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References:

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PHONOLOGICAL CONSIDERATIONS

The Significance of Accent

"Foreign Accent" is another important argument about age and acquisition.

We can appreciate the fact that given the existence of several hundred muscles (throat, larynx, mouth, lips, tongue, and others) that are used in the articulation of human speech, a tremendous degree of muscular control is required to achieve the fluency of a native speaker of a language.

At birth the speech muscles are developed only to the extent that the larynx can control sustained cries. These speech muscles gradually develop, and control of some complex sounds in certain languages is sometimes not achieved until after age five, although complete phonemic control is present in virtually all children before puberty.

Research on the acquisition of authentic control of the **phonology** of a foreign language supports the notion of a critical period.

Most of the evidence indicates that persons beyond the age of puberty do not acquire what has come to be called **authentic** (native-speaker) pronunciation of the second language.

Possible causes of such an age-based factor have already been discussed: neuromuscular plasticity, cerebral development, sociobiological programs, and the environment of sociocultural influences.

There have been of course exceptions. However, these exceptions appear to be:

(a) isolated instances

(b) only anecdotally supported.

There are special people who possess somewhere within their competence the ability to override neurobiological critical period effects and to achieve a virtually perfect native like pronunciation of a foreign language. But in terms of statistical probability, it is clear that the chances of any individual commencing a second language after puberty and achieving a scientifically verifiable

authentic native accent are infinitesimal.

Sample studies on adult phonological acquisition that appear to contradict Scovel's "strong" CPH:

Gerald Neufeld

Gerald Neufeld (1977, 1979, 1980) undertook a set of studies to determine to what extent adults could approximate native-speaker accents in a second language never before encountered.

- In laboratory experiment, he subjected 20 Canadian university students (ages 19-22) to an intensive training in the pronunciation of a number of Chinese sound patterns.
- After receiving 18 hours of instruction, the subjects were asked to repeat 10 short phrases in each language five times.
- Their last attempt was recorded on audiotape and the recorded phrases were subsequently played to three native speakers of each language, who were instructed to rate them for accent on a five-point scale.

Neufeld reported that:

- nine subjects were judged to be native speakers of Japanese
- and that eight subjects received native ratings in Chinese.

This led him to conclude that adults have not lost the ability to attain a native level of pronunciation in a foreign language.

Scovel & Long's Criticism

However, Scovel (1988: 154-159) and Long (1990b: 266-268) have pointed out, there are some serious methodological flaws in Neufeld's study, which undermine his conclusions.

1. The subjects whom Neufeld reported to have been judged native speakers in fact received scores either of 5 ('Unmistakably native with no sign of interference') or of 4 (Appears native with occasional English-like sounds). A re-analysis of the scores shows that only one subject got perfect scores in both languages and two more subjects in Japanese only.
2. The outcome may have been influenced by the instructions to the judges. They were not told that the speech samples to be judged were produced by English-speaking learners of Japanese or Chinese, but were made to believe that these samples were from Japanese and Chinese immigrants whose pronunciation of the mother tongue might show traces of interference from English.
3. The relevance of Neufeld's experiment is further limited by the fact that subjects were not informed about the meaning or the grammatical structure of the phrases they were taught to produce. In fact, it could be argued that Neufeld's study may have demonstrated only that some adults have not lost the ability to imitate unfamiliar sound patterns.

From this we can conclude, therefore, that Neufeld has not proved beyond doubt that adults can learn to speak a second language without a foreign accent.

Moyer & Bongaerts, Planken, and Schils:

In more recent years, Moyer (1999) and Bongaerts, Planken, and Schils (1995) have also challenged the strong version of the CPH.

In Bongaerts, Summeren, Planken and Schils (1997), the researchers set out to discover if they could identify late language learners that had acquired an authentic enough pronunciation such that native speakers would identify the learners as native speakers. In other words, they were looking for learners who could "beat the predictions of the critical period hypothesis".

Bongaerts et al conducted their study in search of an exceptional learner. They tested the pronunciation of three groups: Dutch

- Group 1 consisted of ten native speakers of British English who spoke with a neutral, nonregional accent;
- Group 2 was made up of eleven exceptional Dutch learners of English;
- and, finally, Group 3 consisted of twenty native speakers of Dutch with varying command of the English language.

