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Second Language Acquisition and Assessment

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1.0 Introduction

While acquiring a second language, the learners internalize a system of rules which may be distinct from the target language and the native language. This structured system which learners construct during the process of second language acquisition is termed “interlanguage”. The term “interlanguage” coined by Selinker (1972) refers to “the structured system which the learner constructs at any given stage in his development” (Ellis, 1986).

Since its inception, interlanguage has become an important area of investigation leading to the resurgence of interest in second language acquisition research. The assumption of the idealization that has gained currency among interlanguage researchers is that transfer from the first language determines and influences the shape and form of interlanguage. However, recent advancements in second language research has shown that adult learners acquire certain abstract and subtle properties of the target language that do not exist in their first language (Felix, 1991). This vividly indicates that there are factors other than transfer that are operational in second language acquisition. In his book, “Rediscovering Interlanguage,” Selinker (1992) addresses issues such as what factors other than transfer influence the shape and form of interlanguage.

1.1 Interlanguage Phonology

In this paper, we will examine the causes of phonological fossilization in a second language. The justification for doing so comes from the fact that while much work has been done in studying the acquisition of morphology and syntax, there is one area of second language acquisition that has been largely overlooked by researchers. Heretofore, little has been done in the field of interlanguage phonology. The reason for the dearth of studies in interlanguage phonology is the common belief that the learner’s phonological

system does not provide useful insights into the nature of the second language acquisition process.

To a large extent, this notion was based on the wrong assumption that all phonological errors were the result of direct transfer of the native language phonology to the interlanguage system in some uninteresting ways (Tarone, 1978). That is to say, the pronunciation of a second language was not significant for the field of second language research. This conviction is still prevalent among second language researchers, second language teachers, and students. However, it would be misleading to presume that second language learners only need to acquire the grammar system and vocabulary of a second language. It is equally essential that they acquire the rules of the second language phonology in order to be intelligible to native speakers of that language. Furthermore, it is reasonable to assume that “research in this area will shed much light on our understanding of the process of speech perception in general” (Tarone, 1978).

1.2 Contrastive Analysis Hypothesis

With the development of modern linguistic science, several new techniques have surfaced in the field of language teaching. many researchers have attempted to make a systematic comparison of the native language and English, analyzing the linguistic systems of these two languages, and keeping in mind that one of them is to be taught to those who have the other one as their native language (Bansal, 1978).

It is important to mention here that such comparative studies do not come under comparative linguistics. They are known as contrastive linguistics and come under applied linguistics. Perhaps the most controversial issue of the last two decades is the contrastive analysis hypothesis which states that it is possible to predict the areas of difficulty for language learners by comparing and contrasting the linguistic systems of the native language and the target language (Eckman, 1977). It should suffice to say that the main principle behind the contrastive analysis hypothesis, namely that the comparison of the native language and second languages is “crucial in predicting the areas of difficulty that a language learner will have, can be maintained as a viable principle of second language acquisition (Eckman, 1977).

Lado (1957), one of the strongest proponents of contrastive linguistics, suggests that the major objectives of contrastive analysis are:

1. Providing insights into similarities and differences between languages;
2. Explaining and predicting problems in second language learning; and
3. Developing course material for language teaching.

He further claims that “the teacher who has made a comparison of the foreign language with the native language of the students will know better what the real problems are and can provide for teaching them (Lado, 1957). It is obvious from this statement that the major concern of contrastive analysis is pedagogic.

While many papers have been written predicting performance in interlanguage pronunciation based on contrastive analysis of the phonologies of English and the native languages, very few have presented empirical evidence to prove the validity of these

predictions (Tarone, 1976). This indicates that the predictions given by contrastive should be verified by presenting systematically gathered and analyzed performance data.

The severe criticism of the contrastive analysis hypothesis stems from the fact that while researchers could often predict which features of the linguistic systems of the second language would pose problems to language learners, they could not predict the strategies language learners would employ to overcome the problems. Those who espouse the contrastive analysis hypothesis argue that a common tendency among second language learners is to resolve the problem through interference of a phonological approximate from the native language. However, transfer is not a simplistic process as once believed. It is rather one of several processes influencing the shape of the second language phonological system. These processes are interrelated and seem to interact in an interesting way.

