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ABSTRACT

The "state of the art" in the three fields of contrastive analysis, error analysis and interlanguage is critically examined from the point of view of evolving an explanatory theory of a second language learner's performance. Each field is discussed with respect to its outreach, theoretical assumptions, methodology, claims and empirical validations thereof, scope of practical studies, and pedagogical implications. It is argued that contrastive analysis, far from being irrelevant or obsolete as some critics have claimed, remains, both theoretically and methodologically, the most principled component of a theory of errors. (Author)

(EA, hereafter), it is claimed, is significant for the insights it provides into the strategies employed in second language acquisition, and in turn into the process of language learning in general (cf. Corder 1967). The study of 'Interlanguage' (IL, hereafter), it is claimed, has implications for theories of language contact, language change and language acquisition, besides its usefulness in describing special language types such as immigrant speech, non-standard dialects, non-native varieties of language and the language of aphasics and of poetry, among others (cf. Nemser 1971; Richards 1972; Corder 1971a). Despite these many and varied claims, it is still correct, however, to say that the primary goal of all the three areas of research has been to facilitate foreign language learning by providing insights into the nature of the learner's performance.

In addition to the diversity of claims regarding their applications, CA, EA and IL also differ from one another in a number of respects - in their theoretical assumptions, methodologies, the nature and scope of data considered relevant in each area, the kind of insights they provide into the nature of foreign language learning, and in the implications of the studies carried out in each of these areas for practical classroom teaching and materials preparation.

It is the purpose of this paper to present the 'state of the art' in each of these areas of research from the point of view of the 'one goal' explained above. In particular, with respect to each field of study, we will be examining the current trends in theory, methodology, claims and empirical validations thereof and its contribution to foreign language teaching. The following discussion is organized in four parts - the first, second, and third parts deal with CA, EA and IL respectively and the last part is the conclusion. There will be a good deal of overlapping among the sections, but this is unavoidable given the fact that the three fields have developed at times as rivals, and as complementary to one another at other times.

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1.0. CONTRASTIVE ANALYSIS-A bit of history: Although several prominent linguists and pioneers in the field of foreign language pedagogy, including Henry Sweet, Harold Palmer, and Otto/Jespersen, were well aware of the "pull of the mother tongue" in learning a TL, it was C. C. Fries who firmly established contrastive linguistic analysis as an integral component of the methodology of foreign language teaching.[4] Declaring that

> the most effective materials (for foreign language teaching) are those based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner (1945:9),

Fries may be said to have issued the charter for modern CA. In doing so, he also made the first move in what has turned out to be one of the most spirited controversies in the field of foreign language teaching, namely on the role and relevance of CA, but more on this later (see sections 1.7 and 2.2, below). The challenge was taken up by Lado, whose work Linguistics Across Cultures (1957) soon became a classic field manual for practical contrastive studies. The Chomskyan revolution in linguistics gave a fresh impetus to CA not only making it possible for the comparisions to be more explicit and precise, but also giving it what seemed to be a more solid theoretical foundation by claiming the existence of 'language universals' (but cf. Bouton 1975). The volumes of The Contrastive Structure Series (e.g., Stockwell and Bowen (1965), Stockwell, Bowen and Martin (1965)) represent this phase of CA. The papers from the three conferences on CA held in Georgetown, Cambridge, and Stuttgart (Alatis 1968, Nickel 1971a, Nickel 1971b respectively,) present scholars as, by and large, optimistic about the possibilities of CA. But by that time, CA was already open to attack on both external grounds (of empirical validity) and internal (theoretical foundations), leading Selinker to wonder that CA was still thriving "at a period when a serious crisis of confidence exists as to exactly what it is" (Selinker 1971:1) and Wardhaugh to forecast a "period of quiescence" for it (Wardhaugh 1970). CA today, however, is not entirely on the defensive - not only do 'messages of hope' keep

appearing from time to time (e.g. Schachter 1974), but even the proponents of alternate approaches (EA and IL) implicitly or explicitly incorporate CA in their methodology (see section 3.5). If anything, the controversy seems to have clarified the possibilities and limitations of CA and its place, along with other components, in the task of accounting for the nature of the learner's performance.

1.1. The Rationale for CA. The rationale for undertaking contrastive studies comes mainly from three sources: (a) practical experience of foreign language teachers; (b) studies of language contact in bilingual situations; and (c) theory of learning.

Every experienced foreign language teacher knows that a substantial number of persistent mistakes made by his students can be traced to the 'pull of the mother tongue'. Thus, when a Hindi speaker learning English says, "The plants were all right till we kept them in the study" in the sense of "as long as" or an Arabic speaker persists in retaining a pronominal reflex of the relativized noun in his relative clauses as in "The boy that he came" (cf. Catford 1968, Schachter 1974), or to give a different type of example, the Indian learners of English systematically replace the alveolar consonants with their retroflex counterparts, there is no doubt that the learner is 'carrying over' patterns of the mother tongue into his foreign language performance. Moreover, such a 'carry over' seems to result in the largest number of deviant sentences in areas where the structures of the native language and the target language differ the most.

Students of language contact have also noted the phenomenon of "interference", which Weinreich defines as "those instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language." (1953:1). Weinreich (1953) was the first (and perhaps still the best) extensive study of the mechanisms of bilingual interference.

The third source which has been considered to support the CA hypothesis (see 1.2) is learning theory - in particular, the

theory of transfer. In its simplest form, transfer refers to the hypothesis that the learning of a task is either facilitated ('positive' transfer) or impeded ('negative' transfer) by the previous learning of another task, depending on, among other things, the degree of similarity or difference obtaining between the two tasks. The implications of transfer theory for foreign language learning are obvious. (For an excellent study of the application of transfer theory to second language learning, see Jakobovits 1969; see also Carroll 1968.)