* Neither the Dutch subjects in Group 2 or Group 3 had received formal instruction in English before the age of twelve, nor had they been exposed to substantial English input before that age.

Both studies taped samples of each subject and then asked the judges, all native speakers of the "control" language to rate the subject on a scale from 'clearly not native' to 'clearly native.'

Subjects were asked to read text containing phones that were determined, through contrastive analysis, to be difficult for the non-native speakers to produce in the target language.

They found that, while the scores of the highly successful learners were very high, they were not as high as those of native speakers.

Bongaerts et al, furthermore, did find five subjects that met "the criterion of nativelikeness", thereby affirming their own hypothesis.

Moyer (1999), on the other hand, states the purpose of her study as incorporating "various instructional and motivational factors along with age in order to more fully describe the interplay of individual influences on ultimate attainment in L2 phonology". Her approach to this thesis was three-fold.

- First, she hypothesized that at least some of her subjects would demonstrate native-like pronunciation despite their relatively late commencement of language learning.

- Next, she stated her belief that, as tasks became more specific in nature, native-like pronunciation would increase.
- Finally, Moyer theorized that age does not play a direct role in determining pronunciation accuracy but rather an indirect role through its relationship with other variables such as the amount of formal training, the type and amount of feedback received, the utilization of that feedback, and so on.

Like Bongaerts et al, Moyer employed a control group of native speakers and an experimental group of highly motivated foreign language learners that were exposed to the learned language at a relatively late age.

Unlike Bongaerts et al, Moyer utilized subjects that were graduate students in German at the University of Texas at Austin and were presumed to have high motivation toward mastering the language due to the nature of their program of study.

Moyer also did not include a group of test subjects with varying degrees of pronunciation ability, as did Bongaerts et al. Again, the participants were asked to produce phones that were considered difficult for native speakers of English to produce.

Moyer's results, however, are more ambiguous. Moyer's hypothesis that subjects would perform at levels comparable with native performance was not upheld.

Furthermore, the results of the study go on to dispute Moyer's theory that phonological accuracy would increase with the more specific pronunciation task. Though there appears to be a link between the two factors, it is statistically insignificant.

Moyer did find relative success in her study's results concerning her third and final hypothesis. She interpreted her results as indicating that there was less of an impact from age alone than previous studies have reported.

Both Bongaerts et al and Moyer were able to identify at least one subject that had achieved native-like pronunciation.

These studies, however, focus on pronunciation alone. They do not address other aspects of native-like acquisition of a foreign language, such as vocabulary, syntax, morphology, and other grammatical features of a language.

Scovel's Criticism

Scovel (1997: 213) noted that it was also the case that many native speakers of English in their study were judged to be nonnative!

So? What does this tell us? The earlier Neufeld experiments and these more recent studies have thus essentially left the strong CPH unchallenged.

Brown's (2000) Conclusions

His review of the research on age and accent acquisition shows that there is powerful evidence of a critical period for accent, but for accent only!

It is important to remember in all these considerations that pronunciation of a language is not by any means the sole criterion for acquisition, nor is it really the most important one.

We all know people who have less than perfect pronunciation but who also have magnificent and fluent control of a second language, control that can even exceed that of many native speakers.

The acquisition of the *communicative and functional purposes of language* is, in most circumstances, far more important than a perfect native accent.

Perhaps, in our everyday encounters with second language users, we are too quick to criticize the "failure" of adult second language learners by nitpicking at minor pronunciation points or nonintrusive grammatical errors.

Instead of being so perplexed and concerned about how bad people are at learning second languages, we should be fascinated with how much those same learners have accomplished.

Today researchers are continuing the quest for answers to child-adult differences by looking beyond simple phonological factors:

- Bongaerts et al. (1995) found results that suggested that certain learner characteristics and contexts may work together to override the disadvantages of a late start.
- Slavoff and Johnson (1995) found that younger children (ages seven to nine) did not have a particular advantage in rate of learning over older (ten-twelve-year-old) children.
- Longitudinal studies such as Ioup et al.'s (1994) study of a highly nativelike adult learner of Egyptian Arabic are useful in their focus on the factors beyond phonology that might be relevant in helping us to be more successful in teaching second languages to adults.

