The Conception of Language Errors from the Perspective of Structural Linguistics: A Descriptive-analytic Study

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Abstract

This paper attempts to highlight the concept of errors from the perspective of structural linguistics. The latter assumes that learning takes place as a result of stimuli-and-responses. In the context of language learning the data, which the linguist may observe, concern utterances (responses). Influenced by the findings of Behaviorist psychology, structural linguists consider language as a set of habits which can be acquired through the process of imitation, repetition and practice. In their turn, these habits fall into two types: good habits (correct sentences) and bad habits (erroneous sentences). Good habits should be reinforced and bad habits are to be eradicated. The main aim of this study is to introduce the concept language errors from the standpoint of structural linguistics. This school uses the process of error analysis as a means for predicting, identifying, explaining and finally getting rid of language irregularities.

Keywords: Behaviorism; Errors analysis; Habits; Structural linguistics

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Structural linguists see that language acquisition takes place as reaction to verbal stimuli. According to this trend, connecting stimuli to responses can result in habit formation. It is in the course of this process (habit formation) that learning can develop, promote, and flourish. In the context of second/foreign language acquisition, learners face the challenge of replacing the previously acquired habits (mother tongue acquisition) with new ones. Presumably, this is what is referred to as the interference of first language habits into the formation of second language habits (Bloomfield 1933; Corder, 1974a, 1974b; Ellis, 2008; Skinner, 1957).

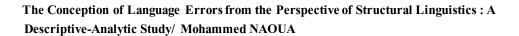
In this perspective, structural linguists' conceptualization of errors differs from that of generativist-mentalist linguists'. According to the former (Richards & Rodgers 2002), acting after the occurrence errors, as the latter propose, is not the most efficient way to deal with the problem (Richards & Rodgers 2002). This is because "good habits are formed by giving correct responses rather than by making mistakes"

¹. Therefore, instead of starting from the deviant habits to the accepted ones, they suggest conducting a process of comparative studies, which leads to the identification of the similarities and the differences between the native and target linguistic systems. The conclusion will be presented to foreign language learners in the form of an audio-lingual method, which stresses learning through stimuli-andresponses (Brown, 1988; Ellis, 2008; Krashen, 1981; Widdowson, 2007).

I. STIMULI-AND-RESPONSES RELATIONSHIP

According to Bloomfield (1933), any act of speech involves two types of occurrences: practical events that precede this act and practical events that follow it. To illustrate this connection, Bloomfield introduces Jill and Jack who are supposed to consist of some type of relationship such as brother and sister, or husband and wife. The author, then, invites us to imagine that his characters are having a walk down a narrow path. The girl was hungry and when she saw a tree with apples on it, she made some noises "with her larynx, tongue, and lips. Jack vaults the fence, climbs the tree, takes the apple, brings it to Jill, and places it in her hand [,and] Jill eats the apple"2. This implies that the practical events preceding Jill's speech have become visible by her physical feeling of hunger. This led her to produce some noises (speech), which stimulated Jacks' reaction (Practical events following the act of speech).

The practical events that preceded the act of speech concern the speaker: Jill felt hungry, or as Bloomfield (1933) puts it "some of her muscles were contracting, and some fluids were being secreted, especially, in her stomach"³. According to the author, the feeling of hunger, which preceded Jill's speech, is called 'the speaker's stimulus'. In this example, people can be compared to speechless animals, in that when the latter feel hungry, they can start eating or go hunting. In the same way, when people feel hungry or thirsty they can go to eat or drink. The behavior that follows the stimulus is called the response. In this case, we can speak of the state of hunger or thirst as a stimulus followed by a practical reaction (going to eat or drink) as a response. This type of stimulus, as it is illustrated in fig (1), is of physical aspect (Wilkins, 1972).



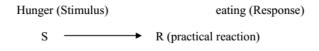


Figure 1. Speechless reaction⁴

II. VERBAL BEHAVIOR

Unlike animals, which are speechless, people can respond to physical stimuli in two ways: physical, or verbal. When a person, for instance, feels that he is thirsty, he can get "a drink of water in many ways— by reaching for a glass of water, by opening a faucet, by pouring water from a pitcher, and so on" 5. He can also make movements in his vocal tract and produce some noises to express his need for water. This type of noise is referred to as verbal behavior.