1.2. Contrastive Analysis Hypothesis. The 'strong' version of the CA hypothesis is clearly stated by Lee (1968:186). CA is based on the assumption, he says,

> (1) that the prime cause, or even the sole cause, of difficulty and error in foreign-language learning is interference coming from the learners' native language;
> (2) that the difficulties are chiefly, or wholly, due to the differences between the two languages;
> (3) that the greater these differences are the more acute the learning difficulties will be;
> (4) that the results of a comparison between the two languages are needed to predict the difficulties and errors which will occur in learning the foreign language;
> (5) that what there is to teach can best be found by comparing the two languages and then subtracting what is common to them, so that 'what the student has to learn equals the sum of the differences established by the contrastive analysis'.

It must be mentioned that not all theoreticians and practitioners of CA would go along with this version of the CA hypothesis. In particular, scholars differ on how strongly they wish to claim for interlingual interference the pride of place among error types, and the rather 'simpliste' correlation in Lee's version[5], between differences in structure and learning difficulty. Nevertheless, some version of this hypothesis, with the qualifications noted above (or similar ones) is assumed by most practitioners of CA. (For a detailed discussion of the 'predictive' vs 'explanatory' versions of the CA hypothesis, see sections 1.7 and 2.2 below.)

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1.3. CA: its pedagogical claims. On the basis of these, or similar, assumptions, various claims have been made as to the potential

role of CA in foreign language teaching. Hall (1968) asserts that the era of the uniform, standard textbook for all learners of a TL irrespective of their language backgrounds is over; the structure of the textbook - selection of teaching items, degree of emphasis, kinds of practice drills, nature of exposition, etc., - should be geared to the native language of the learner; Nickel and Wagner (1968) also make similar claims about the crucial role of CA in both 'didactic' (limitation (selection), grading, and exposition) as well as 'methodic' (actual classroom presentation) programming. (See Lado (1957) and Halliday, et. al. (1964) on this point). It is also claimed (by Lado (1957)) that the results of CA provide ideal criteria for selecting testing items (for an opposite view, see Upshaur (1962)). It is also generally agreed that basing teaching materials on the results of contrastive studies necessarily entails a more 'mentalistic' technique of teaching - explicit presentations of points of contrast and similarity with the native language, involving an analytical, cognitive activity (Rivers 1968, Jakobovits 1969, Stockwell 1968).

1.4. CA and linguistic models. Since comparison depends on description, there exists an inevitable implicational relationship between CA and linguistic theory. Accordingly, the assumptions of CA, the delicacy of its comparisons and the form of contrastive statements have changed from time to time, reflecting the changes in linguistic theory.

The earlier contrastive studies were conducted in the structuralist framework, although structual linguistics, with its insistence on describing each language in its own terms, theoretically precluded any comparison across languages. However, characteristic of a practice that has been endemic in CA, the theoretical and methodological contradictions did not deter practitioners of CA. Taxonomic CA displayed the similarities and differences between languages in terms of similarities and differences in (i) the form and (ii) the distribution of comparable units (comparability being based on nothing more spectacular than

'gut feelings').

With the advent of generative grammar, taxonomic CA, like taxonomic descriptive linguistics in general, has been critized for its preoccupation with the surface structure of language (cf. Di Pietro (1968) and (1971)). Three aspects of the TG model have profoundly influenced CA: (1) the universal base hypothesis; (2) the deep and surface structure distinction; and (3) the rigorous and explicit description of linguistic phenomena. The universal base hypothesis, it is claimed, provides a sounder theoretical foundation for CA as contrasted with the structuralists' relativity hypothesis — for, the assumption that all languages are alike at an abstract, underlying level provides, theoretically at least, a basis for comparability.[6] Methodologically, the description of this underlying level of representation in terms of a universal (non-language specific) set of basic grammatical primes, semantic features, and phonetic (distinctive) features makes it easier to state similarities and differences in a uniform manner. The explicit incorporation of two levels of linguistic organization makes it possible for the contrastive linguist to capture and represent the intuitions of bilinguals about the translation equivalence of utterances in two languages, although they are disparate on the surface. Finally, the adaptation of mathematical models for the description of natural language phenomena has enabled descriptions to be rigorous and explicit. This in turn has enabled comparisons to be rigorous and explicit as contrasted with, for example, statements such as

> The past definite, or preterite, je portai corresponds to the English I carried...

modified by a 'fiction',

> The past indefinite is frequently used for the past definite in colloquial style. (cf. Halliday et. al. 1964 : 118)

This is not to say that the use of the TG model has solved the problems of CA; on the contrary, it has made explicit the intricate problems facing CA which had not previously been appreciated. Nevertheless, it will not be disputed that the application of the TG model has made it possible for comparisons

and contrasts insightful and sophisticated to a degree unimaginable two decades ago.

1.5. CA: The Methodology. The prerequisite for any contrastive study is the availability of accurate and explicit description of the languages under comparison. It is also essential that the descriptions be theoretically compatible. Given such descriptions, how does one go about comparing two languages?

1.5.1 *Selection*: It is generally agreed that attempting to compare two languages in entirety is both impractical and wasteful. An alternative is suggested by the British linguists, who advocate a Firthian 'polysystemic' approach. This approach is based on the assumption that language is a "system of systems". Hence comparisons are made in terms of particular systems and subsystems (e.g., the personal deictic system, the auxiliary verb system, etc.). (cf. Halliday et.al. 1964; Catford 1968). While this approach may work in contrasting "closed systems" such as the determiner system, or even for phonology as a whole, which can be reduced to an "item by item analysis of segment types", it does not seem to be suited for syntactic comparison, which must handle "a boundless class of possible sentences." (cf. Langacker 1968).

A second criterion for selection has often been advocated by scholars who consider the role of CA to be primarily "explanatory" and not "predictive" (see Catford 1968; Lee 1968). According to these scholars, CA should limit itself to "partial" comparisons, analysing those parts of the grammar which are known (through error analysis) to present the greatest difficulty to learners. But such an approach, as Hamp rightly points out, is of limited value — we need CA to provide a "theory adequate to explain cases not in our corpus" (1968:146).

A reasonable approach to this problem is taken by Langacker (1968), who suggests that syntactic comparison should cover

> approximately the same ground that the language teacher is called on to deal with explicitly in the classroom. Within this area, common productive processes (such as infinitive embedding, for example) should be compared for the two languages with respect to the rules generating them.

