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THE SIGNIFICANCE OF LEARNER'S ERRORS.
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ERRORS (NOT MISTAKES) MADE IN BOTH SECOND LANGUAGE
LEARNING AND CHILD LANGUAGE ACQUISITION PROVIDE EVIDENCE THAT
A LEARNER USES A DEFINITE SYSTEM OF LANGUAGE AT EVERY POINT
IN HIS DEVELOPMENT. THIS SYSTEM, OR "BUILT-IN SYLLABUS," MAY
YIELD A MORE EFFICIENT SEQUENCE THAN THE INSTRUCTOR-GENERATED
SEQUENCE BECAUSE IT IS MORE MEANINGFUL TO THE LEARNER. BY
ALLOWING THE LEARNER'S INNATE STRATEGIES TO DICTATE THE
LANGUAGE SYLLABUS, RATHER THAN IMPOSING UPON HIM PRECONCEIVED
NOTIONS OF WHAT HE OUGHT TO LEARN, A MORE EFFECTIVE MEANS OF
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THE SIGNIFICANCE OF LEARNER'S ERRORS

S. P. Corder

Il est étonnant de constater la légèreté avec laquelle les travaux de pédagogie linguistique passent sur la question des erreurs commises par les élèves et de la correction de celles-ci. Il existe en méthodologie deux écoles: celle qui soutient que la présence des erreurs n'est qu'un indice de la défektivité de la technique d'enseignement, et une autre qui est d'avis que, puisque nous vivons dans un monde imparfait, les erreurs apparaîtront nécessairement malgré tous nos efforts. Suit une discussion sur les rapports entre l'apprentissage de la langue maternelle et celui d'une deuxième etc. langue à un âge plus mûr. Il reste à prouver que le processus d'apprentissage d'une deuxième langue est fondamentalement différent de celui du premier apprentissage. Une motivation une fois donnée, il est inévitable qu'un être humain apprenne une deuxième langue à condition d'être exposé à des faits linguistiques appartenant à cette langue. La motivation et l'intelligence semblent être les deux principaux facteurs ayant une corrélation significative avec les progrès faits en une deuxième langue. L'auteur propose comme hypothèse de travail que la stratégie adoptée pour l'apprentissage d'une deuxième langue est du moins partiellement la même que celle appliquée pour l'acquisition de la première. Et pourtant il sera nécessaire de supposer une différence entre les deux. L'hypothèse que celui qui apprend la deuxième langue a à tester est la suivante: le système de la nouvelle langue est-il identique au différent de la langue que je connais?, et, s'il en est différent, en quoi consiste la différence? Un grand nombre des erreurs commises sont dues à la langue maternelle — interférence selon une terminologie courante. A la lumière des hypothèses nouvelles il vaut mieux y voir des indices de l'exploration du système de la nouvelle langue entreprise par l'élève plutôt que des signes d'une persistance d'habitudes acquises antérieurement. La position prise par l'auteur est la suivante: la maîtrise de l'élève de sa langue maternelle facilite l'apprentissage de la deuxième langue; les erreurs ne sont pas des signes d'obstacles mais des indices d'une stratégie utilisée dans l'apprentissage. Nous devons nous adapter aux besoins de l'élève plutôt que de lui imposer nos conceptions à nous des méthodes d'apprentissage (des "comment", des "quoi", des "quand").

Es ist auffallend, wie oberflächlich man in sprachpädagogischen Werken die Frage der Fehler des Lernenden und deren Korrigierung behandelt. Es gibt zwei methodisch verschiedene Schulen: die, welche geltend macht, daß das Vorhandensein von Fehlern nur ein Indiz methodischer Mängel ist, und diejenige, die meint, daß trotz unserer Bemühungen Fehler entstehen müssen, weil wir in einer mangelhaften Welt leben. Es folgt eine Diskussion über das Verhältnis zwischen dem Erlernen der Muttersprache und dem einer zweiten usw. Sprache in einem reiferen Alter. Es bleibt zu beweisen, daß der Prozeß des Erlernens einer zweiten Sprache grundsätzlich verschieden ist von dem der ersten. Wenn eine Motivation vorhanden ist, lernt ein Mensch eine zweite Sprache, sobald er in Kontakt mit den betreffenden sprachlichen Daten gebracht wird. Die Motivation und die Intelligenz scheinen die zwei wesentlichen Faktoren zu sein, die zu den Fortschritten in der zweiten Sprache

