LINGUISTIC ANALYSIS :
A Diachronic Perspective

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The past four decades have been turbulent ones for the fields of linguistics, psychology, and (consequently) language teaching. Theories, and the practices that have accompanied them, have come and gone with almost startling frequency, although not without considerable controversy. It will be the purpose of this paper to present a limited, diachronic description of the different methods of language analysis which have, in turn, dominated the language learning/teaching field since 1945 and the controversies which have accompanied the rise (and demise) of each. This presentation will be necessarily brief and generalized, but it is hoped that it will serve as more than just an introductory overview of the different methods of linguistic analysis which have been and are currently being used in the study of second language teaching/learning/acquisition. As important as the particular theoretical and practical bases of these controversies and trends is the overall impression of instability brought about by overreaction. As the field is considered from such a perspective, one is tempted to ask, "Will the pendulum ever stop swinging?"

A Hypothesis

In 1945, in his classic book, *Teaching and Learning English as a Foreign Language,* Charles Fries explained the hypothesis which was to become the object of considerable discussion in the ensuing years.

The most efficient materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner. (Fries 1945: 9)

This idea was not totally new. Bloomfield and others had advanced it earlier. But Fries' timing was right, and "contrastive analysis" fit in very well with the then popular theories of behaviorist psychology and structural linguistics. Based on these theories, an approach to language teaching which came to be called "the audio-lingual method" soon became dominant. It was built upon the linguistic/psychological thinking of the time which emphasized the differences between languages and which viewed the task of learning a second language as being distinctly different from the acquisition of a mother tongue (Lado 1957: v and Prator 1979). It carefully avoided student errors and used the predictive powers attributed to the "strong" version of the contrastive analysis hypothesis to determine the content of language teaching materials. By 1957, contrastive analysis (CA) had become so popular that it was extended to include culture as well as language.

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 culture to be learned with the native language and culture of the student. (Lado 1957:vii)

This dominance by CA theory was well into its second decade before it began to be seriously questioned and challenged. Eventually, however, the inadequacies of CA became apparent, and critics began to raise their voices against it. The reasons behind their criticism can be categorized into three major areas:

1. Behaviorist psychology and transfer theory, upon which CA was based, were unable to explain satisfactorily the creativity and open-ended nature of language and learning as demonstrated by Chomsky (1959).

2. The ability of linguistic theory to write comprehensive grammars, a prerequisite to using them to compare and contrast languages, was questioned as well.

Uncertainty is obviously piled upon uncertainty in making contrastive

analyses. Such uncertainties arise from inadequacies in existing linguistic theories. . . . The strong version is quite unrealistic and impracticable. . . . [It] makes demands of linguistic theory, and, therefore, of linguists, that they are in no position to meet. . . . The contrastive analysis hypothesis also raises many difficulties in practice, so many in fact that one may be tempted to ask whether it is really possible to make contrastive analyses. (Wardaugh 1970: 124)

3. As language researchers and foreign language teachers began to give systematic attention to the errors learners unavoidably made, they noticed that

   A. Learners made errors which could not be explained by the structure of their native language.

   B. Learners did not make many of the errors that CA predicted they would.

   C. There were remarkable similarities in the errors made by all second language learners, irrespective of their native tongue. (Taylor 1975: 392)

As the dissent increased, CA was labeled everything from a "pseudo-procedure" (Wardaugh 1970) to "psychologically invalid" (Taylor 1974: 30). One study collected data on nearly 2500 Japanese learners of English and (like many others) reached the following negative conclusion:

Tests were administered to large numbers of Japanese learners of English, and their performance on the tests was compared to the predictions that were derived from each analysis about the difficulty that Japanese should have in English. None of the analyses demonstrated an adequate capacity to make such predictions, and our conclusions as to the present validity of contrastive analysis are correspondingly negative. (Whitman and Jackson 1972: 30)

While this flood of criticism demolished the strong version of the CA hypothesis, another version of CA, the "weak" or explanatory version, survived the storm. Wardaugh (1970) described it as having "certain possibilities of usefulness," and its applicability to phonology (Dulay and Burt 1972: 239) was acknowledged, although

not without reservations.

Modifications to the original CA hypothesis were made, including the development of hierarchies to explain why some native language-target language differences caused considerable problems in second language learning while others resulted in minimal difficulty (Stockwell and Bowen 1965: 9-18 and Stockwell, Bowen, and Martin 1965: 282-291) and the use of generative phonology to explain such things as why a Russian is likely to say *tink* and a Japanese *sink* when attempting to produce English *think* (Ritchie 1968).