This is essentially the approach adopted by Stockweel, et. al. (1965). While Stockwell admits that their approach was "somewhat tempered by (error-analysis)" (used as a delimitation device in selection), he insists that "the most useful basis for contrastive analysis is entirely theoretical" (1968:25).

1.5.2 *Comparability: The Problem of Equivalence.* The discussion in the previous section dealt with the general problem of selection. A much more difficult and crucial problem is that of 'comparability', i.e., of establishing just what is to be juxtaposed for comparison. Despite the extensive study of various aspects of CA, this problem, which lies at the heart of CA, has yet to be satisfactorily resolved. The question can be approached from three points of view, viz., those of (i) structural (or formal) equivalence; (ii) 'translation' equivalence; (iii) both structural and translation equivalence. While the most widely used criterion in the literature has been that of translation equivalence, the term has been used rather loosely. Harris seemed to work on the assumption that for a given sentence in language A there would be only one "roughly unique" translation in language B, and proposed to construct a "transfer" grammar on the basis of the "minimal grammatical differences" (1954:259). Levenston (1965), on the other hand, points out the possibility of multiple translation equivalents (cf. also, Halliday et. al. 1964:121) and hence advocates constructing "translation paradigms" - i.e., tabulation of the various structural configurations by which a given item may be translated, with specification of the contextual restrictions governing the use of each equivalent. Catford on the other hand, believes that "the only basis for equating phonemes, or for equating grammatical units in two languages is extra-linguistic - is substantial rather than formal." (1968:164). For him, the test of translation equivalence is the interchangeability of the items in a given situation (1965:49).

Is it possible to formalize the relationship that should hold between constructions that are considered translation equivalents by a 'competent bilingual'? There have been a few attempts to confront this crucial problem. Dingwall (1964) proposed that

"languages are more likely to be similar in their 'kernel' than in their total structure, and that which is obligatory in the most highly valued grammar is more basic than that which is optional", but with the demise of the notion of 'kernel' sentences, his hypothesis has become somewhat outdated. Perhaps the single most influential work on this question is Kreszowski (1971). This paper, although it does not solve the problem of equivalence, shows how much CA has gained in rigor and sophistication from the application of current generative theory. In that paper, Kreszowski proposed that "equivalent sentences have identical deep structures even if on the surface they are markedly different" (1971:38), 'deep structures' being defined in the sense of Lakoff (1968), in terms of basic grammatical relations, selectional restrictions and co-occurrence relations. While this is probably the closest we have ever come to rigorously defining the notion of 'equivalence', even this formulation is still far from satisfactory, as is apparent from the works discussed below.

Bouton (1975) points out that there are large classes of constructions which are translation equivalents but cannot be derived from a common deep structure (in the sense of Kreszowski) - instances where deep structure parts contain crucial information with regard to notions of stativity, transitivity, tense/aspect, polarity of presuppositions, etc.) thus calling for either a redifinition of 'deep structure' to include 'contextual' structure, or the rejection of Kreszowski's hypothesis as it stands.

Y. Kachru (to appear) has shown the limitation of a purely structual notion of equivalence and the relevance of pragmatics and 'conversational implicature' for defining 'equivalence'. Fillmore (1965) had earlier pointed out instances of translation equivalence "which are constructed along non-analogous (structural) principles" and "cases where sentences in one language cannot be translated into another language at all" (1965:122).

While discussion, formalization, and refinement of the notion of equivalence proceeds on the theoretical plane, the problems involved in this endeavor have not significantly impeded the flow of practical contrastive studies and their application in

classroom and text materials. I will now briefly consider the state of the art in practical constrastive analysis.

1.5 The scope of contrastive studies. By 'scope' here I mean the levels of linguistic structure and language use covered by contrastive studies. Even a cursory glance at the extensive bibliographies by Hammer and Rice (1965) and Gage (1961) as well as at the volumes of IRAL, Language Learning and other journals, reveals that the major emphasis has been on contrasting phonological systems. This preoccupation is understandable since phonology is relatively more accessible than other aspects of language. Also, it is consistent with the structualist dictum regarding the primacy of speech. However, as Stockwell rightly reminds us, it is time to face up to the fact that "pronunication is simply not that important...Grammar and meaning are at the heart of the matter"(1968:22). Despite the 'kiss of life' that syntax has received with the advent of generative grammar, the number of sophisticated studies of contrastive syntax still remains rather small. (Part of the problem may have to do with the rapid change in syntactic theory in the last thirty years that has left the 'applied' linguist constantly trying to catch up with the new developments). The best full length studies of contrastive syntax still remain the volumes produced under the Contrastive Structure Series of the Center for Applied Linguistics, Washington, D.C. The area of vocabulary has hardly been touched at all. One of the notable exceptions is Oksaar (1972). In that work, Oksaar reports on research using the semantic differential technique (Osgood, Hofstätter) in order to measure intra- and interlingual differences (German-Swedish) in the area of connotative meaning. Taking certain operational terms to demonstrate the approach, she comes to the following conclusion: the "competing" terms differ from each other in the two languages, interferences are likely on the non-denotative meaning level of the second language, the source of which lies in the influence of the mother tongue. The extensive work done in bilingual lexicography has not been, as Gleason correctly points out, "deeply theory-informed work" (1968:40). The huge area of usage still remains practically

unchartered and in the absence of a viable theory, the best that can be done in this area is, in the words of Stockwell, "listing with insight". Lado (1957) strongly advocated the need to include comparison of cultures as an integral part of contrastive linguistics; yet his example does not seem to have been pursued seriously. Thus the picture of contrastive studies today is rather lopsided - leaning heavily on the side of phonology, moderately inclined to syntax but, (to mix metaphors,) leaving entire flanks of lexicography, semantics and usage almost completely exposed.

1.7 Critics of CA. For convenience of discussion, we may consider the major criticisms of CA under two heads (i) criticism of the predictions made by contrastive analysis; and (ii) criticism of the theoretical basis of CA.