COGNITIVE CONSIDERATIONS

Human cognition develops rapidly throughout the first sixteen years of life and less rapidly thereafter. Some cognitive changes are critical; others are more gradual and difficult to detect.

Jean Piaget outlined the course of intellectual development in a child through various stages:

- Sensorimotor stage (birth to two)
- Preoperational stage (ages two to seven)
- Operational stage (ages seven to sixteen)
  - Concrete operational stage (ages seven to eleven)
  - Formal operational stage (ages eleven to sixteen).

* For further information, please go to:

http://en.wikipedia.org/wiki/Theory_of_cognitive_development

A critical stage for a consideration of the effects of age on second language acquisition appears to occur, in Piaget's outline, at puberty (age eleven in his model).

It is here that a person becomes capable of abstraction, of formal thinking which transcends concrete experience and direct perception.

Cognitively, then, a strong argument can be made for a critical period of language acquisition by connecting language acquisition and the concrete/formal stage transition.

Ausubel (1964) hinted at the relevance of such a connection when he noted that adults learning a second language could profit from certain grammatical explanations and deductive thinking that obviously would be pointless for a child.

Whether adults do in fact profit from such explanations depends, of course, on the suitability and efficiency of the explanation, the teacher, the context, and other pedagogical variables.

We have observed, though, that children do learn second languages well without the benefit-or hindrance-of formal operational thought.

Does this capacity of formal, abstract thought have a facilitating or inhibiting effect on language acquisition in adults?

One Explanation:
Ellen Rosansky (1975: 96) offered an explanation noting that initial language acquisition takes place when the child is highly "centered": "He is not only egocentric at this time, but when faced with a problem he can focus (and then only fleetingly) on one dimension at a time. This lack of flexibility and lack of decentration may well be a necessity for language acquisition.

Another Explanation:
The lateralization hypothesis may provide another key to cognitive differences between child and adult language acquisition.

As the child matures into adulthood, the left hemisphere (which controls the analytical and intellectual functions) becomes more dominant than the right hemisphere (which controls the emotional functions).

It is possible that the dominance of the left hemisphere contributes to a tendency to overanalyze and to be too intellectually centered on the task of second language learning.

The final consideration in the cognitive domain:
Ausubel argues that there is a distinction made between *rote* and *meaningful* learning. Ausubel noted that people of all ages have little need for rote, mechanistic learning that is not related to existing knowledge and experience.

Rather, most items are acquired by meaningful learning, by anchoring and relating new items and experiences to knowledge that exists in the cognitive framework.

It is a myth to contend that children are good rote learners, that they make good use of meaningless repetition and mimicking.

Adults have developed even greater concentration and so have greater ability for rote learning, but they usually use rote learning only for short-term memory or for somewhat artificial purposes.

By inference, we may conclude that the foreign language classroom should not become the locus of excessive rote activity: rote drills, pattern practice without context, rule recitation, and other activities that are not in the context of meaningful communication.

AFFECTIVE CONSIDERATIONS

Human beings are emotional creatures. So, it is only logical, then, to look at the affective (emotional) domain for some of the most significant answers to the problems of contrasting the differences between first and second language acquisition.

Research on the affective domain in second language acquisition has been mounting steadily for a number of decades. They want to discover if, in the affective side of human behavior, there lies an explanation to the mysteries of language acquisition.

There are many factors that can conceivably be relevant to second language learning: empathy, self-esteem, extroversion, inhibition, imitation, anxiety, attitudes, etc. however we are only going to look briefly at two selected affective factors as they relate to the age and acquisition issue.

1. <u>Egocentricity in human development:</u>

- Very young children are highly egocentric. The world revolves about them, and they see all events as focusing on themselves. Small babies at first do not even distinguish a separation between themselves and the world around them.
- As children grow older they become more aware of themselves, more self-conscious as they seek both to define and to understand their self-identity.
- In preadolescence children develop an acute consciousness of themselves as separate and identifiable entities but ones which, in their still-wavering insecurity, need protecting. They therefore develop inhibitions about this self-identity, fearing to expose too much self-doubt.
- At puberty these inhibitions are heightened in the trauma of undergoing critical physical, cognitive, and emotional changes. Adolescents must acquire a totally new physical, cognitive, and emotional identity. Their egos are affected not only in how they understand themselves but also in how they reach out beyond themselves, how they relate to others socially, and how they use the communicative process to bring on affective equilibrium.

