people then are quick to conclude, then, is that more stimulation for the brain results in more complex brain development, and that the period is exclusive to the early years of brain plasticity. However, Greenough himself says that this would be a misinterpretation of his research, and Bruer points out that higher stimulation does not mean better development. There seems to be a threshold, and not a correlation, for the amount of stimulation a brain needs during certain periods of development in order to develop normally (Bruer, 1999).

To add to the skepticism, after puberty, adolescents’ native language can change lateralization through language study. When students studying a foreign language in a country where the language was spoken had the levels of laterality of both their native language and the second language decrease (Gordon, 1980). This suggests that neither lateralization nor plasticity is finished by adolescence.

**Fossilization**

As mentioned earlier, the main issue with the CPH is that adults have their language fossilized, and are therefore unable to effectively learn a new language. However, people have been shown to be able to reach native-like proficiency regardless of age of onset of a second language. In addition, children who are learning a second language in a school-like environment can also develop fossilization (Han and Odlin, 2006). This points to the fact that perhaps fossilization does not occur because of age, but rather there is something else that is causing our language learning ability to decline.

**Data Analysis**

It is no wonder that all of this conflicting research, from recent findings to studies dating at
least as far back as the 1970’s, led well-respected professor at McGill University to write the article entitled *Engouh Already!* In it he describes how the question of lateralization, a possible Critical Period, and their effects on cognition in adolescents and adults has been studied, counter-argued, and counter-counter-argued so many times that it is impossible to distinguish truth from bad research practices or arguments trying to put forth a given agenda. However, the fact that lateralization occurs intro adolescence is undeniable. The numerous studies, especially the more recent ones using fMRI, show undeniable proof that this is the case. It seems as though infants have a very slight hemispheric preference for most if not all cognitive functions, and that lateralization occurs over time. Some cognitive functions may lateralize earlier or more rapidly than others, but for the most part lateralization occurs into puberty and ends at about the age of 20 at the end of adolescence. This has many positive effects on the cognitive abilities of adolescents, and this process seems to be linked with the mind’s ability to operate at higher levels of reasoning. What this does not prove, however, is that the brain is thereby deprived of its plasticity, and therefore the ability to learn new information. Specifically in the field of second language acquisition, lateralization cannot be linked to the apparent degradation in the ability to learn the intricacies of a new language (Paradis, 2000).

One can see, then, that what seems to be such strong evidence for a Critical Period does not hold as much water when looked at more carefully and tested with empirical studies. Therefore, what will be addressed next is evidence that more clearly shows the effects of age on language acquisition and what other factors influence this downward trend in the ability to learn a language.

**Social and Educational factors leading to declined language acquisition abilities in adults**

Older learners do not usually learn a language as well as children and that age of onset of learning a language is not related to a general negative trend in language acquisition. I am not trying to say that this is not the case, but rather that maturational changes are not the main cause for this
trend and that it is not as detrimental to language acquisition as is told to us. There are many other changes that occur, both inside the body and in the environment, that a person has to navigate as he or she goes through adolescence and adulthood. Any one of these can have a large or small impact on a person’s ability to learn a new language. It is worth looking at some of the other changes to see where the difficulty may lie.

**Self-Awareness**

Learning is not fully understood by anyone, but there are some functions of our brain that have been deciphered. For example, Piaget was one of the first people to split up the biological process of adaptation into two different parts: assimilation and accommodation (Arnett, 2010). This method of acquiring new information and applying it to preexisting schemes may explain why adults have difficulty with language.

Children are new to this world, and so their mental schemes aren’t necessarily fully representative of reality. They therefore have to engage in much more accommodation than assimilation. They could be, for example, used to their own mothers and fathers as the sole sources of love and affection. In their minds, love and affection is provided by a very specific set of people, and all others are therefore to be feared. When someone else picks them up, even if he or she has good intentions, the typical response is to be afraid, and rightly so if this new person doesn’t fall into the child’s known sources of love and affection. Children eventually accommodate, however, and new people can be sources of love and affection, too.

