

A Review of the Contrastive Analysis Hypothesis

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1. Introduction

Two of the general hypotheses concerning second language acquisition are identity hypothesis and contrastive hypothesis (Klein, 1986:23). The identity hypothesis asserts that the acquisition of one language has little or no influence on the acquisition of another language. Many scholars accept an 'essential identity' of first and second language acquisition (e.g., Jakobovits, 1969; Ervin-Tripp, 1974; Burt and Dulay, 1975). On the other hand, the contrastive hypothesis states that the structure of the first language affects the acquisition of the second language (Lado, 1957; Fries 1945). The term "contrastive hypothesis" refers to the theory itself while "contrastive analysis" focuses on the method of implementation of the hypothesis. On the other hand, "contrastive analysis hypothesis" emphasizes both the theory and method simultaneously. This paper will review the historical, linguistic, and psychological backgrounds of the contrastive analysis hypothesis (hereafter simply CAH) including its procedures. Then, it will examine arguments for and against. Lastly, the study will review some suggestions on the modification or improvement of CAH.

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2. The Literature Review

2.1. Backgrounds of Contrastive Analysis Hypothesis

CAH was made when the structural linguistics and behavioral psychology were dominant in the sixties. It originated from Lado's *Linguistics across Cultures* (1957). He made one of the strongest claims of CAH in the preface: "The plan of the book rests on the assumption that we can predict and describe the patterns that will cause difficulty in learning, and those that will not cause difficulty, by comparing systematically the language and the culture to be learned with the native language and culture of the student." (1957 : vii) Then, in the first chapter of the book, Lado (1957 : 1-2) continues :

In the comparison between native and foreign language lies the key to ease or difficulty in foreign language learning... Those elements that are similar to [the learner's] native language will be simple for him, and those elements that are different will be difficult.

James (1985 : 4) refers to Weinreich (1953) and Haugen (1956) on the linguistic integration of immigrants to the USA which "indubitably gave Lado his impetus." However, James argues that the two types of study show a substantial difference : "CA (Contrastive Analysis) is concerned with the way in which NL (Native Language) affects FL (Foreign Language) learning in the individual, whereas Weinreich's and Haugen's work studied the long-term effects, spanning a generation, of language contact. CA is concerned with 'parole,' their work with 'langue' ; CA with 'interference,' they with 'integration.'"

The linguistic model of CAH is structuralism which was expounded by Bloomfield (1933), elaborated by Fries (1945) and Lado (1957). Structuralism assumes that there is a finite structure of a given language that can be documented and compared with another language. Esser (1980 : 181) suggests that contrastive analysis belongs to applied linguistics in that the analysis may yield practical instructional materials.

Behavioral psychology associated with Skinner was the basis of CAH. Any kind of learning is viewed as habit formation. At the cross road, one associates the red stop sign with the need to slow and stop the car. Learning takes place by reinforcement. These are concerned with Skinner's Stimulus-Response Theory. Associationism and S-R theory are the two psychological bases of CAH (James, 1985). CAH is also

founded on the assumption that L2 (the second language) learners will tend to transfer the formal features of their L1 (the first language) to their L2 utterances. As Lado (1957 : 2) claims, “individuals tend to transfer the forms and meanings and the distribution of forms and meanings of their native language and culture to the foreign language and culture.” This notion of “transfer” means “carrying over the habits of his mother-tongue into the second language” (Corder, 1971 : 158). Ellis (1965) also suggests that the psychological foundation of CAH is transfer theory, substituting the first language for the prior learning and the second language for the subsequent learning.

2.2. Procedures of CAH

Whitman (1970 : 191) breaks the contrastive analysis down to a set of component procedures. The four steps are (1) taking the two languages, L1 and L2, and writing formal descriptions of them (or choosing descriptions of them), (2) picking forms from the descriptions for contrast, (3) making a contrast of the forms chosen, and (4) making a prediction of difficulty through the contrast. Here, the term “form” refers to any linguistic unit of any size. To describe the prediction stage, Stockwell et al. (1965) propose a “hierarchy of difficulty” based on the notions of transfer (positive, negative, and zero) and of optional and obligatory choices of certain phonemes in the two languages in contrast. When the structures of the given two languages are similar, positive transfer will occur while with those that are different, a negative transfer will take place. Where there is no relation between those structures of the two languages, zero transfer will occur. When an English speaker selects a word among phonemes /p/ or /b/, an optional choice occurs. On the other hand, when he has /p/ at the beginning of a word, he should choose the aspirated allophone [p^h] in that environment, which is called an obligatory choice. Stockwell et al. used the following criteria to establish the “preferred pedagogical sequence” : (1) Hierarchy of difficulty (2) Functional load (3) potential mishearing (4) pattern congruity. Hammerly (1982 : 26) described as “adequate” the *a priori* hierarchy of difficulty by Bowen et al. in representing initial difficulty with a second language sound system. He proposed his own hierarchy that represents the hierarchy of difficulty in terms of the persistence of pronunciation errors after considerable instruction. His hierarchy is classified into forty-five items by mean error.

