

## ON CONTRASTIVE ANALYSIS

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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 cause no difficulty, by comparing systematically the language and culture to be learned with the native language and culture of the student. (Lado, 1957, preface vii).

Thus did Robert Lado present what he called "a fairly new field of applied linguistics and the analysis of culture." More explicitly he adds, "We assume that the student who comes in contact with a foreign language will find some features of it quite easy and others extremely difficult. Those elements that are similar to his native language will be simple for him and those elements that are different will be difficult."

It is hard to see how anyone could disagree with this assumption. Compare Fries (1945) "The most effective materials ...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", and Harris (1954) "It may prove possible to acquire a language by learning only the differences between the new language and the old (leaving those features which are identical in both to be carried over untaught)." Furthermore, at the time of these statements the Stimulus-Response theory of learning was in its heyday. There seemed nothing wrong with assuming that there are "special problems arising out of any effort to develop a new set of language habits against a background of different native language habits" (Fries, 1957) and "individuals tend to transfer the forms and meanings of their native language and culture to the foreign language and culture...both productively...and receptively" (Lado, 1957). The assumption found further justification in previous findings by Weinreich (1953) which supported Lado's statement that "many linguistic distortions

heard among bilinguals...correspond to describable differences in the language involved." This having been granted, it was easy to believe him when he said: "The teacher who has made a comparison of the foreign language with the native language of the students will know better what the real problems are and can better provide for teaching them."

According to Lado, considerable gains were to be made by this comparison, and he mentions three areas: teaching, testing and research. Gains in teaching may be succinctly declared as those "insights into the problems that cannot be easily achieved otherwise"; more to the point, a teacher would, after this comparison, be better qualified to

- i) evaluate teaching materials (before they are adopted for use) as to their correct grading of grammatical structure, pronunciation, and vocabulary.
- ii) prepare new teaching materials (including textbooks). "It will soon be considered quite out of date to begin writing a textbook without having previously compared the two systems involved.
- iii) supplement inadequate textbooks and other teaching materials (i.e. those which had not been made following a comparison).
- iv) diagnose quickly and accurately the problems troubling a student.

Long, laborious and perhaps ineffective explanations could be avoided by merely pointing to the differences in the patterns involved.

Gains in testing are obtained when "from the results of such a comparison we know pretty accurately just what the learning problems are" and can then "concentrate our ingenuity on how to test them." This was especially valuable in:

- i) testing pronunciation; what has to be tested is the students' ability to perceive and produce the significant sound contrasts of the language.
- ii) testing grammatical structure; what has to be tested here is the students' ability to comprehend the gram-

matical meaning and to express grammatical meanings through the patterns of the language.

- iii) testing vocabulary and understanding of the foreign culture (understood as "specific patterns of behaviour").

What precedes has been an attempt to convey the enthusiasm that was kindled in the field of language teaching. Teachers had had at their disposal a scientific method of language teaching; now they could have teaching materials prepared scientifically as well. Two years later in a typically American 'grand' style, work was begun on the production of contrastive grammars on a large scale; the Center for Applied Linguistics of the Modern Language Association launched a vast project to produce contrastive grammars of English and German, Italian, French, Russian and Spanish, the languages most commonly taught in the United States. Even as recently as 1966, Lado's basic assumption was being repeated and recommended to teachers.

"Learning means changing behaviour i.e. changing habits... The change that has to take place in the language behaviour of a foreign language student can be equated with the differences between the structure of the student's native language and culture, and that of the target language and culture. The task of the linguist, the cultural anthropologist, and the sociologist is to identify these differences. The task of the writer of a foreign language teaching programme is to develop materials which will be based on a statement of these differences; the task of the teacher is to be aware of these differences and to be prepared to teach them; the task of the student is to learn them... Again, what the student has to learn equals the sum of the differences established by the contrastive analysis." (Banathy et al. 1966).

This may very well be the last naive statement about contrastive analysis made in a book of such importance. Loss of innocence, however, occurred much before this date. In the next sections I will analyse I.- Lado's assumption that we can predict and describe areas of difficulty and ease in learning; II.- the theory of transfer on which Lado's assumption rests; III.- the direction which the assumption seems to imply; and IV.- the applications in language teaching.