Additionally, this often occurs in a child’s language. They may learn that the word for the animal running around the house is “dog.” In their scheme, this word may only represent that specific animal, or it may represent all four-legged creatures. Once they encounter more instances of “dog,” they will eventually accommodate this information until the correct scheme is represented in their
minds. This is all done without feeling embarrassed or shameful.

As children get older and on into adulthood, however, they tend to have to accommodate less and end up assimilating more. If an adolescent had never seen a golden retriever, he or she is still likely to attribute the label “dog” to it without thinking twice. This new type of dog is easily assimilated into the already existing scheme of “dog.”

Situations become awkward for adolescents when they have to accommodate instead of assimilate starting at around age 5 (Han and Odlin, 2006). When they hear that Chihuahuas are actually dogs, their friends incredulously ask “Didn’t you know that?” As people age, it becomes more and more difficult to admit that they have to accommodate and not assimilate as overt correction is often accompanied by a loss in prestige (Han and Odlin, 2006). Other people, too, avoid correcting older language learners because they do not wish to degrade them. A viewpoint from a culture different from one’s own becomes wrong, a new word with which they are not familiar becomes improper, and technology that they just can’t figure out becomes “new-fangled” in order to avoid correction. At best, when presented with new information, an adolescent or adult says “I knew that,” and then secretly accommodates to avoid embarrassment.

Pulvermüller and Schumann have linked this general discomfort with the language learning process that is present in learners starting at age 5 to the inability to learn a language. According to their data, if there is no dopamine input at the time of formation of a new linguistic data, then the formation does not complete (2001). Dopamine is the chemical known to cause a feeling of happiness in humans. In other words, if a learner is not happy, then he or she will not learn, regardless of effort, environment, or ability.

There are conditions, however, where people are unaware of the social norms of their society. These people tend to be great mimics and tend to have a better ability to pick up on foreign accents.
People with autism are a good example of this, and their ability to learn accents is attributed to their lack of social awareness (Wire, 2005).

**Access to Native Speakers and Context**

An important aspect of learning a language is that the language learner be exposed to native speakers. Young children, especially, need direct social interaction and are not captivated by a television or radio broadcast (Kuhl, 2010). The mother or native speaker thereby models the fundamental structures of the language, including sequences such as pausing after questions and adapting her or his own speech to the interlocutor’s stimulus (Crystal, 2005). This is one way that adults have an advantage over young children because of their ability to concentrate and glean meaning from interactions that are not social in nature.

Perhaps the most striking evidence to dispel the evidence for a critical period hypothesis is that most of the studies comparing language acquisition in children versus adults are not comparing the same thing. They are not putting children into classrooms where they must sit and memorize an entire language. Adults, too, are not tested in a stimuli-rich environment where they have nothing to worry about but understanding those around them. Asher and Garcia proposed that the physically active and playful situations in which children learn languages can account for their success (1969).

Children and especially babies have an incredible wealth of linguistic models. David Crystal puts it this way:

“One of the most obvious yet remarkable facts of life is that, from the moment a baby is born a mother holds it in front of her, and talks to it- despite the fact that she knows it does not yet have any language! Mothers seem to have an instinct to promote communication as soon as possible, using the child’s earliest biological noises as stimuli for conversation. Cries, burps, sneezes, and other vocalizations are seized upon
and interpreted.” (2005, p.80)

In one study, a mother was shown to use one hundred utterances to elicit nothing more than a burp out of her child. Just imagine what that would look like towards an adult, if we interacted with adult language learners in the same way (Crystal, 2005). One hundred utterances to elicit a reflexive or vegetative noise from an adult would perhaps look ridiculous, but would also go a long way for that learner in terms of his or her language learning. Instead, for adults, native speakers tend to simplify their language and offer less interaction in hopes of lessening the stimulus and therefore lessen the confusion for the language learner. This shows that children are fortunate to have a persistent and demanding language model whereas adults tend not to have such an opportunity.

Therefore, much of what language acquisition relies on is feedback in one way or another. Whether it is another person pointing out mistakes, a constant linguistic model, or something else, a learner has to have feedback in order for the language not to fossilize.