Returning to Bloomfield's example of Jill and Jack, The former could have picked the apple by herself; practical reaction, represented by capital 'R', or she could have told Jack to pick the apple for her; linguistic substitute reaction, which acts as a verbal stimulus, symbolized by small (s). In the presence of a listener, the linguistic substitute reaction calls for another response, figured by small (r). The latter can be practical or verbal. This explains the reason why "verbal behavior is reinforced only through the mediation of another person, but it does not require the participation of such a person for its execution" 6. This means that speech as a verbal stimulus (s) results in another reaction (the response) represented by capital (R).

As Fig (2) suggests, the practical reaction (R) to the physical stimulus (S) can be substituted by verbal behavior (s) leading to the appearance of another response (R). Explaining this point, Bloomfield (1933) writes; "the speechless reaction occurs always in the same person, as does the stimulus; the person who gets the stimulus is the only one who can make the response ...in contrast with this, the reaction mediated by speech may occur in a person who did not get the practical stimulus". This entails that practical stimuli and practical responses which occur in the same person or in speechless animals form the biological part of the affair. As long as we are interested in language, we will not be concerned with $(S \rightarrow r)$ but on reactions mediated by speech (verbal stimuli) which can prompt other responses, that is to say, $(s \quad R)$?

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Speechless reaction: Stimulus (S) → Response (R)

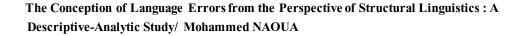
Reaction mediated by speech:

Stimulus (S) → Response (r) ................ speech (s) → response (R)

Fig 2. Reactions mediated by speech<sup>8</sup>
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III. LANGUAGE ACQUISITION FROM THE POINT OF VIEW OF STRUCTURAL LINGUISTS

Reflecting the views of structural linguists, Lado (1961) considers language as a "highly complex system of habits which functions as a human instrument of communication" ⁹. The Author adds that people are "incapable of performing the



complex operation of language at its normal speed without reducing most of it to habit"¹⁰. This trend of linguistics perceives that the production of 'any part of any utterance' results from "some kind of stimulus. The stimulus to which utterances forms a 'response' may, as Wilkins (1978) notes, be "physically present in the situation; it may be verbal, since language can be produced as a response to another language"¹¹.

In mother tongue/ first language contexts, acquisition takes place as a result of imitation, reinforcement and repetition. Actually, if a piece of utterance is produced and reinforced, but it is not repeated, learning or acquisition will not take place. In this perspective, Wilkins (1978) underlines that a:

"single emission of a response, even if it is reinforced, is by no means enough for learning to take place, only if a response repeated, can it be fully learned. Indeed strength of learning is measured in terms of the number of times that response has been made or reinforced"." 12

In the environment of second/ foreign language, learning is also fundamentally considered as "a process of mechanical habit formation" ¹³. However, the difference between native language acquisition and foreign language learning lies in the fact that the former is concerned with connecting new stimuli to new habits. Conversely, foreign language learning involves to some extent, replacing the old habits with new ones, or at least, if it is not concerned with habit replacement, it involves habit supplementation. According to Corder (1974a, 1981), the concept of supplementation or replacement can be ascribed to the differences in the way native and foreign languages are acquired. As it is organized in Table 1, these differences highlight four main aspects, which include mother tongue learning inevitability, maturational learning processes, covert learning behavior and predisposition of developing language conduct.

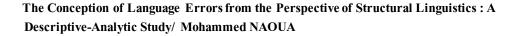
Table 1. The Differences between Native and Foreign Language Acquisition

Mother Tongue Acquisition	Foreign Language Learning	
Mother tongue learning is inevitable	There is no such inevitability	
It forms a part of the whole maturational process of the child	It takes place after the maturational process is largely complete	
The infant starts learning with no overt language behaviour	In foreign language learning such behaviour, of course, exists	
Mother tongue acquisition is a fulfillment of the predisposition to develop language behaviour,	Foreign language learning involves the replacement of the predisposition of the infant by some other force	

Adapted from Corder, 1974a: 6-9

IV. LANGUAGE TRANSFER

Language transfer usually takes place "whenever an individual who has already learned one linguistic system to a high degree of competence attempts to learn another linguistic system in which his competence is, initially at least, virtually



nil" ¹⁴. Studies in contrastive linguistics argue that similarities between learners' mother tongue and the target language they attempt to study often facilitate the process of learning. On the other hand, learning difficulties can arise whenever contrasts exist between the two linguistic systems. This implies that facilitation can refer to positive transfer while interference is much more relevant to negative transfer (Carroll, 1968; Krashen, 2003; James, 2013).