A Reversal

During the heyday of contrastive analysis in the United States, a colleague across the Atlantic was advocating another kind of language analysis for language teaching which now, over twenty years later, sounds strangely familiar. In 1957, W. R. Lee recommended that ESL/EFL teachers analyze their students' mistakes instead of avoiding or ignoring them. While not denying the theoretical basis of contrastive analysis, Lee presented the following argument in favor of what he called "mistakes analyses."

A comprehensive review of the phonetic material is unnecessary and indeed digressive. Attention should be focused on the difficult points, and those which cause little bother may be left, more or less, to look after themselves. And this is where mistakes analyses come in. For if these analyses are based on the speech of enough learners and of a sufficient variety of learners, of the same linguistic background, they enable a teacher to prophesy. . . . To guess at probable types of error from a knowledge of the first language only is, without doubt, to take a somewhat far-off view of teaching problems. Thus if a first language has no final [ŋ], as in *laughing*, it is a good guess that another nasal may be substituted, as in ['laˑfin]. But this is not at all the same thing as seeing that it is substituted, and in what positions. . . . Study of the mistakes themselves seems to be a short cut. (Lee 1957: 79-83)

However practical and sensible Lee's mistakes analyses might have been, his idea did not gain acceptance until nearly a decade later when new trends in psychology and linguistics brought with them the idea of language as creative, rule-governed behavior and of language learning as the formation and testing out of hypotheses about the features of the new language. When this happened, emphasis was shifted "away from a preoccupation with *teaching* towards a study of *learning*" (Corder 1967: 163) and errors were no longer seen as evils to be avoided, but rather as the inevitable result of the evolution of the learner's underlying, rule-governed systems and, hence, valuable for several reasons.

> A learner's errors, then, provide evidence of the system of the language that he is using (i.e., has learned) at a particular point in the course (and it must be repeated that he is using some system, although it is not yet the right system). They are significant in three different ways. First, to the teacher in that they tell him, if he undertakes a systematic analysis, how far towards the goal the learner has progressed and, consequently, what remains for him to learn. Second, they provide to the researcher evidence of how language is learned or acquired, what strategies or procedures the learner is employing in his discovery of the language. Thirdly (and in a sense this is their most important aspect), they are indispensable to the learner himself, because we can regard the making of errors as a device the learner uses in order to learn. It is a way the learner has of testing his hypotheses about the nature of the language he is learning. The making of errors then is a strategy employed both by children acquiring their mother tongue and by those learning a second language. (Corder 1967: 167)

Thus, in a reversal of the previously held theory, which had emphasized the differences between first and second language acquisition, the new trend was to discover similarities between the two processes. Error analysis, in contrast with CA, which had viewed the learner's native language as a major source of errors in the target language, emphasized intralingual/developmental sources of error. The universal learning processes of generalization and simplification were viewed as being important, while native language transfer (the basis of CA) was generally disregarded. Dulay and Burt, for example, in a classic but controversial study, examined the acquisition of English grammatical morphemes by Spanish-speaking and Chinese-speaking children and found that "only 4.7% of the errors were due to language transfer" (Dulay and Burt 1974a: 132). They concluded "that universal cognitive mechanisms are the basis for the child's organization of a target language and that it is the L2 system rather that the L1 system that guides the acquisition process" (Dulay and Burt 1974b: 360).

Unfortunately, many of these early studies had serious flaws in their design and/or methods which biased their results and laid them open to later criticism (Cancino 1976 and Rosansky 1976).

A Reaction

While condemning CA and proclaiming the virtues of EA, the advocates of the latter approach did not adequately allow for "the possibility that there are corresponding weaknesses in EA which would make error-based theories and materials as inadequate and one-sided as contrastively-based theories and materials are" (Schachter and Celce-Murcia 1977: 442). In at least a partial defense of the strong, *apriori* version of the original CA hypothesis (as far as it applies to the learning and use of a particular construction in English) and with the purpose of pointing out some of the weaknesses in dependence on error analysis alone, Schachter (1974) examined relative clause formation in compositions written by ESL students from four unrelated language backgrounds. Her initial error analysis led to a conclusion (that Persian and Arab learners have far more difficulty producing relative clauses than do Chinese and Japanese learners and that relative clause formation in English is quite a minor problem for Chinese and Japanese learners of English) which she subsequently demonstrated to be completely false as a further, more extensive examination revealed the learners' real difficulties. Schachter concluded that the initial error

analysis, which had concentrated solely on errors and had not taken into account total learner production, had resulted in a distorted, narrow view of the learners' difficulties by excluding an improtant factor–avoidance of relative clauses by the Japanese and Chinese students.