Although it is valid to hold that certain factors other than transfer from the first language are involved in shaping the interlingual productions of language learners, contrastive analysis hypothesis's inability to predict certain errors by comparing the first and second language is by no means a sufficient ground for abandoning it altogether. Furthermore, it can be said that "our inability to predict the occurrence and nature of many errors may well stem from inadequacies in our understanding of native speakers' competence rather than from the failure of the contrastive analysis hypothesis itself...(Broselow, 1983). That is to say, what is needed is a revision of the contrastive analysis hypothesis, one that incorporates certain universal properties of second language acquisition and allows us to predict exactly what types of differences between the native and second languages will cause systematic phonological errors made by speakers of a second language.

Dealing with the problems of comparison and prediction, Selinker (1992) defends contrastive analysis and stipulates that contrastive analysis has been wrongly criticized for not being able to predict language learners' performance influenced by processes other than transfer. Supporting Broselow's claim, he argues that there are two fallacious notions regarding contrastive analysis that need to be clarified. In the first place, the proponents of the contrastive analysis hypothesis never made a sweeping claim that contrastive analysis can account for all learner errors. Secondly, he contends that the non-occurrence of errors does not necessarily invalidate the prediction - on the other hand, it rather confirms that the language learner is avoiding the use of problematic structures. Selinker argues that contrastive analysis is essential for pedagogic purposes as it is highly efficacious as a predictor of potential transfer problems and therefore continues to provide useful contributions to the language teaching task.

To pinpoint the exact source of transfer from the first language, Selinker (1992) suggests several different models of contrastive analysis to account for different linguistic systems, namely the structural model, the diaform/functional model, the pragmatic model, the semanto-grammatical model, the transformational/markedness model, the diaglossic grammar model, the eclectic generative model, the cognate syntactic model, and the intonational/functional model. Using these models, he believes, researchers would be able to determine exactly what aspects of the native language are transferred and what aspects are not.

1.3 Issues Concerning Interlanguage Phonology

The most contentious issue concerning interlanguage phonology is the effects of language transfer on the pronunciation of second language learners. It is important to mention that transfer is not a simplistic process as once believed. It is rather one of several processes influencing the shape of the second language phonological system. These processes are interrelated and appear to interact in an interesting way. It is essential that several issues are considered in order to get a deeper insight into the processes and constraints operating to shape interlanguage phonology. The relative importance of all the processes involved in shaping an interlanguage phonology must be taken into account in order to understand the variable system of interlanguage phonology. We believe that the following need to be considered:

1. Negative transfer from the native language;
2. First language acquisition processes;
3. Expanded understanding of the developmental sources of phonological problem areas;
4. Overgeneralization;
5. Phonological approximation;
6. Universal properties of second language acquisition;
7. Markedness differential hypothesis; and
8. Variation in phonological development resulting from the interaction of social and psychological factors.

There are many areas that are obscure because of a dearth of sufficient investigation. In the first place, there is a paucity of research which describes differences in perceptual and articulatory difficulties. Research results have been inconclusive and the understanding of the language learner's interlanguage is vague. It is, therefore, necessary to define interlanguage and its relationship to a language learner's native language and/or target language.

The term "interlanguage" has also been referred to as 'idiosyncratic dialects' (Corder, 1971) and 'approximative systems' (Nemser, 1971). Defining an 'approximative system' as a "deviant linguistic system actually employed by the learner attempting to utilize the target language," Nemser (1971) notes: "Our assumption is three-fold: (1) learner's speech at a given time is the patterned product of a linguistic system, L_a , distinct from learner's speech and learner's target [the source and the target language] and internally structured. (2) L_a 's at successive stages of learning form an evolving series $L_a 1.....n$, the earliest occurring when a learner first attempts to use LT, the most advanced at the closest approach to learner's target...(3) In a given contact situation, the L_a 's of learners at the same stage of proficiency roughly coincide with major variations ascribable to differences in learning experience."

Another extension of 'approximative system' has come to be popularly known as 'interlanguage hypothesis' (Selinker, 1972). This hypothesis states that, when acquiring a L2, the learners internalize a system of rules which may be distinct from both the TL and the NL. Dulay and Burt (1973) call this internalization of rules 'creative construction'. They suggest that it cannot be attributed wholly to negative transfer from

the NL to the TL. In other words, creative construction is considered to be operating totally independent of the native languages of language learners. This gives rise to an intriguing question as to how distinct and independent interlanguages are and to what extent, they are similar or different from first languages.