Several decades ago, *Alexander Guiora*, a researcher in the study of personality variables in second language learning, proposed what he called the ‘language ego’ to account for the identity a person develops in reference to the language he or she speaks.

For *any monolingual person*, the language ego involves the interaction of the native language and ego development. One's self-identity is inextricably bound up with one's language, for it is in the communicative process- the process of sending out messages and having them "bounced" back-that such identities are confirmed, shaped, and reshaped.

Guiora suggested that the language ego may account for the difficulties that adults have in learning a second language. The child's ego is dynamic and growing and flexible through the age of puberty. Thus a new language at this stage does not pose a substantial "threat" or inhibition to the ego, and adaptation is made relatively easily as long as there are no undue confounding socio-cultural factors such as, for example, a damaging attitude toward a language or language group at a young age.

Then the simultaneous physical, emotional, and cognitive changes of puberty give rise to a defensive mechanism in which the language ego becomes protective and defensive. The language ego clings to the security of the native language to protect the fragile ego of the young adult.

The language ego, which has now become part and parcel of self-identity, is threatened, and thus a context develops in which you must be willing to make a fool of yourself in the trial-and-error struggle of speaking and understanding a foreign language.

Younger children are less frightened because they are less aware of language *forms,* and the possibility of making mistakes in those forms-mistakes that one really must make in an attempt to communicate spontaneously-does not concern them greatly.

SO, it is no wonder, then, that the acquisition of a new language ego is an enormous undertaking not only for young adolescents but also for an adult who has grown comfortable and secure in his or her own identity and who possesses inhibitions that serve as a wall of defensive protection around the ego. Making the leap to a new or second identity is no simple matter; it can be successful only when one musters the necessary ego strength to overcome inhibitions. It is possible that the successful adult language learner is someone who can bridge this affective gap. Some of the seeds of success might have been sown early in life.

In a bilingual setting, for example, if a child has already learned one second language in childhood, then affectively, learning a third language as an adult might represent much less of a threat. Or such seeds may be independent of a bilingual setting; they may simply have arisen out of whatever combination of nature and nurture makes for the development of a strong ego.

In looking at SLA in children, it is important to distinguish younger and older children. Preadolescent children of nine or ten, for example, are beginning to develop inhibitions, and it is conceivable that children of this age have a good deal of affective dissonance to overcome as they attempt to learn a second language. This could account for difficulties that older pre-pubescent children encounter in acquiring a second language.

Adult vs. child comparisons are of course highly relevant. We know from both observational and research evidence that mature adults manifest a number of inhibitions. These inhibitions surface in modern language classes where the learner's attempts to speak in the foreign language are often fraught with embarrassment. We have also observed the same inhibition in the "natural" setting (a nonclassroom setting, such as a learner living in a foreign culture), although in such instances there is the likelihood that the necessity to communicate overrides the inhibitions.

2. Peer Pressure:

Peer pressure is a particularly important variable in considering child-adult comparisons.

The peer pressure children encounter in language learning is quite unlike what the adult experiences.

Children usually have strong constraints upon them to conform. They are told in words, thoughts, and actions that they had better "be like the rest of the kids."

Such peer pressure extends to language.

Adults experience some peer pressure, but of a different kind. Adults tend to tolerate linguistic differences more than children, and therefore errors in speech are more easily excused. If adults can understand a second language speaker, for example, they will usually provide positive cognitive and affective feedback, a level of tolerance that might encourage some adult learners to "get by."

Children are harsher critics of one another's actions and words and may thus provide a necessary and sufficient degree of mutual pressure to learn the second language.

LINGUISTIC CONSIDERATIONS

This section will concentrate briefly at some specific issues that relate to child's acquisition of a second language.

BILINGUALISM

It is clear that children learning two languages simultaneously acquire them by the use of similar strategies.

They are, in essence, learning two first languages, and the key to success is in distinguishing separate contexts for the two languages.