2.3. Three Different Versions of CAH

In view of predictability, CAH is classified into strong, moderate, and weak versions. Wardhaugh (1970) classified the strong version of CAH as that version that claims the ability to predict difficulty through contrastive analysis. The assumption is that the two languages can be compared *a priori*. The strong version claims the following: (1) The main obstacle to second language learning is from the interference of the learner's native language system. (2) The greater the difference between native language and target language, the greater the difficulty will be. (3) A systematic and scientific analysis of the two language systems can help predict the difficulties. (4) The result of contrastive analysis can be used as a reliable source in the preparation of teaching materials, the planning of course and the improvement of classroom techniques.

Wardhaugh(1970: 126) notes that contrastive analysis has intuitive appeal and that teachers and linguists have successfully used "the best linguistic knowledge available ... in order to account for observed difficulties in second language learning." He called such observational use of contrastive analysis the weak version of CAH. Here, the emphasis shifts from the predictive power of the relative difficulty to the explanatory power of observable errors. This version has been developed into Error Analysis(EA). CAH is a theory or hypothesis while the EA is an assessment tool. 'Error' can be systematic and consistent while 'mistake' is a momentary slip of tongue. Brown(1987) also suggests that the weak version focuses not on the *a priori* prediction of linguistic difficulties, but on the *a posteriori* explanation of sources of errors in language learning.

Oller and Ziahosseiny(1970) proposed a moderate version of CAH based on their study of spelling errors on the dictation section of the UCLA placement test in English as a second language. They found that the strong version was too strong while the weak version was too weak. Here they focused on the nature of human learning and proposed the moderate version which is summarized as: "The categorization of abstract and concrete patterns according to their perceived similarities and differences is the basis for learning; therefore, wherever patterns are minimally distinct in form or meaning in one or more systems, confusion may result" (186). In the same way, Brown(1987: 162) explains the "technical" idea applying it to human learning: "interference can actually be greater when items to be learned are more

similar to existing items than when items are entirely new and unrelated to existing items.”

From the strong version to the moderate version, the popularity of contrastive hypothesis has been reduced drastically by criticism and new evidence against CAH. However, some scholars continue to make an effort to consider and assess the merits and demerits of CAH. The following section will deal with the arguments for and against CAH.

3. Arguments Concerning CAH

3. 1. Pros

Many supporting data for CAH were published during the late sixties. The mainstream of data focused on pronunciation and phonological interference. Brown (1987 : 154) suggests that CAH may appeal intuitively because “we commonly observe in second language learners a plethora of errors attributable to the negative transfer of the native language to the target language. It is quite common, for example, to detect certain foreign accents and to be able to infer, from the speech of the learner alone, where the learner comes from.” Klein(1986 : 26) states that “the existence of various forms of transfer is too obvious to be ignored.” Rivers and Temperley(1978 : 152) assume that CAH is still good in understanding students’ problems :

In spite of criticisms of an unwarranted dependence on contrastive analysis, however, teachers continue to find its insights useful in understanding their students’ problems, and in helping their students to understand what is to be learned.

Therefore, students can better realize which of their native-language speech habits can be transferred to the new language through an awareness of the differences between the two languages :

It seems desirable, then, that teachers be familiar with the significant differences between the English sound system and that of the language or languages their students habitually use if they are to help them acquire a pronunciation acceptable and comprehensible to a native speaker of English(152).