2) Age and Accents

Hyltenstam and Abrahamsson say that even the original CPH wasn’t trying to suggest that a person cannot acquire a language in general after a certain age (2000). In fact, Lenneberg says, “a person can learn to communicate at the age of forty. This does not trouble our basic hypothesis” (1967, 176). Many studies have found that adult learners can in fact reach native norms, although they can still be distinguished as non-natives when put under strict linguistic scrutiny. Small differences can be found and this is why the critical period hypothesis, in its original form, still holds true (Hyltenstam & Abrahamsson, 2000). In addition, more and more sources concede that it is not the entire language learning process that becomes more difficult as a person ages (Singleton, and Ryan, 2004, Scovel, 1999), and in fact adults learn some aspects of language, such as semantics and
morphology, better than children (McLaughlin, 1992; Snow & Hoefnagel-Höhle, 1978).

The one thing that becomes clear when the data is analysed is that there is one aspect that seems to be the most difficult above all others for adult language learners. Lenneberg was the first one to describe that accent, or native-like pronunciation, requires exposure to the language prior to puberty (1967), and others have described this same phenomena (Asher and Garcia, 1969; Oyama, 1976; Flege et al., 1995). It has been hypothesized that Genie, a child who was locked in a room with very little linguistic interaction, had more trouble with speech production rather than with language comprehension because the necessary neuromuscular controls were not formed during childhood. She followed the same basic pattern as a normal L1 learner would in the area of pronunciation, but was never able to reach a native-like proficiency in this regard (McLaughlin, 1984). This inability to pick up a new phonology after a certain point because of this fossilization is what causes older language learners to have accents. Therefore, what seems to be the most difficult aspect of learning a new language is its accent, which is what the remainder of this paper will address.

However, Olson and Samuels tested people at different ages in laboratory conditions, seeing what effect, if any, age had on pronunciation in a new language (1973). They found in their analysis of several other studies and their own research that junior high and college students were actually superior in their pronunciation than the elementary group. In this study, the amount of time in phonological training and the quality of the language model were controlled so each group had an equal opportunity to learn the new phonetics.

What I have noticed is that all of the results are not necessarily contradicting each other. Children generally do learn languages better than adults. The attribution for this should, however, lay outside of a purely biological explanation because there are many factors that contribute to it. The one area that age does seem to have the most effect on, and the one that prevents most researchers
from declaring some adult language learner as “native-like,” is the accent. However, when put into controlled situations, the results come back as saying that adults are in fact better than children in accent acquisition. To reconcile these two aspects, the ones that say children are better at learning accents are usually longitudinal studies under broad language instruction or no explicit language instruction (Dunkel and Pillet, 1957 for two years) and the ones stating that adults are better are generally cross-sectional specifically geared towards phonology instruction (Olson and Samuels, 1973 for three weeks). That is, in the short run, with explicit phonological instruction, adults can pick up an accent better. Without instruction and left to pick up language on their own, children will eventually surpass adults. The lesson to be learned, then, is that for adults to properly learn an accent, they need explicit instruction, or at least someone to point out their pronunciation errors. Children, on the other hand, will continue to say “pasghetti” despite instruction and benefit more from mimicry of a linguistic model. This may be how language acquisition is altered by the change in brain organization from childhood to adulthood. For adults to have hope, then, there simply needs to be an efficient and effective way at acquiring an accent. The question then becomes why phonology is difficult and not the other aspects of language when a person is beyond puberty.

Most clearly and completely explaining these phenomena are Pulvermuller and Schumann. In their paper they researched why it was that phonology is increasingly difficult to master as one ages but not other aspects of language such as semantics. Their explanation was that mylenation is the cause, not lateralization. Mylenation does not occur simultaneously in the brain. The areas of the brain responsible for phonological production are in an area of the brain known as the B-system of the perisylvian language cortex. What is important about this area of the brain is that it myelinizes during the first years of life, and would therefore explain why it is that one learns a phonology most efficiently. Semantic knowledge, on the other hand, is stored throughout the entire cortex where
myelination occurs later in life and therefore remains unfossilized beyond childhood (Pulvermuller and Schumann, 1994). In addition, this may be because with morphological and syntactical aspects of language it is easy to perceive differences between one’s own and another’s speech. This distinction is less evident when it comes to phonology (Major, 2010).