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eine signifikante Korrelation haben. Vf. schlägt als Arbeitshypothese vor, daß der Weg zum Erlernen einer zweiten Sprache mindestens teilweise derselbe ist wie derjenige, der beim Erlernen der ersten gegangen wird. Und trotzdem muß man vermuten, daß es einen Unterschied zwischen beiden gibt. Wer eine zweite Sprache lernt, hat die folgende Hypothese zu testen: ist das System der neuen Sprache identisch mit dem der schon bekannten Sprache oder nicht. Wenn sie nicht identisch ist, worin besteht der Unterschied? Eine große Anzahl der begangenen Fehler beruht auf der Muttersprachen-Interferenz in der geläufigen Terminologie. Im Licht der neuen Hypothesen ist es besser, die Fehler als Indizien der Entdeckung der neuen Sprache durch den Lernenden zu betrachten, als darin eine Fortsetzung von einmal erworbenen Gewohnheiten zu sehen. Der Standpunkt des Vfs. ist der folgende: Die Beherrschung der Muttersprache erleichtert das Erlernen der zweiten Sprache; die Fehler sind nicht Zeichen irgendeiner Hemmung, sondern Indizien eines bestimmten Vorgehens beim Erlernen. Wir müssen mehr über den Lernenden wissen. Wir müssen uns eher seinen Bedürfnissen anpassen, als ihm unsere Auffassung der Lehrmethoden aufzuzwingen (vom „wie“, „was“, und „wann“).

When one studies the standard works on the teaching of modern languages it comes as a surprise to find how cursorily the authors deal with the question of learners' errors and their correction. It almost seems as if they are dismissed as a matter of no particular importance, as possible annoying, distracting, but inevitable by-products of the process of learning a language about which the teacher should make as little fuss as possible. It is of course true that the application of linguistic and psychological theory to the study of language learning added a new dimension to the discussion of errors; people now believed they had a principled means for accounting for these errors, namely that they were the result of interference in the learning of a second language from the habits of the first language. The major contribution of the linguist to language teaching was seen as an intensive contrastive study of the systems of the second language and the mother-tongue of the learner; out of this would come an inventory of the areas of difficulty which the learner would encounter and the value of this inventory would be to direct the teacher's attention to these areas so that he might devote special care and emphasis in his teaching to the overcoming, or even avoiding, of these predicted difficulties. Teachers have not always been very impressed by this contribution from the linguist for the reason that their practical experience has usually already shown them where these difficulties lie and they have not felt that the contribution of the linguist has provided them with any significantly new information. They noted for example that many of the errors with which they were familiar were not predicted by the linguist anyway. The teacher has been on the whole, therefore, more concerned with *how* to deal with these areas of difficulty than with the simple identification of them, and here has reasonably felt that the linguist has had little to say to him.

In the field of methodology there have been two schools of thought in respect of learners' errors. Firstly the school which maintains that if we were to achieve

a perfect teaching method the errors would never be committed in the first place, and therefore the occurrence of errors is merely a sign of the present inadequacy of our teaching techniques. The philosophy of the second school is that we live in an imperfect world and consequently errors will always occur in spite of our best efforts. Our ingenuity should be concentrated on techniques for dealing with errors after they have occurred.

Both these points of view are compatible with the same theoretical standpoint about language and language learning, psychologically behaviourist and linguistically taxonomic. Their application to language teaching is known as the audio-lingual or fundamental skills method.

Both linguistics and psychology are in a state at the present time of what Chomsky has called 'flux and agitation' (Chomsky 1966). What seemed to be well established doctrine a few years ago is now the subject of extensive debate. The consequence of this for language teaching is likely to be far reaching and we are perhaps only now beginning to feel its effects. One effect has been perhaps to shift the emphasis away from a preoccupation with *teaching* towards a study of *learning*. In the first instance this has shown itself as a renewed attack upon the problem the acquisition of the mother-tongue. This has inevitably led to a consideration of the question whether there are any parallels between the processes of acquiring the mother-tongue and the learning of a second language. The usefulness of the distinction between acquisition and learning has been emphasised by Lambert (1966) and the possibility that the latter may benefit from a study of the former has been suggested by Carroll (1966).

The differences between the two are obvious but not for that reason easy to explain: that the learning of the mother-tongue is inevitable, whereas, alas, we all know that there is no such inevitability about the learning of a second language; that the learning of the mother-tongue is part of the whole maturational process of the child, whilst learning a second language normally begins only after the maturational process is largely complete; that the infant starts with no overt language behaviour, while in the case of the second language learner such behaviour, of course, exists; that the motivation (if we can properly use the term in the context) for learning a first language is quite different from that for learning a second language.