## I. ASSUMPTION

It is not difficult to find in Weinreich's work (1953) statements which seem to correspond bit by bit with Lado's formulation of his assumption. Language in Contact was written as an attempt to show "to what extent interference is determined by the structures of two languages in contact as against non-linguistic factors in the socio-cultural context of the language contact." He calls interference, "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." He attributes interference to differences between the languages and says that "the greater the differences between the systems...the greater is the learning problem and the potential area of interference." He also mentions the possibility of predicting interference and ease in learning (facilitation). "The contrastive analysis of the phonemes of two languages...yields a list of the forms of expected interference... when the sounds are viewed as part of a phonic system certain additional factors emerge which favour or inhibit faulty sound reproduction." Lado seems to have adopted and elaborated on statements like this, but in so doing he seems to have ignored other bits which, had they been taken in consideration, would have modified his own statement, making it less absolute, less final, perhaps then, those of his followers (like Banathy). "If...systems...are compared and their differences delineated, one ordinarily has a list of the potential forms of interference in the given context situation...But not all potential forms of interference actually materialise. The precise effect of bilingualism on a person's speech varies with a great many other factors, some of which might be called extra-linguistic; because they lie beyond the structural differences of the languages..." (see Note 1).

In 1959, in his Review of Skinner's Verbal Behaviour, Chomsky demonstrated that a theory of language acquisition based on stimulus, response and reinforcement was insufficient to explain how language is learnt (see Note 2); the implication is that, there being more to language learning than the mere acquisition of habits, there must be sources of interference other than native language habits. This review and the two other works by Chomsky which I will mention later, Syntactic Structures and Aspects of the Theory of Syntax, helped cause the loss of innocence I mentioned above; the knowledge that contrastive analysis could no longer be "the least ques-

tioned or questionable application for linguistics to language teaching" (Politzer, 1968).

Criticisms against the predictive power of contrastive analysis, in fact, have been abundant, but they all seem to point to the fact that there will be areas of difficulties - as evidenced by the learner's errors - which either contrastive analysis will not predict or, which will not materialise. (For an example see Lee, 1968).

The opposite view, that similarities in language will cause ease in learning and that we can predict where this will happen, has also been criticised. Weinreich cites Wolff (1950) "in teaching English to native speakers of Spanish, 'familiar' phonemes with unfamiliar allophones presented much greater difficulties than brand new phonemes." Lee (1968) actually says that what is dissimilar may sometimes help the learner more than what is similar, etc.

Research has been carried out to substantiate the claims that there may be sources of difficulty in learning other than interference from mother tongue. Most modern authors agree on this (see Lee again). I will report on one such experiment more or less extensively and mention two others. The first one is an experiment with Czech adult learners of English (post-graduate students). The experimenter (Duskova, 1969) reports, "Interference from the mother tongue was plainly obvious in errors in word order and sentence construction, i.e. on the syntactic level", but she also found a significant number of errors where no connection with the mother tongue was apparent. She classifies these errors as follows:

- i) omission of the plural endings ('two month').
- ii) lack of agreement between subject and verb ('we was') and omission of third person singular '-s'.
- iii) confusion of infinitive and past participle ('may be consider as', 'I am going to attended').
- iv) confusion of present and past participle ('can be treating as')
- v) lack of agreement between adjective and noun ('this workers')

- vi) confusion of adjective and adverb ('learn good', 'exactly rules')
- vii) errors in the forms of the irregular verbs ('I have wrote', 'I gone')
- viii) omission of 'be' ('would you so kind')

According to her there would be no reason for making these mistakes if the reasons were to be found only in the mother tongue. "These errors occur even in cases where the English form is quite analogous to the corresponding Czech form" and, remarkably, where a word-by-word translation would have given a correct English sentence:

by neneda	byt	povazovana	
should not	be	considered	(see iii above)

She sums up the results of her experiment by saying that the "mother tongue is not the only source of interference; there is also interference between the forms of the language to be learnt." This substantiates another of Lee's claims. (see Note 3).

There seems to be reason, then, to claim that there may be sources of difficulty other than interference. Weinreich and Lee coincide in their mention of one: 'bad teaching'. However, this must not obscure the fact that interference remains as one possible source of difficulty and that, consequently, predictions based on comparison could still be valid sources of information to language teachers and textbook writers. The claim that it is possible to describe the areas of difficulty by comparison must now be discussed.

In 1957, in *Syntactic Structures*, Chomsky proved that a 'structural' theory of language is not capable of explaining all the facts of language, or even of a specific language such as English. If one remembers that contrastive analysis relied on structural linguistics for its descriptions of languages, the implications are obvious; there can be no description of any language, and so no comparison between languages is possible.