Critics of CA have argued that since native language interference is only one of the sources of error, indulging in CA with a view to predicting difficulties is not worth the time spent on it; moreover, they argue, many of the difficulties predicted by CA do not show up in the actual learner performance at all; on the other hand, many errors that do turn up are not predicted by CA. In the light of this, they suggest, the only version of CA that has any validity at all is the a posteriori version of CA, i.e., the role of CA should be explanatory, restricted to the recurrent problem areas as revealed by error analysis, rather than the a priori or predictive version (see Whitman and Jackson 1972, Gradman 1971, Lee 1968, Wilkins 1968, Richie 1971, among others).

These, and some other criticisms of CA have been, in my opinion, ably answered in James (1971). Suffice it here to say that the proponents of the strong version of CA are the first to concede that CA does not account for all errors, they never claimed that it did. Secondly, the non-occurrence of error does not necessarily invalidate the prediction - on the other hand, it may confirm it in that it provides evidence that the student is avoiding the use of problematic structures (cf. Corder 1973, Schachter 1974).
CA cannot merely be a subcomponent of EA because, for one thing,

what we need is not only a taxonomic classification of a corpus of data but a corpus-free theory of errors ⟵⟶ and for another, "predictive" CA brings to light areas of difficulty not even noticed by EA. (cf. Schachter 1974). Moreover, the failure of the predictions of CA in particular instances does not necessarily invalidate the theory itself — a distinction often lost sight of by the extremist critics of CA. After all, there have been scores of instances in the published literature of the last decade where the predictions of CA have been borne out by empirical results (see, for example, Duškova 1969, Schachter 1974, Bieritz 1974, among others). George (1972) estimates that approximately one third of all errors made by foreign language learners can be traced to native language interference. Therefore as Stockwell (1968) says, as long as one of the variables that contribute to success or failure in language learning is the conflict between linguistic systems, CA has its place in FL teaching methodology. The critics of CA have not conclusively proved this is not so. If anything, recent developments in the theory and methodology of EA and IL have explicitly incorporated the assumptions and methodology of CA in their models (see section 2.3.4, below). Saying that CA should be only one component among others of FL teaching methodology is not a criticism of CA [per se, — after all, it was meant to be exactly that. Those who have attempted to 'put CA in its place' may only have revealed their own insecurity.

The second type of criticism seeks to show that given its theoretical and methodological assumptions, CA is <u>in principle</u> incapable of accounting for learner behavior. For instance, Newmark and Reibel (1968) contend that interference is an otiose idea and that ignorance is the real cause of errors. Dulay and Burt (1972), among others, accuse CA of being based on the behaviorist conditioning principle, which has now fallen on evil days. Dickerson (1974) says that CA, by denying the 'variability' and the 'systematicity' characteristic of the learner's output is necessarily forced to predict 'categorical' (i.e., non-variable) performance, which does not exist.

The argument of Newmark and Reibel (1968) has been answered by James (1971) and I shall not go into it here. As for the second criticism, despite the authors' dismissal of Corder's argument, I think Corder (1967) is essentially correct in claiming that CA is not incompatible with the generativists' view of language learning as a hypothesis testing process. Only with this view the psychological basis of 'interference' would shift to something more like that of transfer of training, in that the learner may be said to select his experience with the learning of his native language as one of the initial hypotheses to be tested in the course of learning a TL. As for the third criticism (Dickerson 1974), it must be granted that this is one of the most serious criticisms levelled against CA, and calls for a deliberate response. At this point, I shall content myself with a few observations. There is nothing in the CA hypothesis that denies the learner's language systematicity: in fact, the very premise of predictability is the systematicity of the learner's performance. The presence of elements other than those due to interlingual interference is, though correct, not a criticism of CA per se. On the question of 'variability' it is true that none of the current models of CA incorporates this feature. After all, variability still remains a challenge to descriptive linguistics as well, and CA can only be as good as the descriptions on which it is based. Certainly variability must be accounted for in synchronic description as well as contrastive analysis. Selinker's impressionistic observations on the emergence of 'fossilized' elements in the learner's language under certain circumstances is the first step toward recognition and exploration of this important aspect (cf. Selinker 1972). Models of CA in the past have shown considerable resilience, and claims such as that variability analysis is the 'Waterloo of CA' seem to be a bit premature at this point.

2.0 ERROR ANALYSIS

2.1 Traditional EA. Of the three areas of study under review, Error Analysis (EA) has probably the longest tradition. Yet, till recently a typical EA went little beyond impressionistic collection

of 'common' errors and their taxonomic classification into categories (mistakes of agreement, omission of articles, etc.). Little attempt was made either to define 'error' in a formally rigorous and pedagogically insightful way or to systematically account for the occurrence of errors either in linguistic or psychological terms. Hence it is substantically correct to say that traditional EA was an ad hoc attempt to deal with the practical needs of the classroom teacher.

2.1.1 *The goals of Traditional EA.* The goals of traditional EA were purely pragmatic — EA was conceived and performed for its 'feed back' value in designing pedagogical materials and strategies. It was believed that EA, by identifying the areas of difficulty for the learner, could help in (i) determining the sequence of presentation of target items in textbook and classroom, with the difficult items following the easier ones; (ii) deciding the relative degree of emphasis, explanation and practice required in putting across various items in the target language; (iii) devising remedial lessons and exercises; and finally, (iv) selecting items for testing the learner's proficiency. The "applied" emphasis in this approach to error is obvious.

2.1.2 *The methodology.* The methodology of EA, in so far as traditional EA can be said to have followed a uniform method at all, consisted of the following steps:

1. collection of data (either from a "free" composition by students on a given theme or from examination answers);
2. identification of errors (labelling, with varying degree of precision depending on the linguistic sophistication brought to bear on the task, with respect to the exact nature of the deviation, e.g., dangling preposition, anamolous sequence of tenses, etc.);
3. classification into error types (e.g., errors of agreement, articles, verb forms, etc.);
4. statement of relative frequency of error types;
5. identification of the areas of difficulty in the target language;
6. therapy (remedial drills, lessons, etc.).