On examination it becomes clear that these obvious differences imply nothing about the *processes* that take place in the learning of first and second language. Indeed the most widespread hypothesis about how languages are learned, which I have called behaviourist, is assumed to apply in both circumstances. These hypotheses are well enough known not to require detailing here, and so are the objections to them. If then these hypotheses about language learning are being questioned and new hypotheses being set up to account for the process of child language acquisition, it would seem reasonable to see how far they might also apply to the learning of a second language.

Within this new context the study of errors takes on a new importance and will I believe contribute to a verification or rejection of the new hypothesis.

This hypothesis states that a human infant is born with an innate predisposition to acquire language; that he must be exposed to language for the acquisition process to start; that he possesses an internal mechanism of unknown nature which enable him from the limited data available to him to construct a grammar of a particular language. How he does this is largely unknown and is the field of intensive study at the present time by linguists and psychologists. Miller (1964) has pointed out that if we wished to create an automaton to replicate a child's performance, the order in which it tested various aspects of the grammar could only be decided after careful analysis of the successive stages of language acquisition by human children. The first steps therefore in such a study are seen to be a longitudinal description of a child's language throughout the course of its development. From such a description it is eventually hoped to develop a picture of the procedures adopted by the child to acquire language (McNeill 1966).

The application of this hypothesis to second language learning is not new and is essentially that proposed fifty years ago by H. E. Palmer (1917). Palmer maintained that we were all endowed by nature with the capacity for assimilating language and that this capacity remained available to us in a latent state after the acquisition of a primary language. The adult was seen as capable as the child of acquiring of foreign language. Recent work (Lenneberg 1966) suggests that the child who fails for any reason i. e. deafness, to acquire a primary language before the age of 12 thereafter rapidly loses the capacity to acquire language behaviour at all. This finding does not of course carry with it the implication that the language learning capacity of those who have successfully learned a primary language also atrophies in the same way. It still remains to be shown that the process of learning a second language is of a fundamentally different nature from the process primary acquisition.

If we postulate the same mechanism, then we may also postulate that the procedures or strategies adopted by the learner of the second language are fundamentally the same. The principal feature that then differentiates the two operations is the presence or absence of motivation. If the acquisition of the first language is a fulfilment of the predisposition to develop language behaviour, then the learning of the second language involves the replacement of the predisposition of the infant by some other force. What this consists of is in the context of this paper irrelevant.

Let us say therefore that, *given motivation*, it is inevitable that a human being will learn a second language if he is exposed to the language data. Study of language aptitude does in some measure support such a view since motivation and intelligence appear to be the two principal factors which correlate significantly with achievement in a second language.

I propose therefore as a working hypothesis that some at least of the *strategies* adopted by the learner of a second language are substantially the same as those

by which a first language is acquired. Such a proposal does not imply that the course or *sequence* of learning is the same in both cases.

We can now return to the consideration of errors made by learners. When a two year old child produces an utterance such as "This mummy chair" we do not normally call this deviant, ill-formed, faulty, incorrect or whatever. We do not regard it as an error in any sense at all, but rather as a normal childlike communication which provides evidence of the state of his linguistic development at that moment. Our response to that behaviour has certain of the characteristics of what would be called 'correction' in a classroom situation. Adults have a very strong tendency to repeat and expand the child's utterance in an adult version; something like 'Yes, dear, that's Mummy's chair'.

No one expects a child learning his mother-tongue to produce from the earliest stages only forms which in adult terms are correct or non-deviant. We interpret his 'incorrect' utterances as being evidence that he is in the process of acquiring language and indeed, for those who attempt to describe his knowledge of the language at any point in its development, it is the 'errors' which provide the important evidence. As Brown and Frazer (1964) point out the best evidence that a child possesses construction rules is the occurrence of systematic errors, since, when the child speaks correctly, it is quite possible that he is only repeating something that he has heard. Since we do not know what the total input has been we cannot rule out this possibility. It is by reducing the language to a simpler system than it is that the child reveals his tendency to induce rules.

In the case of the second language learner it might be supposed that we *do* have some knowledge of what the input has been, since this is largely within the control of the teacher. Nevertheless it would be wise to introduce a qualification here about the control of input (which is of course what we call the syllabus). The simple fact of presenting a certain linguistic form to a learner in the classroom does not necessarily qualify it for the status of input, for the reason that input is 'what goes in' not what is *available* for going in, and we may reasonably suppose that it is the learner who controls this input, or more properly his intake. This may well be determined by the characteristics of his language acquisition mechanism and not by those of the syllabus. After all, in the mother-tongue learning situation the data available as input is relatively vast, but it is the child who selects what shall be the input.