Lehn and Slager(1959) compared the segmental phonemes in Egyptian Arabic and American English and found that some sources of difficulty for Arabic speakers learning English would be English /b/-/v/ contrast as seen in *habit* — *have it*. English /ʒ/ do not occur in Arabic. Arabic speakers substitute /s/ and /z/. Also,

Arabic has no sequences of more than two consonants, Arabic speakers have obvious difficulty with four consonants in close transition in which they supply intrusive vowels. They conclude as follows :

The speaker of Arabic has difficulties with the segmental phonemes of English because of (1) differences in the number of contrasts (2) differences in the permissible sequences, and (3) differences in the phonetic expression of "similar" contrasts. . . . These differences are a major (although not the only) source of difficulty for the speaker of Arabic learning English (38-39).

Broselow(1984) did some research on the transfer phenomenon between English and Arabic. She found that syllabication played an important role in speech processing. She presented evidence for the transferring aspects :

Thus, phonetic rules, particularly rules involving syllable structure, appear to play a role in both the production and the perception of second language strings. The recognition of the role of these rules in second language acquisition makes possible an account of many learner errors as a result of transfer (266).

Erdmann(1973 : 229) supports CAH through phonological interference that can be often found in the speech of an English speaker of German. For example, the German grapheme *w* represents the phoneme /v/. However, in English it refers to the phoneme /w/. Therefore, English speakers often make a wrong pronunciation of *Volkswagen*. Erdmann adds the problem of prosodic interference that is a conspicuous feature of German students learning English. Weinreich (1953) reports that most French speakers substitute [s] and [z] for English [θ] and [ð], respectively whereas Russian speakers substitute [t] and [d]. Ritchie(1978) assumes that a major goal of phonological instruction is the learner's acquisition of the ability to categorize segments. He suggests that the linguistic cognitions of learners of English as an L2 can be altered by assigning the task of learning to read aloud systematic phonemic or more abstract representations of English utterances.

Although CAH has undergone a "period of quiescence" (Wardhaugh, 1970), the hypothesis can best give a fundamental clue to understand and find a way to correct the following adult speaker's pronunciation errors.

The adult speaker of one language cannot easily pronounce language sounds of another even though he has no speech impediment, and what is even more startling, he cannot easily hear language sounds other than those of his native language even though he suffers no hearing defect(Lado, 1957 : 11).

Also, Wardhaugh (1970 : 12) suggests that “many experienced teachers still cannot reject CAH” :

Their experience tells them that a Frenchman is likely to pronounce English *think* as *sink* and a Russian likely to pronounce it as *tink*, that a Spaniard will almost certainly fail to differentiate English *bit* from *beat*, and that an Englishman learning French will tend to pronounce the French word *plume* as *pleem* or *ploom*.

3. 2. Cons

In the early seventies, the transformational paradigm superseded the structural paradigm. A problem with CAH based on structuralism arose immediately. The transformational linguists assumed that structures of languages are infinite. Therefore, the assumption that languages can be compared lost ground because it is not possible to categorize infinite structures. Also, cognitive principles prevailed over the behavioral psychology, which led to the direct criticism of CAH.

Hughes (1980) attributes the reasons for CAH's loss of popularity to its lack of success in predicting difficulties. He criticizes the fact that CAH cannot predict errors that the learner would have avoided had he followed the pattern of the L1. He refers to three main elements of the learning environment : the learner, what has to be learned, and the way in which what has to be learned is presented to the learner. He argues that CAH has undervalued the contribution of the learner, has failed to recognize fully the nature of what has to be learned (the L2) ; and has not taken into account the way the L2 is presented to the learner. Hughes concludes that CAH is “necessarily piecemeal and intuitive without any explicit and mechanical procedure.” The four main reasons he gives for this are: (1) We do not have the descriptions of the languages that we need. (2) If we had the right descriptions, it would not still be obvious as to what we should compare them with what. (3) A further problem for CAH is the lack of any satisfactory objective measure of similarity or difference. (4) If we did have a satisfactory measure of difference, it is unclear how we would predict degrees of difficulty with any accuracy. This paper will review current criticisms against CAH according to the order of the above summary.

Wardhaugh (1970 : 125) believes that the strong version of CAH was quite unrealistic and impracticable because “at the very least, this version demands of linguists that they have available a set of linguistic universals formulated within a comprehensive linguistic theory which deals adequately with syntax, semantics, and

phonology.” He also poses the problem of a proper procedure: “Does the linguist have available to him an overall contrastive system within which he can relate the two languages in terms of mergers, splits, zeroes, over-differentiations, under-differentiations, reinterpretations, and so on…?” (126)

Lance (1969) reports that one-third to two-thirds of his adult foreign students' English errors were not traceable to their first language.