In his paper 'On the naturalness of interlanguage phonological rules', Eckman (1981) answers this question in an interesting way by arguing that the grammar exerting influence on a learner's utterances must be an independent system because the interlingual productions do not belong entirely to the class of NL utterances nor to the class of TL utterances. According to him, this implies that interlanguages cannot be governed by the grammar of the NL or the grammar of the TL. Eckman (1981) postulates two possible interlanguage rules:

1. Interlanguages are similar to languages which are learned as first languages.
2. Interlanguages are independent systems and are different from other language systems.

It is clear that the first rule is motivated for the grammar of native languages whereas the second rule is not motivated for either the NL or the TL. The second rule has less validity because if interlanguages are independent systems, the interlanguage phonological rules would be invariable. As a matter of fact, the variable status of phonological rules as part of an interlanguage supports the common belief that interlanguages are variable (Klein and Dittmar, 1979). This indicates that there must be some kind of interaction between interlanguages and either the NL or the TL. More importantly, underlying the interlanguage hypothesis is the assumption that interlanguages are systematic enough to enable scientific description. Klein and Dittmar (1979) argue that some interlingual productions may have a systematization which can be explained by performing a CA of the linguistic systems of the NL and TL. Also, it must be determined as to what is the relationship between a learner's interlanguage and his or her NL.

The behaviorists argue that language learners' native language do influence and determine their pronunciation of a L2. If we take this notion as a point of departure then it gives rise to the puzzling question as to what might be the role of transfer in the acquisition of a second language phonology. Johansson (1973) reports on a extensive study which analyzed the segmental interlanguage phonologies of 180 native speakers of nine different languages: American English, Czech, Danish, Finish, Greek, Hungarian, Polish, Portuguese, and Serbo-Croatian. These subjects were asked to repeat Swedish, (target language) words which they heard on tape. Johansson (1973) analyzed the data to determine the extent to which errors seemed to be caused by negative transfer and concluded that "a large number of the substitution made could have been predicted by contrastive analysis.", however, she also says that there were some general common directions for substitution followed by all language groups in terms of articulation. Furthermore, Johansson's study exposed the limitations of the power of CA to predict the shape of interlanguage phonology: "There is definite evidence for the claim that learners confronted with a new language use not only sounds which occur in L1 and L2 but also

other sounds which could not be directly predicted by contrastive analysis (Johansson, 1973).

For instance, she found that her subjects seemed to modify certain sounds away from their native languages. She also found examples of overgeneralization with learners who used “one Swedish sound for another where neither has a counterpart in the speaker’s L1.” Johansson (1973) notes that “Contrastive analysis provides for no way of determining where differences between languages will not lead to difficulty or where seemingly similar differences lead to various degrees of difficulty.”

As we will discuss later, recent research work contradicts this contention. Nevertheless, Johansson’s study is remarkable in the sense that it provides a significant contribution to our understanding of second language learner phonology in general and the relative effect of transfer on segmental interlanguage phonologies in particular. Her data seem to indicate that transfer does play a crucial role in shaping certain aspects of interlanguage phonology, but that other processes, such as overgeneralization and approximation, also operate.

Her study supports Briere’s finding that CA, which was commonly being used to predict pronunciation problems for language learners, was not totally successful in its prediction of learner performance in a L2. Briere (1966) studied 20 American students who were asked to pronounce words containing fourteen non-English sounds from Arabic, French, and Vietnamese languages. He found that NL and TL sounds which seemed to be more or less similar were very difficult to pronounce. On the other hand, NL and TL sounds which seemed to be very different caused no learning problems.

Based upon the result, he concludes that differences between two phonological systems may not cause learning problems in exact proportion to the degree of differences between them. He further notes that interlanguage operate independently of the process of negative transfer, but interact with it. According to him, the theory of interlanguage phonology should, therefore, take into account the interaction effects of several processes which seemed to be operating to shape interlanguage phonology.

A similar position has been taken by Wode (1976) who puts forth his argument by stipulating that some phonological elements are influenced by negative transfer from the NL whereas some are apparently not affected by the NL. These phonological elements are acquired in the same way that a child would acquire them in a first language phonology. According to Wode (1979), interference appears to be more likely when there is a ‘crucial similarity measure’ between the first and second languages. He also criticizes the limitations of the predictive power of CA.