To this charge, contrastive analysis reacted by embracing the new faith; so did, for instance, Banathy et al (1966) who

proposed that the contrastive analysis should be carried out in transformational fashion. This analysis would yield a list of differences between the two languages and this in turn would be the content of language teaching. They propose that teaching should be done in a progression from sentences generated by phrase-structure rules, plus obligatory transformations to those generated by optional transformations.

Two other applied linguists who have embraced the transformational approach are Nickel and Heinz (1968) who propose that the primary task of contrastive analysis should be the "comparison of rules and rule systems, and not the structure determined by them." Lado himself has got onto the same transformational train; he assumes that surface structures can be explained as deep structures plus transformations. He proposes that comparison should be at the level of surface structure and transformations from deep structure; he also advocates a teaching strategy which would begin where differences are minimal, deep structure, and end where they are greatest, surface structure. Following this approach may result in unexpected consequences.

In 1965, Chomsky proposed several revisions to Syntactic Structures (Aspects, 1965). Among other things he added a semantic component to the grammar and established two levels of description: deep and surface structure. This had the effect of outmoding the model proposed in Syntactic Structures and the implication follows that the model is not good enough. In an article published in 1968, Fillmore criticised Aspects and proposed a still deeper level of description, a semantic one where Chomskyan notions of subject, object, etc. would be eliminated. This paper created a division between transformationalists, who gave the semantic component an interpretive role, and those who gave it a generative one. From this we can draw the conclusion that there is at present no unified theory of language, and no single model with which everybody agrees. That is, there is no 'best' model of description. Consequently, on a theoretical level, it is impossible to describe English, or any other language, and so, it is impossible to compare any two of them. On a less theoretical level there is nothing to prevent comparison. However, the results of such comparison may prove rather banal. In an attempt to prove the relevance of transformational grammar to language teaching, Banathy et al show that a Spanish sentence ('la situación temida') and its English counterpart ('the feared situation')

have, indeed, the same deep structure and differ only in the transformations necessary to map them onto surface structure. The banality of such discovery is made evident in Wilkins' review of Valdman (Wilkins, 1968). "The reviewer is at a loss to see why this example was chosen, since it reveals nothing of importance that would not be revealed by a simple surface analysis. It is hard to see what use in teaching there would be in knowing that the deep structures are the same." This, in fact, can be said of most English sentence types as put forward in A Grammar of Contemporary English (Quirk, 1972) and their Spanish equivalents.

The most recent attempt at introducing changes in the approach contrastive analysis should take is based on Whorf's hypothesis, namely, that the way in which we perceive and conceptualise physical reality is determined by the grammatical structures of our mother language. The author of this proposal (Dirven, 1976) cites an experiment cited by Carroll (1963) where it was demonstrated that Navaho children pay more attention to the shape of objects than to their colours when classifying them; this correlated (not in a technical sense) with the existence in Navaho of a dozen 'shape classifiers' which children learn by the age of three; the author of this article proposes that the strategies by which the real world is 'conceptualised' should be made the object of contrastive analysis.

In summary, there is not at present a model of description by means of which we could describe a language or compare it with another; any of the present models fall short of theoretical expectancy. Even if we had such a model and could compare two languages, we would have identified only one (among many) potential source of difficulty in language learning. That we would find any areas of easy teaching is doubtful.

## II. TRANSFER

Assuming that positive transfer (facilitation) and negative transfer (interference) are a reality in language learning, J.B. Carroll (1968) asks, "What steps can be taken to maximise positive transfer and minimize negative transfer?" The psychologist, he answers, would not be able to give a direct answer; he would suggest that there are many factors involved (age of the learner, aptitude, motivation, method of teaching, etc.) Furthermore, "Interference theory has not been focused on the



kinds of learning problems that one confronts in learning a second language." He cites, for instance, experiments made with learning under conditions called 'paradigm AB-AC' where the subject is taught to give an answer (B) to a stimulus (A) and then, he is trained to give a different answer (C) to the same stimulus. It was found, Carroll says, that in this paradigm, negative transfer is "a universal finding"; the learning of AC takes place more slowly when preceded by the learning of AB than when it is not (see Note 7). In addition, learning of AC involves forgetting of AB. But in foreign language, he says, we "do not normally desire the subject to forget his first language responses." The situation in second language learning is like in paradigm A(N)B-A(F)C. (N = a native language, F = foreign language); that is, the answer depends on the language of the question. But this paradigm, he says, has not been amply investigated.