Whitman and Jackson (1972) tested 2500 Japanese learners of English to assess predicted levels of difficulty on grammar, which correlated negatively with actual levels of difficulty as measured by performance on a language test. What was predicted to be easier was harder, and vice versa. They conclude that “contrastive analysis, as represented by the four analyses tested in this project, is inadequate, theoretically and practically, to predict the interference problems of a language learner” (40).

Taylor's (1975) study indicates that the elementary students' reliance on the transfer strategy was significantly higher than that of the intermediate subjects. On the other hand, the intermediate subjects' reliance on over-generalization, was significantly higher than the elementary students. The result confirmed the weakness of an inter-lingual transfer-based theory of errors.

Briere et al. (1968) posit that “using the word as the only prime (above the phoneme) in a CA of competing phonological systems is inadequate and that information derived from the syllable as an additional prime would be necessary for accurate prediction of proactive interference” (385). They investigate the manner in which American English speakers assign intervocalic consonants to syllable-initial or syllable-final positions. Briere et al. claim that “any sound which occurred in syllable-initial position in English would be easily learned by American-English speakers in word-initial position in the T (target language)… however, the absence of a given sound from the syllable-initial position is crucial, and any such sound now occurring in word-initial position in the T will cause interference and present a learning problem” (385). They contradict the explanation of Lado (1957) and Politzer (1960) that the sound /ʒ/ (as in *leisure*) will be difficult to learn for American-English speakers of learning any language in which this sound occurs in word-initial position in the target language since /ʒ/ never occurs in word-initial position in the native language, American English. Younes (1984) shows a counter example to CAH: Saudi learners of English consistently do not stress final CVCC syllables in

English, although such syllables are always stressed in Arabic and that the transfer of Arabic stress patterns to English clearly occurs in other kinds of words. Younes explains it as lack of transfer considering the syllable structure of CVCC sequences in Arabic and their morphological structure. Klein(1986 : 25) suggests that the structure has no uniform effect on the learner's acquisition capacity because perception and production are quite different, which cause some problems in CAH :

A major reason for this relative failure lies in the fact that structural similarities and dissimilarities between two linguistic systems and the processing of linguistic means in actual production and comprehension are two quite different things. Contrastive linguistics was concerned with the former ; acquisition, however, has to do with the latter. It is not the existence of a structure as described by the linguist that is important, but the way the learner deals with it in comprehension and production. Therefore, comparison of structures may totally miss the point.

Here, Noblitt(1972 : 320) questions the validity of language comparison through different types of descriptive analysis without any theoretical framework :

It is generally assumed that divergent linguistic features need pedagogical attention, but the notion of contrastive difficulty has been notoriously difficult to specify objectively, and contrastive analysis has not in general provided a firm theoretical framework for predicting problems in language acquisition.

Brown(1987 : 159) makes an illustration of the application of CAH for phonetic comparison and points out the "shortcomings" of it : "The process... is oversimplified. Subtle phonetic distinctions between phonemes have been ignored. Phonological environments and allophonic variants of phonemes have been overlooked." Krzeszowski(1974 : 186) also points out the "lack of criteria concerning comparability" in CAH. He tries to solve the problem establishing "contrastive generative grammar" (169-91).

Whitman(1970 : 191) argues subjectivity for the four procedures of CAH. Through these four procedures the linguist or language teacher describes the two languages in question. Then, he selects a certain linguistic item, rule, and structure for contrast. Because it is impossible to contrast every possible aspect of the two languages, the selection process would reflect "the conscious and unconscious assumptions of the investigator" (193). The third procedure is contrast. Here again the contrast "rests on the validity of one's reference points" (196). Lastly, the three procedures are summed up in a prediction stage. This prediction can be achieved through the

formulation of a hierarchy of difficulty or through more subjective applications of psychological and linguistic theory. Here Brown(1987 : 155) points out that the whole procedure can be biased by the subjectivity of the researcher himself, "something that falls short of a 'scientific description' (Fries, 1945 : 9) in the rigorous tradition of behavioristic psychology." The linguists were "operating more out of mentalistic subjectivity" (James, 1985 : 160).