Lonna Dickerson (1974) sheds considerable light on some of the reasons why CA may be limited in predicting the shape of segmental interlanguage phonology. Dickerson (1974) studied the interlanguage phonologies of Japanese university students learning English as a L2. In this study, she does not make any claim as to the directionality of the variable interlanguage phonological system, the rate of its change, or the community influence of language learners on its development. Her aim is to focus on the mechanism of second language acquisition. She notes: “Interlanguage performance is essentially the output of a variable system. As such, predictions about this output which deny its source,

as the CA (contrastive analysis) hypothesis does, will always be rejected...One reason that the CA hypothesis will always be rejected is that positive and negative transfer do not work invariably but variably.” (Dickerson, 1974)

It would be wrong to presume, however, that Dickerson absolutely rejects the notion of positive and negative transfer in shaping an interlanguage phonology. As a matter of fact, she finds clear evidence for the existence of transfer in her data: “In many cases the learner’s output does contain phones which are those used in the NL. Furthermore, they appear in environments which are often similar to NL environments. There is every reason to believe that these variants originate in the NL...(Dickerson, 1974).

Dickerson is simply stating that positive and negative transfer are processes which operate variably “as they interact with other processes and constraints” (Dickerson, 1974).

In another study, Wayne Dickerson (1977) observed that his subject improved by the increasing approximation of the TL variants in each relevant linguistic environment. It is important to understand here that the use of phonological variants is correlated with linguistic environment. As Dickerson (1977) notes, non-linguistic constraints such as the nature of the task (elicited or natural speech situation) also produce variation in interlanguage phonology. It is, therefore, essential to take into account the relative importance of all the processes involved in shaping an interlanguage phonology in order to understand its variable system. Following are the processes and constraints, as described in Tarone (1976), operating to shape the interlanguage phonologies of second language learners:

Processes

1. Negative transfer from NL (all studies).
2. L1 acquisition processes (Wode 1976, Tarone 1976).
3. Overgeneralization (Johansson 1973).
4. Approximation (Johansson 1973, Nemser 1973).
5. Avoidance (Celce-Murcia 1978).

Constraints

1. The inherent difficulty of certain TL sounds and phonological contexts (Johansson, 1973).
2. The preference of the articulators to return to rest position (Johansson 1973).
3. The preference of the articulators for a CV pattern (Tarone, 1976).
4. The tendency to avoid extremes of pitch variation (Backman, 1977).
5. Emotional and social constraints (Dickerson 1977, Schmidt 1977).

Tarone stipulates that the influence of these processes and constraints on interlanguage phonology must be determined empirically and incorporated into a variable rule system describing interlanguage phonology.

It is obvious that CA cannot take into account all of the above mentioned processes and constraints. Richards (1971), a strong proponent of EA, clearly minimizes the role of CA and suggests that it is necessary for pedagogical purposes to take account of the nature of errors - interlingual, intralingual, and developmental. He contends: "Interference from the mother tongue is clearly a major source of difficulty in second language learning, and contrastive analysis has proved valuable in locating areas of interlanguage interference. Many errors, however, derive from the strategies employed by the learner in language acquisition, and the mutual interference of items within the target language. These cannot be accounted for by contrastive analysis. Teaching techniques and procedures should take account of the structural and developmental conflicts that can come about in language learning (Richards, 1971).

At this point, it is important to mention that CA has been wrongly criticized for not being able to predict language learner's performance influenced by processes other than transfer. There are two fallacious notions regarding CA that need to be clarified. In the first place, the proponents of the strong version of the CAH never made a sweeping claim that CA can account for all learner errors. Secondly, the non-occurrence of errors does not necessarily invalidate the prediction - on the other hand, it rather confirms that the language learner is avoiding the use of problematic structures (Corder 1973, Schachter 1964, Celce-Murcia 1978).

1.4 The Revision of Contrastive Analysis

In his paper 'Contrastive analysis, error analysis, and interlanguage' Sridhar (1980) defends the strong version of CA by arguing..."predictive contrastive analysis brings to light areas of difficulty not even noticed by error analysis. Moreover, the failure of the predictions of contrastive analysis in particular instances does not necessarily invalidate the theory itself - a distinction often lost sight of by the extremist critics of contrastive analysis. All that it shows is that we need a more precise characterization of what type of, and under what conditions, prior linguistic knowledge is made use of."