While the above methodology is roughly representative of the majority of error analyses in the traditional framework, the more sophisticated investigations (for example, Rossipal 1971, Duškova 1969) went further, to include one or both of the following:

(i) analysis of the source of errors (e.g., mother tongue interference, overgeneralization, inconsistencies in the spelling system of the TL, etc.).

(ii) determination of the degree of disturbance caused by the error (or the seriousness of the error in terms of communication, norm, etc.).

Notice that the inclusion of the two tasks just mentioned brings with it the possibility of making EA broadbased and evolving a theory of errors. This possibility, however, has only recently begun to be explored.

2.2 Resurgence of Interest in EA. It was with the advent of CA and its claim to predict and explain (some major types of) errors that serious interest began to be taken in EA. Although in the beginning, CA with its relatively sophisticated linguistic apparatus and the strong claim to predict a majority of errors in second language learning seemed to condemn EA to obsolescence, as the claims of CA came to be tested against empirical data, scholars realized that there were many kinds of errors besides those due to interlingual interference that could neither be predicted nor explained by CA. This led to renewed interest in the possibilities of EA. The claim for using EA as a primary pedagogical tool was based on three arguments: (1) EA does not suffer from the inherent limitation of CA --restriction to errors caused by interlingual transfer: EA brings to light many other types of errors frequently made by learners, for example, intralanguage errors such as over generalization, ignorance of rule restrictions, incomplete application of rules, hypothesizing false concepts, etc. besides other types of errors arising from the particular teaching and learning strategy employed (cf. Richards 1971a). (2) EA, unlike CA, provides data on actual, attested problems and not hypothetical problems and therefore forms a more efficient and economical basis for designing pedagogical strategies (Lee 1968). (3) EA is not confronted with the complex

theoretical problems encountered by CA (e.g., the problem of equivalence, see section 1.5.2) (Wardhaugh, 1970).

Based on arguments such as these, some scholars (e.g., Wilkins 1968) have argued that there is no necessity for a prior comparison of grammars and that an error-based analysis is "equally satisfactory, more fruitful, and less time consuming". The experimental evidence, the little that there is, however, does not support such an extreme position. The investigations in Dušková (1969), Banathy and Madarasz (1969), Richards (1971b) and Schachter (1974), among others, reveal that just as there are errors that are not handled by CA, there are those that do not surface in EA, and that EA has its role as a testing ground for the predictions of CA as well as to supplement the results of CA.

2.3 The reorientaiton of EA. At the same time that the extended domain of EA vis-a-vis CA came to be appreciated, a development took place, largely as a result of the insights of British linguists and those influenced by them, (Corder 1967, 1971a, 1971b, 1973, 1974, Strevens 1970, Selinker 1969, 1972, Richards 1971a, 1971b, 1973) which has not only revolutionized the whole concept of EA, but also opened up an exciting area of research commonly referred to as Interlanguage. Although in the current literature the distinction between EA and Interlanguage is not always clear, we will, for the purpose of this paper, study the developments in two parts, those directly relevant to the theory and practice of error analysis in this part and those having to do with Interlanguage in the next.

2.3.1 *On the notion of 'error'.* Pit Corder, in his influential paper (Corder 1967), suggested a new way of looking at the errors made by the learner of a second language. He justified the proposed revision in viewpoint on the basis of "the substantial similarities between the strategies employed by the infant learning his native language and those of the second language learner". The notion of 'error', he argued, is a function of the traditional practice to take a teacher-centered viewpoint to the learner's performance, and to judge the latter in terms of the norms of the TL.

From the perspective of the language learner, the observed deviations

are no more 'errors' than the first approximations of a child learning his mother tongue are errors. Like the child struggling to acquire his language, the second language learner is also trying out successive hypotheses about the nature of the TL, and from this viewpoint, the learner's "errors" (or hypotheses) are "not only inevitable but are a necessary" part of the language learning process.

2.3.2 *Errors vs Mistakes.* At this point, Corder introduces an important distinction between 'errors' and 'mistakes'. Mistakes are deviations due to performance factors such as memory limitations (e.g., mistakes in the sequences of tenses and agreement in long sentences), spelling pronunciation, fatigue, emotional strain, etc. They are typically random and are readily corrected by the learner when his attention is drawn to them. 'Errors' on the other hand, Corder argues, are systematic, consistent deviancies characteristic of the learner's linguistic system at a given stage of learning. "The key point", Corder asserts,

> is that the learner is using a definite system of language at every point in his development, although it is not...that of the second language...The learner's errors are evidence of this system and are themselves systematic. (1967)

Corder proposed the term "transitional competence" to refer to the intermediate systems constructed by the learner in the process of his language learning.

2.3.3 *The goals of EA.* Given this redefinition of the notion of error, it follows that the goals of EA as conceived previously also need to be redefined. Corder makes a distinction between the theoretical and applied goals of EA. EA has too often, he argues, concerned itself exclusively with the 'applied' goal of correcting and eradicating the learner's errors at the expense of the more important and logically prior task of evolving an explanatory theory of learner performance. The study of the systematic errors made by the learners of a TL yields valuable insights into the nature of language learning strategies and hypotheses employed by learners and the nature of the intermediate 'functional communicative systems' or languages

constructed by them. Thus the "theoretical" aspect of EA is as worthy of study in and of itself as is that of child language acquisition and can, in turn, provide insights into the process of language acquisition in general.

2.3.4 *The data and method of EA.* We have already noted Corder's distinction between 'mistakes' and 'errors'. Corder proceeds to point out that not all errors are overtly observable, i.e., the traditional reliance on obvious, observable deviations in the learner's productive use of the TL is not a reliable procedure for data-collection purposes. The 'covertly erroneons' utterances, i.e., utterances that are superficially well-formed and acceptable, but are produced by a set of rules different from those of the TL (e.g.,"I want to know the English"in the sense of"I want to learn English")should also be considered part of the data for EA. Learner performance may also be right "by chance", i.e., due to holophrastic learning or systematic avoidence of problem structures. All this goes to show that learner errors - overt or covert - "are not properly to be regarded as right or wrong in themselves but only as evidence of a right or wrong system". (Corder 1973:274). Hence, the object of EA is to describe the whole of the learner's linguistic system and to compare it with that of the TL. "That is why error analysis is a brand of comparative linguistic study." (ibid.)