Tarone(1979) observes that while many syllable structure-related errors can be accounted for as a result of transfer, many cannot, for language learners often simplify syllable structure in the target language (by deletion of any consonants or epenthesis of vowels) even when the target language has a syllable structure. She cites a Korean speaker's pronunciation of school as [sku:], even though Korean has a word containing final /l/ after /u:/([ku:əl] 'nine month'). These sorts of non-transfer errors, Tarone argues, are a result of a universal tendency to prefer the unmarked syllable structure CV in cases of stress. Eckman(1977) proposes a more sophisticated method for predicting difficulty using Markedness Differential Hypothesis. The marked member of a related pair or structure contains at least one more feature than the unmarked one. For example, the English indefinite article *an* is the more complex or marked form (it has an additional sound or mark) and *a* is the unmarked form with the wider distribution. Eckman(1977) shows that marked items in a language will be more difficult to acquire than unmarked, and that degrees of markedness will correspond to degrees of difficulty. His arguments from phonology are less convincing, because he fails to take the role of the syllable into account. (Broselow, 1984 : 266) Rutherford(1982) also suggests that marked structures are acquired later than unmarked structures in the acquisition of morphemes in English. However, Brown(1987 : 160) questions the objective judgment of the degrees of markedness.

Some scholars criticize the weakness of the psychological basis of CAH. Dulay and Burt(1972) point out that, according to verbal learning theorists, if learning is automatization of response, then it must necessarily follow that acquiring a new set of responses to a particular stimulus or context requires the extinction of the old set of responses. On this point, Pack(1977 : 16) argues : "If a new response is learned, the old response must be unlearned. This implies that the first language must be unlearned or extinguished so that the second language can be learned. The

existence of bilingual individuals runs counter to this implication.” Brown(1987 : 161) claims that CAH mildly succeeds in predicting interference only in the psychomotor area :

In early stages of second language acquisition, learners produce the sounds of a foreign language in fairly consistent patterns, largely because pronunciation is a psychomotor skill, and with its reliance on muscular coordination, is a factor of more predictable interference. Syntactic, semantic, or lexical interference is far less predictable, since “cognitive coordination” (thinking, processing, storing, recalling, and the like), in all its tremendous variability, becomes more of a factor than muscular coordination.

3. 3. Counterarguments

This section will briefly examine some counterarguments made by James (1985).

1. Interference from the L1 is not the sole source of error in L2 learning. There are other sources, which CA fails to predict.

Many scholars criticize CAH by citing the above point. (Upsur, 1962 ; Lee, 1968 ; Wilkins, 1968 ; Duskova, 1969). James points out that “CA has never claimed that L1 interference is the sole source of error”. Lado(1957) says : “These differences are the chief source of difficulty in learning a second language,” (21) and, “the most important factor determining ease and difficulty in learning the patterns of a foreign language is their similarity to or difference from the patterns of the native language” (91). Thus, James argues that ‘chief source’ and ‘most important’ do not imply the only source. About the criticism that CAH does not predict certain errors, he notes that those errors have nonlinguistic causes and so this criticism is not relevant to CAH that deals with linguistic sources of error. He asserts that such criticism, like criticizing a lawn mower because it is useless as a combine harvester, is not valid.

2. The predictions of student errors in L2 made by CA are not reliable.

This assertion has been implied in the study of many authors(Lee, 1968 ; Wilkins, 1968). Here again, James quotes Lado(1968 : 125) who claims that CAH can predict “behavior that is likely to occur with greater than random frequency.”

3. CA is based on, and perpetuates, a naive view of language structure.

Lee(1968 : 192) claims that “a language is not a collection of separable and self-sufficient parts. The parts are mutually dependent and mutually determinative. “Newmark and Reibel(1968 : 161) suggest that a new language can be learned “one

bit at a time.” James, referring to a recent study in generative grammar, states that what seems to be bits of isolated language fall together at deeper levels of structure. James adds that it is “ironic” that Lee himself uses the term ‘parts’ in remarks about the unity of language.

4. There are no established criteria for comparability.

Hamp(1968) criticizes that CAH has inadequately solved the problem of comparability. In this connection, Krzeszowski(1974) has made attempts to integrate the translation criterion explicitly with the T-G(transformational-generative) approach, proposing such factors as congruence and equivalence.