3) Pedagogical Implications

Since I have supported that acquisition of a foreign language phonology becomes more difficult after childhood, the next step is to find a way to best counteract any cerebral and social shortcomings that an older language learner might have. McLaughlin says that it is because we do not know how to teach phonology that accent acquisition is so difficult (1992).

Steps to Acquiring an Accent

The following are the steps that one needs to take in order to fully acquire a French or American English accent. Each section will have an explanation with evidence supporting its part in this paper. What a teacher must specifically know and do in regards to teaching the French and English accents will immediately follow.

Step One: Correct Environment- Counteracting the Social and Educational Factors

The draw, and problem, of an accent is that it is the pinnacle of a language learning experience. There needs to be many other supports in place in order for a learner to correctly and completely acquire an accent. To illustrate this concept, a likeness to a more familiar concept in psychology can be made. This concept is called Maslow’s hierarchy of needs, in which there are certain needs that have to be met in order for other needs to be addressed (See figure 2). Human beings seek to fulfill the lowest parts of the pyramid first before they can concern themselves with the higher echelons. This is
exactly what happens in the realm of accent acquisition, where the ultimate goal is a native-like accent, taking the place of the self-actualization segment in the hierarchy of needs.

Figure 2

The physiological needs of a person, found making up the base of Maslow's pyramid, are those that are required for survival: food, water, and shelter. As a person has the needs fulfilled, he or she can attend to the desires of the next, superior class. If, however, these needs are not met the person is not inclined to seek fulfillment of higher class needs. The food water and shelter needs are like a learner's ability. With no ability to build on, meaning the inability to interact with language in any way (most apparent is the ability to hear speech, although this is not imperative), a person has no chance of acquiring a native-like accent. Luckily, assuming that just as readers will have these basic needs fulfilled otherwise they would be out seeking food, water, or shelter, they also understand language and can interact with it because they are reading these words. Similarly, most everyone concerned with acquiring an accent has the ability to interact with language.

The next level class is safety needs. For Maslow, this meant that a person next seeks order,
stability, and security after having found food, water, and shelter. This stability and order, in the realm of accent acquisition, is represented by the opportunity to learn. A learner must be in an environment which is conducive to accent acquisition in that he or she is exposed to the language in one context or another in a persistent and frequent manner. If, however, there is little stability or security in the learning environment, there is equally little chance for a learner to acquire an accent. So this, coupled with sufficient feedback that was mentioned previously will allow the accent learner to move on to the next level.

One step higher, the need for belongingness and love seek fulfillment. This is when one feels at home somewhere, and is there consistently. In language acquisition, this is when learners have to identify with the language they are learning and develop a motivation, one that is hopefully intrinsic. If the ability and opportunity to learn are present, and the motivation is there, a learner can then proceed to the next level in the acquisition hierarchy.

The third level being fulfilled, people can focus more on the esteem needs. For Maslow, this meant gaining a reputation and prestige. For acquisition, this means getting past the learner's affective filter. An affective filter is a mental block that inhibits a learner from correctly and effectively conveying even information that is well mastered because of the emotional state, or the affect, that he or she is in. This can be likened to being on stage for some people, when they know their lines of their performance by heart, yet can't lower the emotional muzzle that prevents them from saying them correctly. This is connected to the need for dopamine that was previously mentioned. This is the last step which, if it can be overcome, leads to the final level of the acquisition pyramid.

Finally, if a person is fortunate enough to have all the esteem, belongingness and love, safety, and physiological needs met to his or her liking, some people move to the self actualization needs. This level would be more accurately described as a “calling” rather than a need, however, because not
everyone experiences this desire even when prior needs have been met. This is a level that reaches beyond the person and his or her immediate surroundings. Similarly, not everyone strives for native-like accents. This, however, is what represents the top of the pyramid and the full attainment of native-like fluency.

**Step Two: Aural Recognition- Counteracting Fossilization**

Once a learner has all prior needs met and the social environmental aspect of accent acquisition has been addressed, the first step an accent learner has to take is that of aural recognition. Since birth, or perhaps even in vitro, babies start to learn the intonation of what will be their native language, resulting in accented cries from birth according to a study carried out by Dr Kathleen Wermke of the University of Wurzburg, Germany (2009). It is an early attempt that the infant's mind is taking to make sense of the language to which it is exposed. This attests to the amazing ability of human children to adapt to their language communities.