As Corder correctly observes, the crucial element in describing the learner's system is the correct interpretation of the learner's utterances. This is to be done, he says, by reconstructing the correct utterance of the TL,matching the 'erroneous' utterance with its equivalent in the learner's native language. If this can be done by asking the learner to express his intentions in the mother tongue (the translation guaranteeing its appropriateness), then it is an authoritative reconstruction. If the learner is not available for consultation, and the investigator has to rely on his knowledge of the learner's system, his intentions, etc., then it can only be called plausible reconstruction. (p. 274)

On the basis of this data, the investigator can reconstruct the learner's linguistic system. This is to be complemented with a psychological explanation in terms of the learner's strategies and the process of learning. (See section 3.2).

2.4 Is the notion of error obsolescent? The proposed change in the attitude toward the learner's deviant utterances raises several important questions from the pedagogical point of view. Since the assumptions underlying the current approach to EA and the study of Interlanguage are identical, I shall postpone discussion of these questions until after we have examined the concept of IL in more detail. In this section, I shall merely point out some of the issues that need to be clarified in the new framework of EA.

For one thing, we need criteria to distinguish between productive systematic deviations from non-productive but nevertheless systematic deviations in the learner's performance, in order to make learning more efficient. Secondly, we need criteria to determine the seriousness of 'errors' in terms of the degree of disturbance to effective communication (intelligibility, etc.) caused by them. Thirdly, we need to reexamine the notion of errors in the context of second language teaching, especially in those settings where the primary object of learning a second language is not so much to communicate with the native speakers of that language, but for 'internal' purposes, and where full-fledged, functionally adequate non-native varieties of a TL are in wide use (for example, English in India; see Kachru (1976)). It is only when we have clarified these issues that EA will have a pedagogically useful role to play. We shall take up these questions again in section 3.6.

3.0 INTERLANGUAGE: The successive linguistic systems that a learner constructs on his way to the mastery of a TL have been variously referred to as 'idiosyncratic dialects' (Corder 1971a), 'approximative systems' (Nemser 1971a) and 'interlanguages' (Selinker 1969). The term 'Interlanguage' is becoming established in the current literature on the subject, possibly because it is neutral as to the directionality of attitude: the other two terms imply a TL-centered perspective.

The term Interlanguage (IL) seems to be appropriate also for the following reasons: (1) it captures the indeterminate status of the learner's system between his native language and the TL; (2) it represents the "atypical rapidity" with which the learner's language

changes, or its instability; (3) focussing on the term 'language', it explicitly recognizes the rule-governed, systematic nature of the learner's performance, and its adequacy as a functional communicative system (from the learner's point of view, at least).

The single most important influence on the study of IL phenomena has been the findings of the (post-generative) studies of child language acquisition (see Cook 1969, 1973). In a sense, the progression from traditional EA to the concept of IL may be said to parallel the shift from the 'telegraphic' model of child language to the recent study of the stages of child language acquisition in sui generis terms. The earlier model treated the child's speech as a truncated, 'telegraphic' version of adult language and proceeded to derive the child's utterances by means of deletion rules operating on the adult system, just as EA looked upon the second language learner's performance as "inadequate approximations of the TL norm". Recent studies in child language acquisition (cf. Brown, 1973) have recognized the absurdity of describing the child as possessing all the rules of the adult language together with a suspiciously large number of deletion rules. The current approach treats child language learning as a progression of self-contained, internally structured systems, getting increasingly similar to the adult language system. This was essentially the approach advocated as early as 1941 by Jakobson.[7] The parallelism between this change of approach in developmental psycholinguistics and the change from traditional EA to the concept of IL is obvious.

3.1 IL: assumptions. Defining an "approximative system" (L_a) as a "deviant linguistic system actually employed by the learner attempting to utilize the target language", Nemser (1971a) states the assumptions underlying the concept of L_a's:

> ...Our assumption is three-fold: (1) Learner speech at a given time is the patterned product of a linguistic system, L_a, distinct from LS and LT [the source and the target language] and internally structured. (2) L_a's at successive stages of learning form an evolving series, $L_a i....n$, the earliest occurring when a learner first attempts to use LT, the most advanced at the closest approach to LT... (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.

Similar views are put forth by Corder (1967, 1971a), Selinker (1969, 1972) and Richards (1971b, 1973).

3.2 Toward an explanatory theory of IL. Selinker (1972) has proposed a theoretical framework in order to account for IL phenomena in second language learning.

According to Selinker, the most crucial fact that any description of IL must account for is the phenomenon of fossilization.

> Fossilizable linguistic phenomena are linguistic items, rules, and subsystems which speakers of a particular NL will tend to keep in their IL relative to a particular TL, no matter what the age of the learner or amount of explanation or instruction he receives in the TL. (p. 215)

In order to account for this phenomenon, Selinker posits the existence of a genetically determined latent psychological structure (different from Lenneberg's 'latent linguistic structure') "which is activated whenever an adult attempts to produce meanings, which he may have, in a second language he is learning." (p. 229) This latent psychological structure contains five central processes (language transfer, transfer of training, strategies of second language learning, strategies of second language communication, and overgeneralization of TL linguistic material) and a few minor ones (e.g., hypercorrection, spelling pronunciation, cognate pronunciation, holophrase learning, etc.). Each process, he suggests, "forces fossilizable material upon surface IL utterances, controlling to a very large extent, the surface structures of these sentences" (p. 217). It follows from this that "each of the analyst's predictions as to the shape of IL utterances should be associated with one or more of these...processes." (p. 215)

Before proceeding to consider the suggested methodology for describing ILs in terms of the processes listed above, it may be fruitful to clarify some of the terms used to refer to the processes.