5. CA only conceives of interference in one direction, from L1 to L2.

James suggests that CAH has emphasized this direction of interference, which is most prevalent in L2 learning, and CAH is interested in the teaching of the L2, not the L1.

6. We expect the strongest habits to exert most interference, so why is it that the weaker L2 habits interfere more with the L3 than L1 habits?

James answers the above question this way: “the L2 exerts high level influence on the L3(the third language), affecting such high level features as phonotactics, allophonics, and lexis. The interference from L1 remains, and affects low level features, to which, however, less attention has been paid than to the high level ones. They are in a sense less startling than the latter, superficial deviations” (96).

7. Interference is an otiose idea : ignorance is the real cause of error.

Newmark and Reibel(1968) suggest that errors are caused by inadequate knowledge of the target language. James raises an objection to that view :

If I fail to hear a certain L2 sound, i.e., if I have a ‘perception blind spot’ (Lado, 1957), then I will assume I have heard the nearest L1 equivalent ; so I have indeed filled a L2 lacuna with L1 material. But to extend the analogy, to productive filling-in, is not easy, since it would require the learner-speaker to ‘define’ his own L2 goals, and then fall short of these goals in his performance. The objection is : if he can define the goal, he is, properly speaking, not ignorant of the L2(99).

James also questions the ignorance theory itself, and argues that interference may be synonymous with ignorance :

If extrapolation from the L1 is disastrous, one can say that the learner is ignorant (L1-wise) of the L2 form required. One can equally well say that his failure to

produce an acceptable L2 form is the result of his L1 having led him up a blind alley : this is usually termed interference. Thus, ignorance and interference become synonymous. Where extrapolation from the L1 is successful, there is no interference, and apparently no ignorance either : yet L2-wise, the learner is equally ignorant of the L2 form, whether his performance be successful or calamitous(100).

From James' counterargument, one can see that some previous criticisms were not well focused. On the other hand, the boundary of CAH has become somewhat trimmed. The following section looks at the efforts to sift through the remains of CAH to find its more refined version.

4. Future Directions of CAH

Through the critical assessment of CAH, many scholars have shed some light on possible future directions to improve any shortcomings. Here are some suggestions that are highly plausible for a more refined contrastive analysis.

Corder(1967) and Wilkins(1968) suggested that EA is equally satisfactory or more fruitful, and less time-consuming than CAH. However, Duskova(1969) tried to combine the best part of each : "CA might be profitably supplemented by the results of error-based analysis, particularly in the preparation of teaching materials" (29). This idea was supported by Chiang(1979) in his study "Some interferences of English intonations with Chinese tones." Also, Hammerley(1986) took a similar attitude. He claims that the two analyses complement each other as the following :

In recent years it has been the fashion to reject contrastive analysis in favor of error analysis. In fact, both types of studies complement each other. Contrastive analysis can result in more or less accurate predictions and can often provide an explanation for the errors observed. Error analysis can help to confirm or reject the predictions based on contrastive analysis as well as "fine-tune" the contrastive analysis so that it will be more accurate ; it can also help determine the nature and extent of errors not due to differences between the NL and the SL.(20).

James(1985 : 55) also claims that EA and CA are quite different in their approaches : *a priori* versus *a posteriori* detection of error. Therefore, EA can only become fully explanatory if errors coming from L1 interference are taken into account. As Hamp(1968) points out mere enumeration of errors is taxonomic, and simply not an analysis. It is here where CAH will provide a more meaningful explanation of the nature and ultimate cause of observed errors in terms of the influence of the L1.

Hughes(1980) suggests a more detailed CAH in which the analysis is made not only of what features of the L1 are transferred, but also, when, by whom and under what conditions as well as how all these factors interact. Perez(1978 : 148) tries to combine transformational grammar and contrastive analysis assuming that “the two could complement each other as a synthesized approach to second language learning” :

Since transformational grammar is able to deal with more than just surface structures, it has an advantage for the construction of contrastive grammars which could demonstrate the differences between first and second languages. Such an approach could illustrate how sentences which look alike do not relate at a deep structure level, or how sentences which do not appear similar, are related to each other.

Also, Wardhaugh(1970) argues against a contrastive analysis at a superficial level and suggests that CAH needs a much deeper level of analysis similar to that of the generative transformational theories :

To learn the second language--and this is the important point--one must learn the precise way in which that second language relates the deep structures to its surface structures and their phonetic representations... Even though the form and some of the content of the rules to be acquired might be identical for both languages, the combinations of these for individual languages are quite idiosyncratic so that superficial contrastive statements can in no way help the learner in his task(11).