As humans we seem to have an incredible ability to hear several different sounds, which we, depending on our native language, group into one phoneme. A phoneme is the smallest sound in a language that is used to form meaningful contrast. What this means is that there are several sounds in every language, called phones, which native speakers group together and perceive as a single function or sound. An easy example in American English is the difference between the phones in a word like "run" and "rung." Say both slowly to yourselves, paying close attention to which part of the tongue touches the roof of the mouth to produce the phoneme /n/. The "n" in "run" uses the [n] phone while it is [ŋ] in the word "rung." This is what is called a minimal pair, meaning that the two words are only differentiated by a single phone. Because we need to be able to differentiate between the two phones in order to understand the difference between "run" and "rung," our English minds can perceive the difference. Perhaps this does not seem overly important, but delve further into this
concept; take for example the phones /pʰ/ (which occurs in the word "spill") and /p/ (in the word "lips"). The two phones never occur in a minimal pair, as in our example where the letters are also inversed. What this does, in an English speaker's mind, is combines /pʰ/ and /p/ into two allophones of a single phoneme. Therefore, an untrained, monolingual English mind cannot easily pick out the variation. I use the phrasal verb "pick out" instead of "pick up on" because our minds can indeed pick up on these variations, but has learned to group them together.

While this find is awesome in its significance for language learning and accent reproduction in our youth, it has detrimental effects for those who are trying later in life to hear important phones in a foreign accent in order to reproduce them. One might ask why, and the answer goes back to the concept of allophones and phonemes and the way we perceive sounds. A monolingual francophone, for example, cannot hear the difference between when I say "fin" and "thin," because they were never exposed to [f] and [θ] as two different phonemes growing up.

The good news is, however, that we can train ourselves to hear these differences and reshape, in a way, the phonemic boundaries in our brains. Proof of this can be seen in the way our minds adjust to, for instance, a French accent. When Colin, a native French-speaker, says "It's his," what is actually said might be closer to "eats he's" because that follows the phonological rules of his native language. A native English listener who is accustomed to this accented speech, however, would never assume that Colin is a hungry cannibal with terrible grammar. Why? Our minds can adjust to make new sounds, in this case [I] and [i], as being new phones of a single phoneme. Therefore, it is no longer a matter of whether it is possible to differentiate and regroup phones and allophones into new phonemes, but rather how.

What has been addressed so far are only phones shared by the two languages, but this doesn't account for all of the phones in both languages. A notoriously difficult triage that Anglophones
learning French have to go through is the difference between the phonemes found in the words "pont," "paon," and "pain," meaning bridge, peacock, and bread, respectively. None of the vowel phones in these three words exist in English, so a learner has to first establish new phones in his or her language construct in the brain, and then be able to differentiate them as part of different phonemes. While this may seem like a daunting task, the good news is that French and English share a number of phones and phonemes. Because the learner then has separate phonemes for each language in his or her brain (Kormos, 2006).

**Step Three: Production**

Since production is related to perception, once aural recognition of each phoneme is achieved, a language learner can then move on to correct production of them (Major, 2010). Therefore this stage is mostly up to the learner to make the neurophysiological connections in order to mimic the sounds that he or she now correctly hears. Next it is shown what exactly a teacher can do in order to achieve these goals.

**What a Teacher Can Do.**

The role of the teacher in this framework is to create opportunities in which a learner can interact with others in the second language environment and therefore gain knowledge and facility within the second language environment. A social cohesion in a learning environment will foster an environment that is linguistically beneficial, while segregating lower-proficiency learners has a detrimental effect in this regard. If this is to happen, then both lower-and higher-proficiency learners will benefit (Lynch, Klee, and Tedick, 2001). This all illustrates the fact that one must have all lower needs met and then one can take on the challenge of accent acquisition.