'Language transfer' is of course, self-explanatory. So is 'overgeneralization' (e.g., 'What did he intended to say?'). 'Transfer of training' is different from either of these, and refers to cases such as the one where Serbo-Croatians find it hard to use the he/she distinction in English correctly, due to the presentation of drills in textbooks and classroom exclusively with he and never

with she. An example of a 'second-language learning strategy' would be the tendency to reduce the TL to a simpler system' (e.g., omission of function words, plural markers, etc.). 'Second-language communication strategy' refers to the tendency to stop learning once the learner feels he has attained a 'functional competence' in the TL, or that certain elements in the TL are not crucial for effective communication.

3.3. Methodology for studying IL systems. Both Selinker (1972) and Corder (1971b, 1974) agree that since ILs are internally patterned autonomous systems, the data for IL should be based on sources other than those used in conventional EA. Selinker argues that

> the only observable data from meaningful performance in controlled situations (as opposed to classroom drills and experiments with non-sense material) we can establish as relevant for interlingual identifications are (1) utterances in the learner's native language (NL) produced by the learner; (2) IL utterances produced by the learner; and (3) TL utterances produced by the native speakers of that TL. (p. 214)

As opposed to Selinker who feels that "the analyst in the interlingual domain cannot rely on intuitive grammatical judgements since he will gain information about another system...i.e., the TL" (p. 213, footnote 9), Corder (1974) does not consider this a drawback, because the judgements of the learner will give crucial information on what he thinks is the norm of the TL, thus (unconsciously) revealing his own IL system.

3.4 IL: The Empirical Evidence. Nemser (1971a) provides some arguments for the structural independence of IL from the NL and TL systems. Based on his study of the acquisition of English phonology by Hungarian learners (published version, Nemser 1971b), he points out that the learner's IL (i) exhibits frequent and systematic occurrence of elements not attributable to either the learner's NL or the TL; (ii) constitutes a system exhibiting true internal coherence when studied in sui generis terms. Supporting his second assumption (with regard to the evolutionary stages), Nemser notes that the amount and type of deviation in the successive stages of language learning varies systematically, the earlier stages being characterized by syncreticism (under-differentiation), while the

later stages are marked by processes of reinterpretation, hypercorrection, etc. In order to account for the systematicity of deviant forms (or their 'fossilization' at a given stage), Nemser posits the play of two forces: demands of communication force the establishment of phonological, grammatical and lexical categories, and the demands of economy force the imposition of the balance and order of the linguistic system.

Richards (1971a, 1971b), extrapolating from the results of EA in various second language learning situations, shows that many of the 'deviant' forms produced by learners can be accounted for in terms of one or more of the processes posited by Selinker.

The acid test for the IL hypothesis would be, of course, longitudinal studies of second language learning. This task is made extremely complicated by what has earlier been referred to as the instability of the learner's IL. In this difficult area of research, the only study to have appeared to date is Dickerson 1974.

In her study of the acquisition of selected consonant sounds of English by a group of Japanese learners, Dickerson demonstrates that the learner's output at every stage is both systematic and variable, the variability being a function of the internal linguistic environment of the sounds as well as the external style stratification. Dickerson's use of the Labovian variability model to the study of language acquisition is significant for at least two reasons: (i) methodologically, it is ideally suited for the study of manifestly unstable language phenomena such as learners' intermediate systems; and (ii) theoretically, it provides a more plausible explanatory account of the so-called 'backsliding' to IL norm noted by Selinker and many others in the performance of language learners.

It is obvious that the studies reported above seem to provide at best partial evidence for the IL hypothesis. What the study of IL needs is empirical evidence validating each of the psychological constructs posited by Selinker. This task is impeded at present by the lack of a rigorous discovery procedure that can unambiguously identify whether a given utterance

in the learner's IL is produced by the operation of one process as against another. As long as we lack such procedures, the greater explanatory power claimed for IL will remain no more explanatory than that of the much maligned lists of errors organized into error-types.

3.5 IL in relation to CA and EA. At this point, we may pause to consider in what respects, if any, the theory and methodology of IL differ from those of the two other approaches to learner performance in this paper, and to try to assess whether this difference actually amounts to an improvement.

The most obvious difference, of course, is in the attitude toward learner performance, especially toward the 'errors'. While CA per se does not take any position on this issue, traditional EA considers errors to be harmful and seeks to eradicate them; in the framework of IL, the deviations from the TL norm are treated as exponents of the learner's system.

Secondly — and perhaps this is the most important difference — while CA is concerned exclusively with that aspect of the learner's performance which can be correlated with the similarities in his native language, IL avoids this limitation. NL interference is only one of the explanatory tools in the repertorie of the IL investigator. Thus IL is explanatorily more powerful in as much as it includes the explanatory power of CA and extends beyond it.

Methodologically, IL may be said to incorporate the assumptions of both CA and EA. While CA contrasts the learner's NL and the TL, and conventional EA involves contrast between the learner's performance and the TL, IL takes all three systems into account, explicitly incorporating the contrastive analysis of the learner's IL with both his NL and the TL. The difference is that in IL, the contrastive analysis is an initial filtering device, making way for the testing of hypotheses about the other determinants of the learner's language.

3.6. Pedagogical Implications. It is perhaps too early to expect concrete suggestions for practical classroom teaching and preparation of materials based on the assumptions of the new approach to EA and the study of IL. Yet one may wish to at least speculate on the possible pedagogical implications of the recent studies, if only

to generate controversy.

A major outcome of the application of IL studies to FL pedagogy would be a radical change in the teacher's attitude toward the learner's performance (cf. Corder 1967, Cook 1969, Richards 1971a). In particular, the teacher should give up the unreasonable expectation of TL performance from the learner from the very start. Instead, as Dickerson suggests, he is asked to "expect variability", to measure the learner's attempts not in terms of the TL vs non-TL opposition, but in terms of the "proportion of TL and non-TL variants" in the learner's performance in a given situation. From this it follows that the so-called back-sliding to the IL norm does not indicate regression but a natural sensitivity to style differences. This in turn suggests that the traditional monolithic format of proficiency tests should give way to a more flexible, multi-factor format, sampling learner performance in various styles and structural environments.