Implicit in this statement is the indication that PCA needs to concentrate on exactly what type of NL -TL differences will be problematic to language learners and that a revision of the strong form of the CAH is in asking. It vividly suggests that a more sophisticated version of the CAH incorporating certain linguistic universal is needed. For example, the incorporation of 'relative markedness' is suggested by Tarone (1976) and Eckman (1977).

1.5 Markedness Differential Hypothesis

According to Eckman, what must be incorporated into the CAH, in order to account for universal properties of second language acquisition, is the notion of 'relative degree of difficulty'. This notion of 'relative degree of difficulty' corresponds to the notion of 'typological markedness', where markedness is defined as below:

MARKEDNESS: A phenomenon A in some language is more marked than B if the presence of A in a language implies the presence of B; but the presence of B does not imply the presence of A (Eckman, 1977).

Eckman cites examples from different languages to buttress his argument. For instance, he says, there are languages with only voiceless obstruent phonemes (Korean), and there are languages with both voiced and voiceless obstruent phonemes (English). According to the definition of markedness, voiced obstruent phonemes are more marked than voiceless obstruent phonemes. Incorporating this notion of markedness, a CA would then rightly predict that voiced obstruent phonemes in English would be problematic to Korean speakers of English. Eckman proposes the following hypothesis:

Markedness Differential Hypothesis: The areas of difficulty that a language learner will have can be predicted on the basis of a systematic comparison of the grammars of the native language, the target language and the markedness relations stated in universal grammar, such that:

- A. Those areas of the target language which differ from the native language and are more marked than the native language will be difficult.
- B. The relative degree of difficulty of the areas of the target language which are more marked than the native language will correspond to the relative degree of markedness.
- C. Those areas of the target language which are different from the native language, but are not more marked than the native language will not be difficult.

Markedness Differential Hypothesis has received mixed response from both the proponents and the critics of the strong version of the CAH. Broselow (1988), for example, points out that while Eckman offers interesting syntactic evidence in support of the notion of relative markedness, he fails to provide convincing arguments from phonology. On the other hand, Anderson (1983) argues that MDH is more tenable than CAH because it takes into account both determinants - native language transfer and markedness. This leads us to the discussion of an important issue concerning interlanguage phonology, i.e., phonological fossilization. It is important to consider this issue since it may be worth examining what are the causes for the fossilization of language learners' pronunciation of their second languages.

1.6 The Fossilization of Interlanguage Phonology

As Selinker (1972) points out, the most important fact concerning the description of interlanguage is the phenomenon of fossilization: "Fossilizable linguistic phenomena are linguistic items, rules, and subsystems which speaker of a particular native language will tend to keep in their interlanguage relative to a particular target language, no matter what the age of the learner or amount of explanation or instruction he receives in the target language."

Similar views are put forth by Tarone (1976), Nemser (1971), and Sridhar (1980), who have tried to explore the causes of fossilization in language learners' interlanguage phonologies. There are two related questions here which have puzzled scholars:

1. Is phonological fossilization inevitable for second language learners?
2. What are the causes of such fossilization?

According to Scovel (1969), the answer to the first question is a resounding yes. He maintains that no adult ever achieves native-like pronunciation in a L2. Scovel has named this the 'Joseph Conrad phenomenon' after the prominent British author who achieved native like fluency in English syntax (his L2), but retained a Polish accent. Scovel is so confident of his theory that he promises to offer a free dinner to anyone who can show him someone who learned a L2 after puberty and who speaks that L2 with perfect native like pronunciation. No one has, hitherto, been able to produce such an individual.

Scovel's theory of the 'Joseph Conrad phenomenon' finds good support in Bansal's (1976) study of Hindi speakers of English. Bansal examined the speech of Hindi speakers speaking English to order to know how intelligible they were to native speakers of English. He notes: "The learning of a foreign language also involves imitation of the models that are available, but the learner's fixed speech habits acquired in connection with his first language stand in his way. It is possible to acquire a good pronunciation in a foreign language by living in intimate contact with the native speakers of that language, provided the learner is young enough, imitation alone is not effective at a stage of life later than adolescence, but it is possible to acquire a good pronunciation quickly through effective phonetic training. Very few, however, can speak a foreign language exactly like the native."