Carroll also says that positive transfer has been predicted when the stimuli are different and the response is identical (paradigm AC-BC). He adds, "Actually, there is still considerable questioning as to whether the AC-BC paradigm will yield positive transfer. Some recent investigations have found negative transfer for this paradigm, in an amount that although not as great as for the AB-AC paradigm is still negative." If Carroll then concludes that he doesn't believe "there is any psychologist yet who can give satisfactory answers" to the question about effects of transfer in foreign language learning, I would tend to believe him. He goes on to lukewarm 'inferential support' to the idea that we can predict difficulties in learning. He qualifies his support 'particularly' when the students are given explanations on the differences so that "they will have an opportunity to profit from this information to whatever extent they can."

### III. DIRECTION OF ANALYSIS

A harsher attack on contrastive analysis deems it unnecessary. When Lado says that by making a comparison the teacher will know what the real problems are and that only by making this comparison can the teacher achieve 'insights into the problems' he is stating one side of the situation. The other side has been put forward by people who argue that an experienced teacher knows perfectly well what his students' problems are from the errors they make and so there is no need of any pre-

diction based on an extended analysis of the structures of the mother tongue. If he is not an experienced teacher he will probably be one very soon; errors have also been ascribed to bad teaching. These two directions have been identified and are known as 'the strong version of contrastive analysis' and the 'weak version of contrastive analysis' or 'error analysis'. "Errors are best observed." (Lee, 1968). The purpose of error analysis is to recognise, describe and explain errors made by the students with the purpose of devising teaching strategies to help them to overcome their difficulties. The idea is put forward that a learner learns from his errors which are seen as the result of wrong hypothesis he has made about the language he is learning, and so they are immediate feedback which oblige him to make new hypotheses. This is active learning; learning where the student makes use of his power of reasoning, hypothesis-forming, etc. It is not difficult to see here a rejection of audiolingualism's claims that a student should not be allowed to make any mistake lest he learns it.

It is easy to infer each 'direction' has its own supporters and there are some 'eclecticists' too. Saporta (1966) questions the necessity of prior comparison of grammars among others. Wilkins (1968) does too. Saporta says that it is not clear that "the results of such a comparison would be significantly different from...an examination of student errors", and Wilkins". "What advantage is there to predictive contrastive analysis as against contrastive analysis of known students errors" especially, if, as Lado (1968) proposes error analysis could be used to check the predictions of contrastive analysis. In no way do I want to imply that Wilkins has stood up for error analysis as against contrastive analysis or that he takes any position whatsoever in this issue. The term 'supporter' in the text above does not apply to him.

#### IV. APPLICATION OF ANALYSIS

There has been so far a certain overlapping and confusion between the two areas mentioned by Lado as areas of application of analysis; preparation of teaching materials, syllabuses, textbooks, etc; and actual teaching in the classroom. It is right, it should be so; no one can claim that we can separate them, except perhaps artificially for convenience of discussion. But I do not see here any reason to make this separation; teaching materials will necessarily influence classroom activity.

Since, according to the theoretical point raised earlier, it is impossible to describe English or any other language adequately at the moment, it follows that we cannot write adequate teaching materials. If, on the practical level we do so, we do it knowing that whatever our choice of model, if indeed we can choose any other approach over a structural one, the results will not be the best possible. Stockwell et al (*op cit*) attempted a compromise between a structural and transformational comparison by describing 'sentence types' in English and Spanish and then explaining the necessary transformations to map certain 'kernel' sentences onto surface structure. But this grammar shows the inadequacies which this discussion leads one to expect. It follows that any textbooks or syllabuses designed on the basis of this grammar will be somehow inadequate and that this will be reflected in the classroom.

In view of what has been said so far, I am asked, "How reasonable is Lado's assumption?" In view of the same information, my answer is, 'not very reasonable'; it is too final, too absolute. Room should have been left for other variables in language learning and for new findings in psychology, linguistics, etc. There is behind it the idea that teaching can be reduced to an algorithmic process, that it can be made 'mathematical', 'scientific' 'error-free'; there is behind it the idea that a teacher cannot be a linguist, a cultural anthropologist or a sociologist even of his own language and culture; he is better reduced to a technologist. But a teacher can give a good explanation even out of a bad description, and can compare the foreign language with his own better than any linguist who is not a native speaker of the teacher's own language. What is more important, he can do it when the situation requires it, and in the amount it requires; a teacher can turn a predicted failure (as some points raised above seem to suggest) into a success. A teacher should be ready to improvise, to change course, to try new things and experiment on his own. A teacher should be creative in his teaching in the same sense in which he is creative in his language. Part of this creativity will result from an awareness of issues such as contrastive analysis. The only problem is, "Where is that teacher?" The answer is that we can create him in the teaching colleges. However idealistic, however naive and unrealistic this answer may be, it is not more so than the assumptions underlying contrastive analysis. Error analysis, at least, is done by the teacher-linguist-anthropologist on the product of his own teaching. That error analysis is offered to the teacher as a tool makes