Ferguson (1966) has recently made the point that our syllabuses have been based at best upon impressionistic judgements and vaguely conceived theoretical principles where they have had any considered foundations at all. The suggestion that we should take more account of the learner's needs in planning our syllabuses is not new, but has not apparently led to any investigations, perhaps because of the methodological difficulties of determining what the learner's needs might actually be. Carroll (1955) made such a proposal when he suggested it might be worth creating a problem-solving situation for the learner in which he must find, by enquiring either of the teacher or a dictionary appropriate verbal re-

sponses for solving the problem. He pointed out that such a hypothesis contained certain features of what was believed to occur in the process of language acquisition by the child.

A similar proposal actually leading to an experiment was made Mager but not in connection with language teaching (Mager 1961); it is nevertheless worth quoting his own words:

'Whatever sequencing criterion is used it is one which the user calls a 'logical' sequence. But although there are several schemes by which sequencing can be accomplished and, although it is generally agreed that an effective sequence is one which is meaningful to the learner, the information sequence to be assimilated by the learner is traditionally dictated entirely by the instructor. We generally fail to consult the learner in the matter except to ask him to maximize the effectiveness of whatever sequence we have already decided upon'.

He points out as the conclusions he draws from his small scale experiment that the next step would be to determine whether the learner-generated sequence, or, as we might call it, his *built-in syllabus*, is in some way more efficient than the instructor-generated sequence. It seems entirely plausible that it would be so. The problem is to determine whether there exists such a built-in syllabus and to describe it. It is in such an investigation that the study of learner's errors would assume the role it already plays in the study of child language acquisition, since, as has been pointed out, the key concept in both cases is that the learner is using a definite system of language at every point in his development, although it is not the adult system in the one case, nor that of the second language in the other. The learner's errors are evidence of this system and are themselves systematic.

The use of the term systematic in this context implies, of course, that there may be errors which are random, or, more properly, the systematic nature of which cannot be readily discerned. The opposition between systematic and non-systematic errors is important. We are all aware that in normal adult speech in our native language we are continually committing errors of one sort or another. These, as we have been so often reminded recently, are due to memory lapses, physical states, such as tiredness and psychological conditions such as strong emotion. These are adventitious artefacts of linguist performance and do not reflect a defect in our knowledge of our own language. We are normally immediately aware of them when they occur and can correct them with more or less complete assurance. It would be quite unreasonable to expect the learner of a second language not to exhibit such slips of the tongue (or pen), since he is subject to similar external and internal conditions when performing in his first or second language. We must therefore make a distinction between those errors which are the product of such chance circumstances and those which reveal his underlying knowledge of the language to date, or, as we may call it his *transitional competence*. The errors of performance will characteristically be unsystematic and the errors of competence, systematic. As Miller (1966) puts it, 'it would be

meaningless to state rules for making mistakes'. It will be useful therefore hereafter to refer to errors of performance as *mistakes*, reserving the term *error* to refer to the systematic errors of the learner from which we are able to reconstruct his knowledge of the language to date, i. e. his *transitional competence*.

Mistakes are of no significance to the process of language learning. However the problem of determining what is a learner's mistake and what a learner's error is one of some difficulty and involves a much more sophisticated study and analysis of errors than is usually accorded them.

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

Although the following dialogue was recorded during the study of child language acquisition (Van Buren 1967) it bears unmistakable similarities to dialogues which are a daily experience in the second language teaching classroom:

Mother: Did Billy have his egg cut up for him at breakfast?

Child: Yes, I showed him.

Mother: You what?

Child: I showed him.

Mother: You showed him?

Child: I seed him.

Mother: Ah, you saw him.

Child: Yes I saw him.

Here the child, within a short exchange appears to have tested three hypotheses: one relating to the concord of subject and verb in a past tense, another about the meaning of *show* and *see* and a third about the form of the irregular past tense of *see*. It only remains to be pointed out that if the child had answered *I saw him* immediately, we would have no means of knowing whether he had merely repeated a model sentence or had already learned the three rules just mentioned. Only a longitudinal study of the child's development could answer such a question. It is also interesting to observe the techniques used by the mother to

'correct' the child. Only in the case of one error did she provide the correct form herself: *You saw him*. In both the other cases, it was sufficient for her to query the child's utterance in such a form as: *you what?* or *You showed him?* Simple provision of the correct form may not always be the only, or indeed the most effective, form of correction since it bars the way to the learner testing alternative hypotheses. Making a learner try to discover the right form could often be more instructive to both learner and teacher. This is the import of Carroll's proposal already referred to.