Throughout this whole process of making sure the environment is correct, the key is to make sure to pay attention to the form. Major as well as Kennedy and Rental compared the rates
of acquisition of the grammatical and phonetic rules or a language, and concluded that systematic attention had to be given to phonology over a long period in order for it to be altered even while grammar comprehension was easily modified (2010; 1971). So, listen carefully and often. David Crystal says that we do not hear speech as a sequence of isolated sounds, but rather as a words or at most morphemes (2005). For a second language learner, correct pronunciation needs a focus on form, often referred to as FonF, in order to recognize the differences in his or her own phonemes and those of a native speaker, but in order to pick up on a phonological system (Han and Odlin, 2006). This focus on form takes the attention momentarily away from the content of the message to the code with which it is being communicated. This attention to individual phonemes in a word may be why musical ability can be a good predictor of L2 phonological ability (Slevc, L. R. and Miyake, A., 2006). For those language learners who do not automatically pick up on these differences, it helps if the minimal pairs of the L2 are repeatedly said one after the other. In this way our minds can more easily rebuild phonemic boundaries. Therefore with the correct environment and proper attention to form, one can overcome the problems of aural recognition.

It is said, then, that to be a teacher of an accent production, one only needs to know the typical downfalls that come from the interference of the L1 phonology and the resulting interlanguage forms, and the two languages’ (L1 and L2) comparative phonologies (Wolfram, 1985). In other words, it is important to be able to recognize and address the systematic phonological variations that occur from one language to another. This section will start with a look into the phonetic inventory of French and English.

Figures 3 and 4 show the vowel sounds that a native French speaker and English speaker will make, respectively. What a teacher will gain from knowing these differences is that any time there is a vowel sound in one language but there is a gap in the other, or any time that the sound exists but is
pronounced with a slightly different part of the mouth, then there will be difficulty with pronunciation. One example that can be seen is that the French vowels includes the /y/ that has been mentioned before with a closed, frontal pronunciation. In English there is nothing pronounced there, and there will therefore be some difficulty with pronunciation. Knowing where and how it is pronounced, though, will help a teacher of an accent. For example, the /i/ sound does exist in English, so a teacher might ask the student or students of the accent to make the /i/ sound (pronounced like the letter “E”) and then, keeping everything else the same, round the lips. The inverse could be done when going from French to English, such as telling a native French speaker how to pronounce the sound /I/ that we have talked about previously.

Figure 3: French Vowels

Figure 4: English Vowels make the /i/

Here are illustrations showing the consonants of the two languages, and again one can predict the problems that a learner might have going from one language to the other by the gaps in the two charts. Figure 5 shows the French consonants and figure 6 shows the English consonants.

Figure 5: French consonants
The following is an additional list of characteristics of the French and American English accents and the difficulties that one often encounters when learning either coming from the opposite language. For some of the explanations, it will become clear why knowledge of linguistics is also recommended for a teacher of an accent.

**Specifics of the French Accent for English Speakers**

**Consonants:**

-Consonants tend to be softer than in English. It is roughly the equivalent of using the non-aspirated consonants mentioned previously in English for every consonant.
Vowels:

- Every vowel is different from it’s English equivalent, sometimes strikingly so. Luckily, the sounds that are the most different are the easiest to pick up on, known as perceptual saliency, and therefore (because aural recognition comes before production) easier to reproduce (Major, 2010).

- There are no diphthongs, or glides between one vowel sound and the next. The closest that French gets to a diphthong is when there is two or more vowels next to each other is something called a semi-vowel. In the word “oui,” (yes) for example, the pronunciation is not as simple as adding the two vowel sounds “ou” and “i” together. Instead, it takes on a semi-vowel phonetically written as /wi/. With these semi-vowels, the difference in pronunciation is that the mouth aperture is closed further than it would be with a full vowel (Blumenfeld, 2002).

- Vowel sounds are often sent through the nasal passages, such as before a single “m” or “n.”

General speech:

- Each word is given its full value and pronounced with more articulation than would be in English (Herman and Herman, 1997).

- In a very general sense, French is spoken with the front of the mouth and has a very sharp articulation (Blumenfeld, 2002). The exceptions are the uvular “r” and all of the back vowels.

**Specifies of the English Accent for French Speakers**

Consonants:

- “L”s are articulated with the tongue further forward than with the French “L.”