my answer less idealistic, less naive and less unrealistic. It needs the same kind of knowledge as contrastive analyses, although a teacher can do this only in the 'small' style that his particular teaching situation requires. The situation is not so simple of course, and there will be occasions when even this teacher will be limited by the situation in which his teaching takes place.

On the other hand, I am in favour of contrastive analysis especially in reference to its possible applications. Nor am I the only one to do so: contrastive analysis is mentioned as a tool in the search for language universals, and as a tool in the search for the ideal 'natural' innate syllabus by which all children learn their native language. But in the field of language teaching, its specific application to the preparation of teaching materials is what attracts me, and I would venture to say that it is here where its strength and tremendous vitality lie, and it is this that has kept it alive even when posed against such formidable opponents as error analysis.

#### NOTES

1. Among other causes of (linguistic) interference Weinreich mentions what he calls 'interlingual identification' i.e. the identification of elements which are similar in both languages but are used differently, thereby causing interference. At the phonemic level he exemplifies with Russian unaspirated /p/ and English /p/ which has two allophones one aspirated and one unaspirated. A Russian bilingual would tend to use his unaspirated phoneme (with only an unaspirated realisation) where the English monolingual would use the aspirated allophone. In word order, SVO is 'denotative' in English (i.e. carries meaning) whereas in Russian it is 'largely stylistic', but confusions are likely to occur and do occur. Lexically there may also be confusion as when, for instance, due to similarities in vocabulary a Russian speaker may say 'I have long feet' meaning 'legs'. The phonemic example suggests that a phonetic analysis is necessary too, as indeed Lado suggested, but structure and lexicon differences here are explained by use for which Lado makes no provision in his statement.

Spanish has one phoneme /i/ whereas English has two, /i:/ and /I/. One can predict difficulties in recognition and production of these phonemes, and indeed, such prediction is ful-

filled. But two languages mentioned in Languages in Contact have the same distribution of i's; Schwyertusch has /i/ and Romansch /i/, /I/. Here the prediction fails, for the speakers of the first languages very easily learn to differentiate, both productively and receptively, the Romansch sounds. This is, again, conditioned by use.

2. In an article entitled 'Critique and Reformulation of 'Learning-Theory' Approaches to Psychotherapy and Neurosis' Bregner and McGaugh (1973) argue that "The particular learning principles advocated by the behaviour-therapy group are found to be outmoded and unable to account for evidence from laboratory studies of learning. Particularly open to criticism are: (a) the emphasis on the peripheral response, (b) the assumption that concepts taken from Pavlovian and operant conditioning can be used as explanatory principles, and (c) the use of the concept of reinforcement. The inadequate conception of learning phenomena in terms of conditioned responses and reinforcement is paralleled by an equally inadequate conception of neurosis in terms of discrete symptoms." It is significant that among other arguments the authors cite Chomsky's Review of Verbal Behaviour in support of their position.

3. The two others to be mentioned are: Mohsen Ghadessy's analysis of errors in Iranian students (IRAL, Vol XIV/1, 1976). He follows lines similar to Duskova's study and finds errors due to causes other than interference from mother tongue. The same author mentions a study of errors made by French students learning English and its author's conclusion that "the French sentences that correspond literally to their English equivalent are not necessarily the easiest to learn" and that "the probability of errors could not be assessed only from the degree of divergence of the two linguistic structures" (Buteau, 1970).

4. Transfer and prediction are so closely related that while discussing the latter it was inevitable to discuss the former too; we make transfer (interference) the basis of our prediction, so the two terms cannot be separated very easily. Section IV adds a few words to the concept of transfer only.

5. Paradigm AB-AC. A learner has learnt to associate the object 'pen' with the word /pen/; when he learns the Spanish equivalent, he must produce a new response (/pluma/) to the same stimulus, the object 'pen'.

Paradigm AC-BC. A learner has learnt to associate the word /run/ with the action 'run'; then he is asked to associate a new stimulus, the word /correr/ with the same action.

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