The transfer of errors can also take place as result of some type of psychological responses. These usually occur either at the cognitive level, or at the psychomotor level. Transfer at the cognitive level usually takes place when foreign language learners are required to select amongst the different lexical or syntactical responses. However, problems at the psychomotor level refer to the first language pronunciation habits and accent. In this context, Carroll (1968) writes "transfer problems at the cognitive level would be exemplified by difficulties in selecting appropriate lexical items or syntactical structures, while those at the psychomotor level are illustrated by phenomena of 'foreign accent' and inappropriate articulation of phones" ¹⁵.

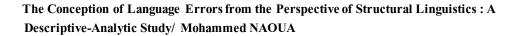
V. GENERALIZATION OF RULES

Jakobovits defines the process the generalization of rules as "the use of previously available strategies in new situations"16. Generalization can be misleading, whether in the context of first languages acquisition, especially during childhood development, or in the context of second/foreign language learning. As an example, it has been remarked that children learning their mother tongue can produce sentences like: 'I have goed to school on foot', or she writed her lesson. We can also cite the examples mentioned in Richards (1971) about native French children acquiring their mother when they say 'on poudra' instead of 'on pourra' by analogy with 'on voudra' from the French verb 'vouloir'. It has also been remarked that Arab learners of French generalize the rules of gender. Based on the gender of some inanimate words in Arabic, we can encounter utterances, such as 'un voix crie dans la désert' instead of 'une voix crie dans le désert'; 'la ministère de l'Intérieur' instead of ' le ministère de l'Intérieur'; 'jai fermé le porte' instead of 'j'ai fermé la porte'. Likewise, English people learning French are likely to precede names of profession by the indefinite article, such as 'il est un médecin'; Est-elle une étudiante? by analogy with 'he is a doctor' and 'is she a student?

VI. THE OCCURRENCE OF ERRORS

Before talking about the occurrence of errors, we see it advisable to delimit the scope of error analysis. This field can "be defined as dealing with the differences between the way people learning a language speak, and the way adult native speakers of the language use the language" 17. Moreover, as the author stresses the "differences between the way the learner and the native speaker speak the language have been studied in the hope that methods of overcoming these difficulties might be devised" 18.

In the point of view of structural linguistics, the occurrence of errors is related to the mechanisms that learners implement when acquiring new language habits. To this purpose, the problem lies in the fact that the acquisition of new foreign verbal habits builds upon the same procedures that learners have already used in the



acquisition of native verbal habits, or when learners transfer "from one very highly learned system of habits to a new and different set of habits" 19.

To explain this point, let us consider Carroll's (1968) A-B, A-C paradigm illustrated in fig (3). In the field of mother tongue acquisition, (A) refers to the stimulus; (N) refers to the native language and (B) points to the learners' reaction to the stimulus, that is, the response. After series of reinforcements and repetitions, learners can build a tight connection between (A) and (B). In foreign language learning, learners are now required to implement the other part of the paradigm, that is, A (F) - C. At this stage, (A) refers to the previous stimulus, (F) refers to the target foreign language, and (C) refers to the learners' new reaction to the old stimulus. In other words, after having built a tight relationship between (A) and (B), learners need to relate (A) to (C), which is a question of old habits replacement. Logically speaking, if native language acquisition is concerned with connecting new stimuli to new responses, foreign language learning is concerned with the replacement of those old habits (responses) with new ones.

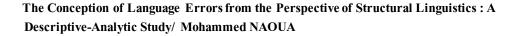
A (N) - B A (F) - C

Fig 3: A-B, A-C Paradigm²⁰

In his comment on this paradigm, Carroll (1968) writes:

"In verbal learning studies, for example, there has been much interest in the so-called A-B, A-C paradigm, where after the learning of stimulus response pairs of the form A-B, the learner is required to learn pairs of the form A-C, that is, a new response to an old stimulus. It is a nearly universal finding that negative transfer occurs in this paradigm; the learning of the A-C pairs takes place more slowly when preceded by learning of the A-B pairs than it would if not preceded by such learning. Further, there is some forgetting of the A-B pairs as the A-C pairs are learned. There has been an enormous amount of experimentation on exactly why this negative transfer occurs. Presumably, the paradigm has an analog in foreign language learning. If A is a stimulus referent, and B is the name of that stimulus in the learner's native language, new learning has to occur when a new word C is to be attached to the original stimulus A. (This paradigm might also apply to the learning of grammatical and syntactical processes in the new language if we can assume that the stimulus conditions for these FL responses are identical) ([parentheses in original, pp. 118-9]")²¹.