We may note here that the utterance of a correct form cannot be taken as proof that the learner has learned the systems which would generate that form in a native speaker, since he may be merely repeating a heard utterance, in which case we should class such behaviour, not as language, but in Spolsky's term (Spolsky 1966) 'language-like behaviour'. Nor must we overlook the fact that an utterance which is superficially non-deviant is not evidence of a mastery of the language systems which would generate it in a native speaker since such an utterance must be semantically related to the situational context. The learner who produced 'I want to know the English' might have been uttering an unexceptionable sentiment, but it is more likely that he was expressing the wish to know the English language. Only the situational context could show whether his utterance was an error or not.

Although it has been suggested that the strategies of learning a first and second language may be the same, it is nevertheless necessary at this point to posit a distinction between the two. Whilst one may suppose that the first language learner has an unlimited number of hypotheses about the nature of the language he is learning which must be tested (although strong reasons have been put forward for doubting this) we may certainly take it that the task of the second language learner is a simpler one: that the only hypotheses he needs to test are: 'Are the systems of the new language the same or different from those of the language I know?' 'And if different, what is their nature?' Evidence for this is that a large number, but by no means all, of his errors, are related to the systems of his mother-tongue. These are ascribed to interference from the habits of the mother-tongue, as it is sometimes expressed. In the light of the new hypotheses they are best not regarded as the persistence of old habits, but rather as signs that the learner is investigating the systems of the new language. Saporta (1966) makes this point clear, 'The internal structure of the (language acquisition) device, i. e. the learner, has gone relatively unexplored except to point out that one of its components is the grammar of the learners native language. It has generally been assumed that the effect of this component has been inhibitory rather than facilitative'. It will be evident that the position taken here is that the learner's possession of his native language is facilitative and that errors are not to be regarded as signs of inhibition, but simply as evidence of his strategies of learning.

We have been reminded recently of Von Humboldt's statement that we cannot really teach language, we can only create conditions in which it will develop spontaneously in the mind in its own way. We shall never improve our ability to create such favourable conditions until we learn more about the way a learner learns and what his built-in syllabus is. When we do know this (and the learner's errors will, if systematically studied, tell us something about this) we may begin to be more critical of our cherished notions. We may be able to allow the learner's innate strategies to dictate our practice and determine our syllabus; we may learn to adapt ourselves to *his* needs rather than impose upon him *our* preconceptions of *how* he ought to learn, *what* he ought to learn and *when* he ought to learn it.

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REFERENCES

- Brown, R. W. and Fraser, C. The Acquisition of Syntax. In Ursula Bellugi and Roger Brown (Eds) The Acquisition of Language Monograph of the Society for Research in Child Development, Vol. 29 No. 1. 1964.
- Carroll, J. B. The study of Language. Harvard University Press, Cambridge 1955.
- Carroll, J. B. Research in Foreign Language Teaching: The Last Five Years. Report of the Northeast Conference 1966.
- Chomsky, N. Research on Language Learning and Linguistics. Report of the Northeast Conference 1966.
- Ferguson, C. A. Research on Language Learning. Applied Linguistics. Report of the Northeast Conference 1966.
- Lambert, W. A. Some observations on First Language Acquisition and Second Language Learning. (Mimeograph) 1966.
- McNeill, D. Developmental Psycholinguistics. In F. Smith and G. A. Miller (Eds). The Genesis of Language. The M. I. T. Press. 1966.
- Miller, G. A. The Psycholinguists. Encounter 23.1. 1964.
- Miller, G. A. Language and Psychology. In E. H. Lenneberg (Ed). New Directions in the Study of Language. M. I. T. Press. 1966.
- Lenneberg, E. H. The Natural History of Language. In Smith and Miller (Eds). The Genesis of Language. M. I. T. Press. 1966.
- Mager, R. F. On the Sequencing of Instructional Content. Psychological Reports 1961 (405-412).
- Palmer, H. E. The Principles of Language Study. 1917. Reprinted in Language and Language Learning, O. U. P. London 1964.

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Spolsky, B. A Psycholinguistic Critique of Programmed Foreign Language Instruction. *IRAL* 4.2 (119-129).

Saporta, S. Applied Linguistics and Generative Grammar. In Valdman, A. (Ed). *Trends in Modern Language Teaching*. McGraw-Hill. 1966.

Van Buren, P. Personal Communication.