Ritchie(1978 : 183) suggests that “generative phonology(in the sense of Halle, Chomsky, et al.) shows ‘more promise’ in the explication of a particular case of interference behavior, which will result in ‘maximum success’ in the teaching of the practical phonology of an L2” (183). Berman(1978) suggests that CAH can offer a significant field of research in both linguistic theory and language pedagogy once a solid theory of contrastive analysis is established, specifying how and along what lines languages can best be compared with one other. Despite any improvement , we should not consider CAH as a “pedagogical panacea.” Pack(1977 : 11) warns in the TESL Reporter :

It seems that the CA as a tool for predicting certain errors and points of difficulty in L2 acquisition is probably best regarded as an experimental basis of research and not as a pedagogical panacea.

The remaining questions about CAH could, thus, be :

1. Why does CAH work particularly in phonology and pronunciation, not in syntax

or other aspects?

2. Why does CAH work with adult learners, and not with children?
3. What theoretical framework should we have for CAH?
4. How could CAH be revised to improve its shortcomings?
5. Is it possible to combine the two opposite psychological foundations : behaviorism on which CAH has background and cognitivism from which transformational grammar stems. If so, how?

Bibliography

- Berman, R. A. 1978. "Contrastive analysis revisited : obligatory, systematic, and incidental differences between languages." *ED196292*.
- Bloomfield, L. 1933. *Language*. New York : Holt, Rinehart and Winston.
- Briere, E., R. Campbell, and Soemarmo. 1968. "A need for the syllable in contrastive analysis" *Journal of Verbal Learning and Verbal Behavior* 7.
- Brown, H. D. 1987. *Principles of Language Learning and Teaching*. 2nd ed. New Jersey ; Prentice Hall.
- Broselow, E. 1984. "An investigation of transfer in SL phonology." *IRAL, Vol. 22/4*.
- Burt, M. K. and H. Dulay. 1975. "New Directions in Second Language Learning, Teaching, and Bilingual Education." *On TESOL '75*. Washington, D. C.
- Chiang, T. 1979. "Some interference of English intonations with Chinese tones." *IRAL, Vol. 17/3*.
- Corder, S. P. 1967. "The significance of learner's errors." *IRAL Vol. 5*,
_____. 1971. "Idiosyncratic dialects and error analysis." *IRAL Vol. 9*.
- Dulay, H. and M. Burt. 1972. "Goofing : an indicator of children's second language learning strategies." *Language Learning, Vol. 22*.
- Duskova, L. 1969. "On sources of errors in FLI." *IRAL Vol. 7*.
- Eckman, F. 1977. "Markedness and the contrastive analysis hypothesis." *Language Learning, Vol. 27*.
- Ellis, H. C. 1965. *The Transfer of Learning*. New York : MacMillan.
- Erdmann, P. H. 1973. "Patterns of stress-transfer in English and German." *IRAL Vol. 11/3*.
- Ervin-Tripp, S. 1974. "Is second language learning like the first?" *TESOL Quarterly* 8.
- Esser, J. 1980. "CA at the crossroads of linguistics and foreign language teaching." *IRAL, Vol. 13/3*.
- Fries, C. 1945. *Teaching and Learning English as a Foreign Language*. Ann Arbor, Univ. of Michigan Press.
_____. 1957. *Teaching English as a Foreign Language*. Ann Arbor, Michigan : Univ. of Michigan Press.
- Gass, S. M. and L. Selinker. 1983. *Language Transfer in Language Learning*. Rowley, Massachusetts : Newbury House Publishers.
- Hammerly, H. 1982. "Contrastive Phonology and Error Analysis." *IRAL Vol. 20/1*.
- Hamp, E. P. 1968. "What a contrastive grammar is not, if it is." *Georgetown Monograph No. 21*.