Some researchers do not go along with this idea. Hill (1970) maintains that phonological fossilization is by no means inevitable. Neufeld (1977) argues that there are methods that can enhance the teaching of pronunciation of a L2 and that can help students acquire native or near native proficiency in pronunciation. It is, however, important to mention that the subjects of Hill and Neufeld have not been examined by second language acquisition researchers to determine whether they really achieved native-like pronunciation in their respective second languages. It seems that the question of inevitability of phonological fossilization in adults remains undecided.

The second question is complicated and requires serious attention. One possible explanation for the cause of phonological fossilization is the atrophy of the nerves and muscles necessary for articulation. This theory maintains that the nerves and muscles instrumental in pronouncing second language pronunciation patterns have atrophied so that native-like pronunciation is almost impossible. This notion, however, has not been proved empirically.

Another physiological explanation comes from Lenneberg (1967) who suggests that after puberty, it is difficult to master the pronunciation of a L2 because a critical period in

brain maturation has been passed, and "...language development tends to freeze." He calls this phenomenon "lateralization" - the completion of cerebral dominance. According to him, lateralization impedes the learning of the phonology of a L2 more than the learning of the syntax or vocabulary of a L2.

A somewhat different position has been taken by Krashen (1977) who opposes Lenneberg. He maintains that adolescents constantly construct abstract theories about the world during the course of their cognitive development. They tend to learn the L2 by abstracting grammar and pronunciation rules and applying them. It is obvious that this theory considers second language acquisition the same as learning a L1. Krashen calls this 'creative construction' and argues that the close of the critical period is related to Piaget's stage of formal operations. In another study, Krashen and Harshman (1972) reanalyzed Lenneberg's data and came to a conclusion contradicting his finding. They argue that lateralization takes place long before the end of the 'critical period' for language learning. However, Tarone (1978) does not agree with Krashen and Harshman and puts forth her argument - "Why should formal operations affect only the pronunciation and not the syntax or morphology?" This indeed puts a question mark on the formal operation type of psychological explanation for phonological fossilization.

Another psychological explanation is related to the issue of language transfer. Theoreticians claim that transfer has its strongest effect on the pronunciation of a L2 (Broselow, 1988). According to the 'psychological habit formation hypothesis', language transfer operates to shape interlanguage phonology (Tarone, 1978). In the light of what we have discussed so far, it can be said that this claim has been weakened by recent research results.

Neufeld (1977) reports on a study in which he used a new techniques to enhance teaching second language pronunciation to adults. He says that adult learners tend to form inaccurate acoustic images of the target language sound patterns, thus attributing this to inappropriate learning situations. These acoustic images get set once they are formed. This leads to the fixation of the learner's pronunciation patterns. He maintains that the learner's inability to perceive and articulate a new sound could result from his or her psychological inability to alter the criteria used to categorize speech sounds. It is, however, not clear from his discussion why adults are affected by acoustic images and children are not. Though his subjects' pronunciation improved remarkably, there is no guarantee that these subjects would maintain the same native-like pronunciation in real communication.

A third type of explanation is very different from psychological habit formation and uses affective arguments to prove that interlanguage pronunciation is a sensitive indicator of adult learners' lack of empathy with native speakers and culture of the second language. Unlike children, who are more compatible to second language culture, adults have more rigid language ego boundaries. They may be inclined to establishing their cultural and ethnic identity and this they do by maintaining their stereotypical accent (Guiora et al. 1972).

According to Guiora et al, adults do not have the motivation to change their accent and to acquire native-like pronunciation. Guiora et al. attempted to mitigate the empathy level of their subjects by administering increasing amount of alcohol. They found that the learner's pronunciation of the target language sounds improved to a certain point and then decreased as they drank greater amount of alcohol. However, a different explanation could be that subjects were under the influence of alcohol and had less difficulty in articulating the target language sounds because of muscle-relaxation.

That socio-emotional factors are powerful in determining degree of proficiency in pronunciation cannot be denied. It should be noted that these factors are hard to determine in an experimental setting. Nevertheless the findings of Guiora et al. may have some feasible implications for the use of socio-emotional factors in enhancing the learning process.

Our understanding of what causes phonological fossilization is still inconspicuous. It is obvious that none of the above discussed explanations provide deep insights into this debatable phenomenon. There is persuasive evidence that supports the existence of different processes and constraints that operate to shape interlanguage phonology.