A similar change in viewpoint is also warranted in deciding on the model of instruction (and consequently the norms of correctness) in those second language (or dialect) learning contexts where indigenous non-native varieties of a TL or "non-standard" native varieties of the TL are in wide use. English in India and West Africa, and Black English in the U.S. are cases in point. While the systematicity, contextual determination and functional adequacy of these varieties have been recognized for some time now (see B. Kachru 1966, Labov 1969, among others), the pedagogical problems posed by them are only recently being appreciated. Richards (1972) suggests that these varieties are properly to be regarded as Interlanguages which have developed as a result of the particular social contexts of their learning and use. In these contexts, he suggests, we need to distinguish not only between 'errors' vs 'non-errors' but also between 'errors' and 'deviations', in the sense of Kachru (1966). According to Kachru, 'deviations' are explainable in terms of the socio-cultural context in which English functions in India, while 'errors' are breaches of the linguistic code of English. Richards points out the relevance of this distinction in second/foreign language teaching: "in the foreign language setting", he observes,

all differences between the learner's use of English and overseas English are mistakes (= errors) or signs of incomplete learning" (p. 182), there is no scope for 'deviations' here, whereas in a second language setting deviations (in the sense just defined) are "reflections of interlingual creativity" (p.181). Given this distinction, it follows that questions of instructional model, etc. are to be decided keeping in mind the pragmatics of language use in such contexts (cf. B. Kachru 1976). If the TL is to be used primarily for communicating with other members of the interlingual community and only very marginally for communicating with the native speakers of the TL, one wonders if the enormous time, effort and resources expended on polishing the t's, d's, θ's and ð's of the learners is justified. Thus the notion of 'error' in such learning contexts needs a redefinition.

This does not mean that teachers are asked to abandon comparison of the learner's language with the norms of the TL altogether, and replace the notion of error with that of interlanguage. On the contrary, as Zyatiss (1974) remarks, a pedagogically oriented description of the learner's language is "always contrastive and eventually evaluative" (p. 234). This viewpoint is shared by Richards (1971b), who agrees that we still need the notion of 'errors' and to 'correct' them,

> simply because speech is linked to attitudes and social structure. Deviancy from grammatical or phonological norms of a speech community elicits evaluational reactions that may classify a person unfavorably. (p. 21)

To sum up some of the problems raised in this section and in section 2.4, if the proposed reorientation in the perspective toward learner's errors is to be pedagogically useful, we need to clarify the following: (i) the criteria to distinguish between errors which are productive hypotheses and errors resulting from false generalizations; (ii) the methodology to clearly identify the sources of errors in terms of the processes outlined in 3.2; (iii) a hierarchy of types of errors in terms of their disturbance to effective communication and attitudinal reactions; and finally (iv) the notion of 'error' vs acceptable 'deviations' in second language learning contexts.

5.0 CONCLUSION: In the course of this paper, I have attempted to show that CA, EA and IL may be looked upon as three evolutionary phases in the attempt to understand and explain the nature of the TL learner's performance. This 'evolution' may be said to involve an extension of perspective in many ways - in the attitude toward the learner's "errors", in the explanatory hypotheses regarding the source(s) of the 'errors', in the data considered relevant for study and in the suggested methodology. In other words, the approach toward the learner's performance has become more broad-based in trying to come up with an explanatory account why the TL learner speaks and writes the way he does.

Unfortunately, the proposed reorientation in theory has not brought with it a sufficiently rigorous methodological apparatus comparable to that of CA. Consequently, while one readily grants that an explanatory account of the TL learner's language must include other components besides interlingual interference, CA still remains the only rigorously worked out component of the theory. The next few years will probably see a flurry of proposals for the study of the role of the other major and minor 'processes' claimed to influence the nature of the TL learner's performance.

FOOTNOTES

1. I am grateful to Professors Braj Kachru and Yamuna Kachru for their suggestions on an earlier version of this paper. My thanks are also due to Mr. Ahmad Siddiqui for his help in preparing this paper.

2. See, for example, the following: George Whitworth: Indian English: an examination of the errors of idiom made by Indians in writing English. (Letchworth, Herts, 1907); T.L.N. Pearse-Smith: English errors in Indian schools (Bombay, 1934); F.Q. French, Common Errors in English (London, 1949).

3. The possibility of evolving a scientific theory of translation that could, in turn, be used in machine translation, has been one of the additional motivations for pursuing CA- see Catford (1965).

4. cf: Sweet (1899): "There is another class of difficulties which may be regarded as partly external, partly internal -

those which depend on the relations of the foreign language to the learner's native language, especially as regards similarity in vocabulary and structure." (p. 53-4 in the 1964 edition). Sweet warned against the formation of wrong "cross-associations" across seemingly similar items in "closely allied languages". Jespersen recognized NL interference, but advocated comparative analysis only as an "interesting" adjunct to the main task of teaching the TL. "Comparisons between the languages which the pupils know, for the purpose of showing their differences of economy in the use of linguistic means of expression...may often become very interesting, especially for advanced students...The teacher may call attention to the inconsistency of the languages; what is distinctly expressed in one case is in another case not designated by any outward sign (haus: Häuser... sheep: sheep)" (Jespersen, 1904 : 135).

H.E. Palmer deals at some length with the "illegitimate" substitutions made by English learners in speaking French - in phonology, lexis and grammar. He also recognizes cases of positive transfer. However, he sternly warns against "the temptation to replace habit-forming by analysis and synthesis (of problem items)." (Palmer, 1964 : 58).

5. This view seems to derive from Lado (1957:2): "Those elements that are similar to his native language will be simpler for him, and those elements that are different will be difficult."

6. Bouton (1976) points out that the universal base hypotheses and the notion of equivalence in the sense of Kreszowski are not strictly compatible.

7. See Jakobson (1941). In the words of Ferguson (1968), "...Jakobson made clear the notion that a child's language is always a coherent system (although with more marginal features and fluctuation than adult language) and that the development of a child's language may profitably be regarded as a succession of stages, just as the history of a language may be."

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