- Final obstruent devoicing
- Interdental fricative (like the “th” sound) to stop (like /d/)

- Non-aspiration

Vowels:

- Vowel raising or vowel lowering (dealing with the position of articulation in the mouth) depending on what is normal in French

General speech:

- Diphthongs are commonly used and the two vowel sounds are not modified like a French semi-vowel would be in the same situation.

- There is no deletion of consonant sounds at the end of a word when the following word also begins with a consonant (Gonet, 2001).

Additionally, it has been shown that the use of computers and visual representations of pronunciation and articulation, whether that be with a computer program or with a phonetic alphabet, are very effective in showing an adult language learner their errors and greatly aids in their correction (Gonet, 2001). I myself was recently corrected by the phonological alphabet of the pronunciation of one of the first words I learned in French: the word “un,” meaning “one.” Therefore, seeing one’s one pronunciation visually or hearing it orally in contrast to a native pronunciation is one of the most effective ways of correcting phonological variation.

**Personal Research**

The matter of accent acquisition and more broadly language acquisition after puberty is dear to me because I started learning French at age eighteen when I spent a year in Belgium. Now twenty-
two, I have hopes of becoming native-like in every way in the French language. I have had the fortune of teaching English and French in several different places around the world, and my research in learning the French or American accent among port-pubertal subjects was done in two different areas of the world.

The first part of my research took place in France and focused more on the order of accent acquisition as outlined previously. The second part took place in the United States as I student taught and focused on the efficacy of techniques for teaching accents.

**Order of Accent Acquisition**

Last summer I was able to go to southern France and teach at a language camp for children ages 8-14. All of the campers came from France, and I was first their counselor and, for two hours every day, their English teacher. This offered an interesting testing ground because the children were surrounded by peers who spoke French and were more than willing to converse in their native tongue. This is much like the environment that most adult language learners who move to another country experience; They are surrounded by people who speak their native tongue and have few interactions, even if those interactions are in a structured learning environment, with the L2. Some general observations will illustrate how this type of environment can effect language learning, and we therefore cannot base accent acquisition generalizations on people in this type of situation. First of all, the best students got worse. I cannot offer any explanation of this phenomena, but in the four sessions lasting two weeks each, the top one or two English speakers who were in each group declined in their accent and general speaking abilities. This would be a very interesting topic to look into for further research.

A second, general observation is how much work it took to adjust even the youngest of accent learners. For example, the French government requires that the summer camps give the campers a
snack at four o’clock. Most of the time, this consisted of a piece of bread and a bar of chocolate: /ˈʃəklə/. In French, the word for chocolate has two important differences. The pronunciation, of course, is different. The vowels differ only slightly but the ch becomes more like the sh in English. The second important difference is that it is said in three syllables in French: /ʃəklə/. What I observed was that, independent of the age (8-14), students were able to pick up on the difference in the ch sound after we modeled it for them a few times. Only the best English students, independent of age, were able to pick up on the differences in the vowel sounds. However, even after explicit instruction, most students had difficulty saying the word chocolate without adding a third syllable, and almost invariably came out like “cho-co-late.”

During my stay in the south of France and as the main portion of my linguistic research, I carried out a few experiments to see where in their journey for English acquisition each set of English language learners were and what they were capable of in terms of accent acquisition. For each of the four classes that I had, I would carry out an experiment to judge the students’ familiarity with the English phonological system and then would judge their success in learning a new phoneme in English. This was an activity I did in which students were to draw an imaginary animal, and then name it with an imaginary English name. I would then take note of how they said the name and see if their spelling and pronunciation matched up and see if their spelling stayed within the allowable combinations of consonants and vowels in the English language. Then, I would see how much progress they could make in certain areas of pronunciation in the two weeks that they were with me by teaching them a pronunciation point and grading them on it on a scale from 1-10 at a later time.