People who learn a second language in such separate contexts can often be described as ***coordinate bilinguals*** (they have two meaning systems) as opposed to ***compound bilinguals*** (who have one meaning system from which both languages operate).

Children generally do not have problems with "mixing up languages," regardless of the separate-ness of contexts for use of the languages.

Moreover, "bilinguals are not two monolinguals in the same head" (Cook 1995: 58). Most bilinguals, however, engage in code-switching '(the act of inserting words, phrases, or even longer stretches of one language into the other), especially when communicating with another bilingual.

- In some cases the acquisition of both languages in bilingual children is slightly slower than the normal schedule for first language acquisition.

- However, a respectable stockpile of research shows a considerable cognitive benefit of early childhood bilingualism, supporting Lambert's (1972) contention that bilingual children are more facile at concept formation and have a greater mental flexibility.

INTERFERENCE BETWEEN 1ST & 2ND LANGUAGES

A good deal of the research on nonsimultaneous second language acquisition, in both children and adults, has focused on the interfering effects of the first and second languages.

For the most part, research confirms that the linguistic and cognitive processes of second language learning in young children are in general similar to first language processes.

Many researchers have concluded that similar strategies and linguistic features are present in both first and second language learning in children.

Examples:

Dulay and Burt (1974) found, for example, that 86% of more than 500 errors made by Spanish-speaking children learning English reflected normal developmental characteristics- that is, expected intralingual strategies, not interference errors from the first language.

Hansen-Bede (1975) examined such linguistic structures as possession, gender, word order, verb forms, questions, and negation in an English-speaking three-year-old child who learned Urdu upon moving to Pakistan. In spite of some marked linguistic contrasts between English and Urdu, the child's acquisition did not appear to show first language interference and, except for negation, showed similar strategies and rules for both the first and the second language.

INTERFERENCE IN ADULTS

Adult second language linguistic processes are more vulnerable to the effect of the first language on the second, especially the farther apart the two events are.

Whether adults learn a foreign language in a classroom or out in the "arena," they approach the second language-either focally or peripherally-systematically, and they attempt to formulate linguistic rules on the basis of whatever linguistic information is available to them: information from the native language, the second language, teachers, classmates, and peers.

The nature and sequencing of these systems has been the subject of a good deal of second language research in the last half of the twentieth century.

What has been learned above all else from this research is that the saliency of interference from the first language does not imply that interference is the most relevant or most crucial factor in adult second language acquisition.

Adults learning a second language manifest some of the same types of errors found in children learning their first language.

Adults, more cognitively secure, appear to operate from the solid foundation of the first language and thus manifest more interference.

It was pointed out earlier that adults, too, manifest errors not unlike some of the errors children make, the result of creative perception of the second language and an attempt to discover its rules apart from the rules of the first language.

The first language, however, may be more readily used to bridge gaps that the adult learner cannot fill by generalization within the second language. So, the first language can be a facilitating factor, and not just an interfering factor.

SUMMARY

- Several significant perspectives on questions about age and acquisition have been identified.
- In all this, it is important to maintain the distinction among the three types (CI-C2; C2-A2; CI-A2) of age and language comparisons mentioned at the beginning of the chapter.
- While some answers to our questions are less than conclusive, in many cases research has been historically revealing. By operating on our collective understanding of the effects of age on acquisition, one can construct one's own personal integrated understanding of that relationship, and how that relationship might hold fruitful implications for second language teaching.
- According to Thomas Scovel (1999, cited in Brown, 2000, p. 69) "The younger, the better" is a myth that has been fueled by media hype and, sometimes, "junk science."
- We are led to believe that children are better at learning foreign languages without fully considering all the evidence and without looking at all aspects of acquisition.
- On at least several planes-literacy, vocabulary, pragmatics, schematic knowledge, and even syntax- **adults** have been shown to be superior learners (Scovel,1999).
- Perpetuating a younger-the-better myth in arguments about bilingual education and other forms of early language, intervention does a disservice to our children and to our educational enterprise.
- This chapter illustrates that there certainly appear to be some potential advantages to an early age for SLA, but there is absolutely no evidence that an adult cannot overcome all of those disadvantages save one, accent, and the latter is hardly the quintessential criterion for effective interpersonal communication.