This point can be explained at two levels: the psychomotor level and the cognitive level. Let us start with the psychomotor level and consider the following examples. In some regions in Algeria, the pronunciation of the symbol $/\theta$ / in Arabic / such as in the word (θ ima:r) fruit (\triangle) is connected to the response or habit of placing the tip of the tongue against the upper teeth, or simply by putting the tip of the tongue between the upper and the lower teeth producing a dental fortis voiceless sound $/\theta$ /. According to the A-B, A-C paradigm, the symbol $/\triangle$ / refers to (A) and its phonetic dental representation refers to (B). If a learner from these regions wants



to learn a foreign language, say English and more specifically the sound (θ) as in the word (θik) which forms a new response to an old stimulus (A-C), his learning can be facilitated because the new response is similar to the previously built-and-acquired habit. Conversely, if we consider the same example in Egypt where the relation between (A and B) appears as follows: the symbol $|\theta|$ in the word $|\theta|$ is connected to the response or the habit of raising the front and rims of the tongue towards the alveolar ridge resulting in an alveolar fricative fortis voiceless sound $|\theta|$. In the case of people, learning English sounds such as $|\theta|$ will lead to errors of pronunciation. For example, the word $|\theta|$ can be mispronounced as $|\theta|$ which results in errors in the field of semantics as well (Richards, 1971, 1974; Richards & Rogers, 2000).

In the same context, McDonough (1986) reminds us of "frequent inability of [some] Arabs to distinguish between the bilabial plosive sounds /b/ and /p/" 22 . As Table 2 illustrates, this implies that the author refers to the deficiency of these communities to produce the voiceless, fortis, bilabial plosive sound /p/, since the latter does not form a part of the Arabic language sounds. On the other hand, we can find other bilabials, such as the plosive lenis voiced /b/ / ψ /, / the voiced continuant /w/ / ϕ / and the voiced nasal /m/ / ϕ /, which can clearly and intelligibly be pronounced and perceived by members of these speech communities.

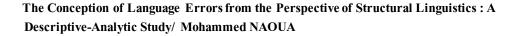
Word	Appropriate	Erroneous
	Pronunciation	Pronunciation
park	/pa:k/	/ba:k/
port	/pɔ:t/	/bɔ:t/
pay	/peɪ/	/bei/
pall	/po:l/	/bo:l/

Table 2. Defective Pronunciation of Plosive Voiceless fortis Bilabials

McDonough (1986) has also explained the difficulty for the French learners to replace old pronunciation habits (A-B) with new ones (A-C). Take, for instance, the sounds $/\delta/$ in $/\delta$ Is/ and $/\theta/$ in $/\theta$ Ik/. These learners may replace these sounds with /z/, /d/ or /s/ resulting in erroneous pronunciation habits /zIs/ or /dIs/ and /sIk/.

The implementation of the A-B, A-C paradigm to trace the source of errors is not limited to differences or similarities in the mother tongue and target language sounds, but it extends to the cognitive level as well. We, for instance, can consider the habit that some Arabs have built concerning sentence construction. Arabic sentences are formed in this way: verb + subject + complement. So, instead of the following simple sentence: 'The teacher explains the lesson', we can be exposed to sentences such as, 'Explains the teacher the lesson' 'will lecture 'will as a new response to an old stimulus (A-C).

In the same way, the example of personal pronouns provided in Wilkins (1978) "His wife wants him to pay her grandfather a visit" 'Sa femme veut qu'il rende visite à son grand-père" can affect the gender of these pronouns. If we consider Arab students learning English, we can speak of facilitation since (C) resembles (B) منافعة. Contrariwise, in the case of French people learning English, we can speak of negative transfer as they tend to replace (his) wife with erroneous (son) femme



and **(her)** grandfather with **(sa)** grand-père, in that the previous sentence can mistakenly be translated into '**Son** femme veut qu'il rende visite à **sa** grand-père'.