During one two-week period I had the lowest language ability group in my class. They had a very difficult time with the language itself and despite everything I tried, I could not get them to understand the concept of making up a name for an imaginary animal that they make. This was
because classes were entirely in English and they were not ready to understand hypothetical situations. Therefore, I was not able to even assess their level of familiarity with the English phonetic system. Additionally, in the realm of accent acquisition I spent the whole time trying to get them to pronounce my camp name, Bear, correctly. I figured that this would be a good starting point because the usual French pronunciation of this would be something more like “beer.” These sounds are significantly different from each other, and, as discussed before, should therefore be easier to differentiate aurally and therefore easier to reproduce orally. Unfortunately, they were unable to learn how to correctly pronounce my name despite the work. This meant that they were not able to get the second step correct, perhaps because of the insufficient amount of time allotted to the task or perhaps because the environment was not correct for one reason or another. The other explanation, however, is that, even if they were able to carry out the initial part of the experiment, would have failed to produce names that coincide with the English phonetic system.

Some classes tested into a middle range with their familiarity with the English phonological system. The names with a + beside them meant that they follow the allowable combinations in the English language and their pronunciation followed the English phonological rules. The - means that the spelling resembled the French rules or their pronunciation, which would follow in parenthesis, did not follow the spelling of the word. Many names were left out because of similarity with a neighbor’s or because it was a real word.

+ loscoch + manana - toupouchou - snipe (snipey) - goney (gooney)

We can see, then, that this class was partly familiar with the English phonetic system. Similarly, after For the two week period the students were with me, we worked on the two different sounds for “th” in English such as in the words “the thin” written phonetically /ð/ and /θ/. About half of the students were able to effectively differentiate those sounds from the words sin, fin, and zin when I assessed
them on their pronunciation at the end, getting an average rating of 5/10. This rating system was based on a score of 0-2 for each word of sin, fin, zin, thin, and thin (using the /ð/ phoneme).

The highest level class had the following names for their animals:

+ mantif + rittle  + woflyer + grath + loraxart - fide (feed)

These students went through the same test and got an average rating of 7.5/10. This shows that the students that were already more familiar with the English phonetic system were better able to learn the English accent.

In addition to the first sets of learners, this holds up the order of accent acquisition that has been set forth earlier. The first students were unable to hear or produce the different phonemes, while those who were more familiar with the phonetic system were better able to hear and subsequently produce novel phonemes.

**Efficacy of Techniques**

The other opportunity I had to further my research was while I was student teaching for the last four months. During this time I looked more into the most effective ways of teaching an accent. The least effective way was simply correcting the pronunciation verbally immediately after the student mispronounced a phoneme.

After this time, I started taking class time specifically to work with the phonetic alphabet, first introducing the novel sound by showing them the phonetic symbol representing the sound and modeling the pronunciation. Then, I would show them the phonetic pronunciation of how a typical English speaker would pronounce the word. This method sped up the time it took to learn a new phoneme and gave students confidence in their own abilities. I did this will all of my classes, regardless of level, with the French /y/ sound, which is quite unlike any sound in English. After two weeks, the classes rated themselves on an average of 5.5/10 with pronunciation of the /y/ sound.
Finally the construction at my school was done, and I was able to use the language lab for my work with pronunciation. We then started working with the /ɛ/ sound, which is even more difficult because not only is it different than any sound in English, but it is also a nasal vowel with is an entirely new concept for English speakers. This time we saw the most success because we not only worked with the phonetic alphabet with the sound, but the students were able to work in the language lab where they could record their pronunciation of the sound and hear it in immediate contrast to a native speaker. After another two week period, they rated themselves at a 7/10 with the pronunciation.

Conclusion

French and English are important languages in today’s world. The President of the European Central Bank gives speeches and issues communiqués in English, even though Ireland is the only English speaking country to use the Euro (Nadeau & Barlow, 2006). Taking six different categories into account including socio-literary prestige, economic power of countries where the language is spoken, and number of major areas such as science and business where the language is used, French is second only to English in its influence according to Language Today (Weber, 1997). English and French are extremely powerful languages in our world today, and the fact that native English speakers are learning French and native French speakers are learning English after puberty is inevitable. My research has suggested that languages can in fact be learned after this Critical Period, but phonology becomes the most difficult to master as we age. Therefore, if certain steps are taken, a language learner can at least be partially successful in his or her quest for native-like proficiency in the realm of phonology. What I hope people realize from this is that languages can be learned in adulthood, and I encourage people to do so. I also hope that books stop saying second language learning after puberty is such a difficult task compared to in childhood.
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