It is plausible and I think correct to suppose that they produce fewer relative clauses in English because they are trying to avoid them, and that they only produce them in English when they are relatively sure that they are correct, which would also account for the extremely small number of errors they make. What we encounter is a phenomenon of avoidance due to a difficulty which was predicted by the *apriori* approach, but which the *aposteriori* approach can not handle at all. (Schachter 1974: 210)

Schachter's use of this broader view, called performance analysis (PA), which attempted to analyze the learner's overall performance, not restricting analysis to errors alone, and the conclusions she reached were supported by the work of others, such as Kleinmann (1977) who found that adult speakers of Spanish and Arabic avoided producing a variety of English constructions whose difficulty was predicted by contrastive analysis.

The limitations of error analysis were outlined more extensively in a later article by Schachter and Celce-Murcia (1977) which listed six weaknesses in error analysis research:

1. The analysis of errors in isolation
   Extracting learners' errors from the corpus in which they occur distorts the conclusions of the analysis by excluding the learners' non-errors from consideration.

2. The proper classification of identified errors
   Error analysis requires the making of numerous questionable decisions. Frequently, the source of error is ambiguous (e.g., as in the following sentence: "Americans are easy to get to guns.").

3. Statements of error frequency
   Error frequencies should be stated in *relative* rather than *absolute* terms. Obligatory/optional contexts must be considered, and analysis should include how often a structure is used *both* correctly and incorrectly.

4. The identification of points of difficulty in the target language
   The assumption that frequent errors unerringly indicate points of difficulty is challengeable. Moreover, questionable means are often used to identify errors in the first place (numbers 2 and 3 above).

5. The ascription of causes to systematic errors
   Caution is advised in ascribing the large number of ambiguous errors to either interlingual or developmental sources.

6. The biased nature of sampling procedures
   Sampling procedures in most studies to date have been limited and biased in at least one of the following areas:
   1.) background languages of subjects,
   2.) the subjects themselves,
   3.) data samples.
   There is also a danger of analyzing performance errors as competence errors.

Complete confidence in error analysis declined as its drawbacks became apparent. At the same time, reconciliatory moves back toward the idea of native language transfer were made.

One should not be too hasty in ruling out the influence of transfer in the L2 acquisition process as some recent studies have urged . . . The definition of language transfer should not be limited before it is fully understood. By restricting our concepts we might be unwittingly dictating certain results and closing the door on much potentially productive research. (Cancino 1976: 44)

A Reconciliation

Today, many research reports are willing to acknowledge the influence of both native language interference and developmental/intralingual sources of error (e.g., Butterworth and Hatch 1973: 238 and Ravem 1978: 153), and some see the convergence of transfer and overgeneralization as an important source of errors (Andersen 1978:1). In such studies, however, the original CA hypothesis is often given a new twist.

Instead of attributing interference to habit formation and transfer theory, it is seen as the result of a learning strategy. Since the language acquisition process is thought to involve active hypothesis testing by the learner, interference errors are taken as evidence that the learner begins with the hypothesis that the target language is just like the native language and that this hypothesis is used until evidence resulting in new hypotheses is gathered through the analysis of input (Corder 1967: 168, Kellerman 1977, and Cancino, Rosansky, and Schumann 1978: 218).