1.7 Syllable Structure Modification Strategies

In this section we discuss the strategies second language learners favor in acquiring the phonology of a L2. According to Oller (1974), epenthesis (vowel insertion) is a characteristic strategy of second language learners. He makes a distinction between the acquisition of first language phonology and the acquisition of second language phonology. According to him, L1 learners under three years of age simplify difficult sounds in the following ways:

Cluster reduction: blue - buē

Final consonant deletion: big - bi (This is also common among Spanish speakers of English who devoice English final voiced consonant by using deletion strategy, e.g., glad - gla)

Weak syllable deletion: banana - nana

Oller argues that second language learners operate quite differently from first language acquirers:

A. Epenthesis is used rather than cluster reduction: tree - t ree.

B. Epenthesis is used rather than final consonant deletion: big - bigu.

C. Weak syllable deletion was reportedly uncommon.

Thus epenthesis seems to have been a characteristic strategy of second language learners. Broselow (1988) reports in her study of the pronunciation of English speakers of Arabic and concludes that a common way of handling the problem of the native language - target language syllable structure difference is the insertion of a vowel to modify target language syllables in order to make it acceptable to native language restriction. In other

words, the use of epenthesis rule is seen as a universal tendency to break or modify difficult target language sounds into simple patterns. This happens when the target language syllable structure does not occur in the NL of second language learners.

Tarone's (1976) research shows that language learners tend to operate with the basic CV program in all languages. She argues that the simple open CV syllable may be a universal articulatory and perceptual unit to the speakers of L2. Tarone (1976) suggests that interlanguage speakers tend to simplify target language syllable structures by reducing them to simpler CV patterns. She concludes that second language learners used both epenthesis and consonant deletion to accomplish this CV patterning.

Celce-Murcia (1977) analyzed the English speech of her daughter and found that she consistently attempted to avoid physiologically difficult forms. For example, she consistently used the lexical item "couteau" for "knife" and said "piedball" instead of "football". This indicates that there are some physiological constraints that activate the process of avoidance to shape learners' interlanguage phonology.

One question that emerges from the preceding discussion is why syllabification rules are specifically susceptible to transfer. This also leads to the question of what phenomena participate in transfer. In the light of our discussions, it is reasonable to assume that target language syllable structures seem to exert some influence on both the perception and production of second language strings. The postulation of such phonological rules, according to Broselow (1988) will make possible an explanation of actually occurring errors. Also, many language learning errors, especially those relating to target language syllable structures can be shown resulting from transfer.

1.8 Conclusion

We have tried to investigate the role of transfer in the acquisition of second language phonology. We have also attempted to evaluate the validity of the predictions made by CAH. Based on our study, it appears that there seems to be no definite relationship between the language learners' linguistic variables and their interlanguage phonologies, implying that the influence of these variables on the shape of interlanguage systems is subject to idiosyncratic variation. We find some evidence in support of the following hypothesis:

1. Transfer does play a role in the acquisition of second language phonology, but there are other processes and constraints that interact with it in determining the form of the interlanguage systems.
2. Syllable structures which are allowed in both the target language and native language are particularly susceptible to transfer.
3. Language learners show a preference for less marked syllable structures.

As Eckman argues that the notion of 'relative markedness' should be incorporated into the CAH to account for universal properties of second language acquisition. The central claim of MDH, according to him, is that given a number of differences between languages, only some of the differences will be potential areas of difficulty for language learners. Based on this theory of markedness, it is reasonable to assume that humans learn to do things which are less complex before they learn to do things which are more complex.

It is important to mention that many questions still need to be answered more fully in order to understand the complicated interlanguage systems. They are as follows:

1. Why are syllabification rules so susceptible to transfer?
2. What sorts of phenomena tend to participate in transfer?
3. What is the relative influence of processes such as transfer, overgeneralization, avoidance, and first language acquisition on the shape of interlanguage phonology?
4. What are the causes of the fossilization of interlanguage phonology?

Further attempts should continue in order to get a better understanding of the interrelationships of language, mind, body, and society in the process of second language acquisition. In our attempts to answer these polemic questions, we will learn much about linguistic universals. At this point, it is reasonable to assume that the reason why certain first-language structures are transferred and others are not may relate to the degree of markedness of the structures in the various languages. Implicit in this statement is the assumption that universal constraints interact with the L1 and that interlanguage forms result from this multiple causation.