VII. THE ANTICIPATION OF ERRORS

Structural linguists maintain the fact 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" According to this trend of linguistics, the tolerance of errors (incorrect responses) may lead to 'bad habit' formation; and when habits are formed and fully acquired, it will become hard to get rid of them. This is why Skinners (1957) argues that "if we wish to eliminate (an erroneous response) from a verbal repertoire, we arrange that reinforcement shall no longer follow" ²⁵.

However as we have pointed out in the introduction, linguists do not have the same point of view regarding transfer errors. Some of them see that the best solution to this problem is to start from the deviant sentences back to learners' mother tongue (Chomsky, 1965; Richard & Rodgers, 2002). This is because errors can inform us of how second language acquisition takes place. On the contrary, structural linguists believe that the most effective way to avoid the occurrence of errors lies in contrasting learners' native language to the target language they are supposed to learn. The result of such comparisons intends to identify the similarities and highlight the differences between the two linguistic systems. The similarities or what may lead to positive transfer will be introduced at the very early stages of learning, whereas what may pose negative transfer can be delayed to the later stages (Lightbown & Spada, 2013).

VIII. TEACHERS' ANTICIPATING REMEDIAL ROLES

Corder (1986) identifies two main justifications proposed for the study of leaners' errors: one is pedagogical and the other is theoretical. The pedagogical justification claims that "a good understanding of the nature of error is necessary before a systematic means of eradicating them could be found"26. Concerning the second justification, its gives us a clear understanding of the 'process of second language acquisition'. Since most errors are, according to structural linguistics, ascribed to interference manifested by the existence of mother tongue/first language habits in the target language "a major part of applied linguistic research was devoted to comparing the mother tongue and the target language in order to predict or explain the errors made by learners of any particular language background"²⁷. Out of the contrastive analysis of the two linguistic systems would come an inventory highlighting the areas of difficulties that could encounter foreign language learners. Equally important, this inventory could serve as a guide for teachers in directing their "attention to these areas so that [they] might devote special care and emphasis in [their] teaching to the overcoming, or even avoiding, of these predicted difficulties"28.

CONCLUSION

In this paper, we have reviewed the process of language acquisition/learning from the perspective of structural linguistics. This trend hypothesizes that this process is a matter of habit formation, which comes as result of responses to different stimuli (Larsen-Freeman & Long, 1991). Concerning the responses that should be

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reinforced, these refer to learners' reactions to the stimuli in question. Reinforcements are of two types: extrinsic and intrinsic. Extrinsic reinforcement can be thought of the teacher's approval to the learners' answers; while intrinsic reinforcement points to the learners' self-satisfaction of their own responses. In this context, repetition plays a focal role in the process of language acquisition in that responses, which are not repeated and reinforced will quickly fade out and will be forgotten. In foreign language learning, difficulties can arise when new responses tend to replace old ones. In contrast to generative linguists who welcome the occurrence of errors and consider them as a natural aspect of language learning, for structural linguists, errors should not be tolerated. To predict the areas of these difficulties, the latter suggest contrasting learners' native language to the target language intended to be learned. The findings of this process will then be presented in the form of teaching tasks by means of the audio-lingual method.

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¹ Richards & Rodgers 2002, p. 50

² Bloomfield, 1933, p. 22

³ Ibid, p. 33

⁴ Bloomfield, 1933, p.26

⁵ Skinner, 1957, p. 32

⁶ Ibid, p. 32

⁷ Bloomfield, 1933, p. 26

⁸ Ibid, p. 26

⁹ Lado, 1961, p. 4

¹⁰ Ibid, p. 4

¹¹ Wilkins, 1978, p. 162

¹²¹² Ibid, p. 162

¹³ Richards & Rodgers, 2002, p. 50

¹⁴ Carroll, 1968, p. 114

¹⁵ Carroll, 1968, p. 115.

 $^{^{16}}$ As cited in Reichards, 1971, p. 11

¹⁷ Richard, 1971, p. 3

¹⁸ Ibid, p.3

¹⁹ Carroll, 1968, p. 119.

²⁰ Carroll, 1968, p. 119

²¹ Carroll, 1968, pp. 118-19

²² McDonough, 1986, p. 116

²³ Wilkins, 1978, p.198

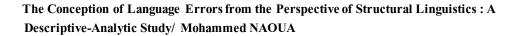
²⁴ Corder, 1974a, pp. 5-6

²⁵ Skinner, 1957, p. 30

²⁶ Corder, 1986, p. 1

²⁷ Ibid, p. 1.

²⁸ Idem, p. 4



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