A more unexpected modification to the contrastive analysis hypothesis, with its original emphasis on the differences between languages as sources of difficulty and errors (and the greater the difference, the greater the difficulty), is the idea that interference may be greatest when the first language and second language are similar. For example, based upon his English-learning subjects' use of both content and function words from Norwegian in a "slightly anglicized form" as in the sentences "Kan du come i morgen?" (Can you come tomorrow?) and "Vil du have coffee?" (Will you have coffee?), Ravem (1978: 153) concludes that "the more closely two languages are related, the more there is which can successfully be transferred." Such an idea also explains the relative persistence of such things as *no* plus verb negation by Spanish speakers learning English. Schumann (1978) suggests that the extent of pre-verbal negation (*no* plus verb) by ESL learners depends on the position of the negative in the learner's native language. When the first language has pre-verbal negation, this form is used extensively in English and is very persistent. On the other hand, when the learner's native language has late or post-verbal negation, the pre-verbal negation is only fleeting and the learner moves on to correct English negation (with the full realization of the auxiliary) more quickly. It is difficult to decide whether this modification to the original CA hypothesis, which upholds the idea of native language interference while reversing the similar-easy, different-difficult relationship advanced by Fries and Lado, is a vindication or a reversal of CA. It cannot be denied, however, that current thought tends toward an acceptance of both inter-

lingual and intralingual sources of error in second language learning.

Thus, we conceive the order of acquisition of English grammatical morphemes as resulting from an interplay of at least two factors. One factor, consisting of variables such as frequency and salience, seems to direct the order or acquisition toward a universal order. But a second factor, transfer from the native language, modulates the order so as to produce differences between learners of different language backgrounds. (Hakuta and Cancino 1977: 308-309)

An interesting combination of the two hypotheses is made by Taylor (1975: 394) who found that

intermediate subjects made a higher proportion of errors attributable to overgeneralization than did the elementary subjects. And conversely, the proportion of elementary errors attributable to transfer . . . exceeded the proportion of intermediate transfer errors. The major conclusions. . . are, then, that reliance on overgeneralization is directly proportional to proficiency in the target language, and reliance on transfer is inversely proportional . . . . As proficiency increases, reliance on transfer decreases and reliance on overgeneralization increases.

This idea has received support from other researchers who have concluded that "interference errors appear primarily in the earliest stages of acquisition" (Hakuta and Cancino 1977: 301).

A New Direction

Recently, a new kind of language analysis has come onto this scene of rather tenuous harmony between contrastive analysis, error analysis, and performance analysis. This newcomer, called discourse analysis, takes a distinctly different approach to the task of analyzing language. Acknowledging the human learner's status as a social being, discourse analysis (DA) analyzes language in the social context. While not rejecting the need for phonological, morphological, and syntactical stud-

ies, proponents of DA proclaim its preeminence.

In focusing only upon the structures at the sentential level, we have perpetrated a misleading simplification of the language acquisition process. We have overlooked the need for the learner to acquire a whole other system of language—namely the structural unity that exists at the discourse level . . . . In addition, it has been suggested that by focusing solely on the linguistic form of the learner's speech product, we have virtually ignored an important data source, namely the language input to which the learner is exposed . . . . Some researchers would go even farther and say that it is the interaction of the input and the linguistic product which is most enlightening (Larsen-Freeman 1978: 173)

It is not enough to look at frequency; the important thing is to look at the corpus as a whole and examine the interactions that take place within conversations to see how that interaction, itself, determines frequency of forms and how it shows language function evolving. (Hatch 1978: 402)

While the potential value of this suprasentential perspective cannot be ignored, it will be of greatest value as a broadening rather than a usurping influence. It is reassuring to note that, so far at least, DA has made progress in a positive way— not by tearing down its predecessors but by expanding upon them. Perhaps the pendulum has finally stopped swinging, and language analysis, with its implications for language learning/teaching, can advance in an orderly, efficient manner which avoids too much side-to-side movement.

A Conclusion

The future is, of course, impossible to predict, and what actually will happen in language analysis remains to be seen. Nevertheless, researchers and teachers will undoubtedly benefit from keeping the past in sight.

This overall view of the recent history of language analysis results in an appre-ciation of the complexities of both language and language learning and an understanding of the difficulty of analyzing them. Looking back on what has emerged from the various controversies, one is forced to conclude that "one single view of the language learning process, attractive though it may be, will not account for the diverse phenomena that exist" (Schachter and Celce-Murcia 1977: 449-450). Unfortunately, in the past (and even now), too many have been guilty of underestimating that complexity while taking extreme positions which have hindered rather than encouraged real progress.

One of the most important outcomes of the CA-EA struggle has been the realization that it is indeed possible to take what is right from both methods. The two views are not necessarily mutually exclusive, and fitted together properly they form a more powerful tool for linguistic analysis. It is hoped that advances in performance analysis and discourse analysis will work together with error analysis and contrastive analysis in increasing the present understanding of the complex process of learning a language.

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