- Washington, D. C. :Georgetown Univ. Press.
- Haugen, E. 1956. *Bilingualism in the Americas*. The American Dialect Society.
- Hughes, A. 1980. "Problems in Contrastive Analysis and Error Analysis." *EDI* 192573.
- Jakobovits, L. A. 1969. "SLL and transfer theory : a theoretical assessment." *Language Learning*, Vol. 14/1&2.
- James, C. 1969. "Deeper contrastive study." *IRAL* Vol. VII/2.
- _____. 1985. *Contrastive Analysis*. Singapore : Longman Singapore Publishers.
- Klein, W. 1986. *Second Language Acquisition*. Cambridge : Cambridge Univ. Press.
- Kleinmann, H. H. 1977. "Avoidance behavior in adult second language acquisition." *Language Learning*, Vol. 27/1.
- Krzyszowski, T. P. 1974. *Contrastive Generative Grammar : Theoretical Foundations*. Lodz Univ. Press.
- Lado, R. 1957. *Linguistics across Cultures*. Ann Arbor, Michigan : Univ. of Michigan Press.
- Lance, D. M. 1969. *A Brief Study of Spanish-English Bilingualism*. College Station, Texas : Texas A&M Univ.
- Lee, W. R. 1968. "Thoughts on contrastive linguistics in the context of language teaching." *Georgetown Monograph No. 21*. Washington, D. C. : Georgetown Univ. Press.
- Lehn, W. and W. R. Slager. 1959. "A contrastive study of Egyptian Arabic and American English : The segmental phonemes." *Language Learning*, Vol. 9/1&2.
- Newmark, L. and D. Reibel. 1968. "Necessity and sufficiency in language learning." *IRAL* Vol. 9/3.
- Noblitt, J. S. 1972. "Pedagogical grammar." *IRAL*, Vol. 10/4.
- Oller, J. W. and S. M. Ziahosseiny. 1970. "The contrastive analysis hypothesis and spelling errors." *Language Learning*, Vol. 20.
- Pack, A. C. (ed.) 1977. *TESL Reporter* Vol. 10/3.
- Perez, B. 1978. "A choice of approach : SLL." *System*, Vol. 8.
- Politzer, R. L. 1960. *Teaching French--an introduction to applied linguistics*. New York : Blaisdell Pub. Co.
- Ritchie, W. (ed.) 1978. *Second Language Acquisition Research : Issues and Implications*. New York : Academic Press.
- Rivers, W. M. and M. S. Temperley. 1978. *A Practical Guide to the Teaching of English as a Second or Foreign Language*. New York : Oxford Univ. Press.
- Rutherford, W. 1982. "Markedness in second language acquisition." *Language Learning*, Vol. 32.
- Schacter, J. 1974. "An error in error analysis." *Language Learning*, Vol. 24/2.
- Sciarone, A. G. 1980. "Contrastive Analysis ; Possibilities and Limitations." *IRAL*, Vol. 8.
- Selinker, L. 1972. "Interlanguage." *IRAL*, Vol. 10 /3.
- Stockwell, R., J. D. Bowen and J. W. Martin. 1965. *The Grammatical Structures of English and Spanish*. Chicago, University of Chicago Press.
- Tarone, E. 1979. "Interlanguage as chameleon." *Language Learning*, Vol. 29/3.
- _____. 1978. "The phonology of interlanguage." *Understanding Second and Foreign Language Learning : Issues & Approaches*. J. C. Richards (ed.) Rowley, Mass. : Newbury House.

- Taylor, B. P. 1975. "The use of overgeneralization and transfer learning strategies by elementary and intermediate students in ESL." *Language Learning*, Vol. 25.
- Upshur, J.A. 1962. "Language proficiency testing and the contrastive analysis dilemma." *Language Learning*, Vol.12.
- Wardhaugh, R. 1970. "The contrastive analysis hypothesis." *TESOL Quarterly* 4.
- Weinreich, M. 1953. *Languages in Contact*. Linguistics Circle of New York.
- Whitman, R. 1970. "Contrastive analysis : problems and procedures." *Language Learning*, Vol. 20.
- Whitman, R. and K. L. Jackson. 1972. "The unpredictability of contrastive analysis." *Language Learning*, Vol. 22.
- Wilkins, D. A. 1968. "Review of A. Valdman : Trends in language teaching." *IRAL*, Vol. 6.
- Younes, M. A. 1984. "The Stressing of final superheavy syllables by Saudi learners of English : Implications for CAH." *ED271009*.
- Zabrocki, T.1980. "Theoretical contrastive studies." Theoretical Issues in *Contrastive Linguistics*. Fisiak, J. (ed.) Amsterdam : John Benjamins B.V.