

## Diachronic Studies on Language Transfer

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*Abstract: We can see the flaws of the historical views on language transfer by discussing the three main periods in the development of language transfer study. By reviewing the researches on language transfer, we can see an important shift from the behaviorist and mentalist view to the cognitive view.*

*Keywords: diachronic, behaviorist, mentalist, cognitive, view*

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### 1. THE BEHAVIORIST VIEW

Behaviorist views of language learning and of language teaching were predominant in the two decades following World War II. According to Dakin (1973), language learning is promoted when the learner makes active and repeated responses to stimuli. The law of effect emphasizes the importance of reinforcing the learners' response by rewarding target-like responses and correcting non-target-like ones. Learning will proceed most smoothly and rapidly if complex behaviors are broken down into their component parts and learnt bit by bit. Therefore, language learning, like any other kind of learning, took the form of habit formation, a "habit" consisting of an automatic response elicited by a given stimulus. As Brooks (1960) puts it:

"The single paramount fact about language learning is that it concerns, not problem solving, but the formation and performance of habits." (Brooks, 1960)

According to behaviorist theories, the main impediment to learning was interference from prior knowledge. That is to say, learning new knowledge would be prohibited by old habits of learning. In the case of L2 learning, however, the notion of "unlearning" made little sense, as learners clearly did not need to forget their L1 in order to acquire L2, although in some cases loss of the native language might take place eventually. For this reason, behaviorist theories of L2 learning emphasized the idea of "difficulty", defined as the amount of effort required to learn an L2 pattern. The degree of difficulty was believed to depend primarily in the extent to which the target language pattern was similar to or different from a native language pattern. If the two were identical, learning could take place easily through positive transfer of the native language pattern, but if they were different, learning difficulty arose and errors resulting from negative transfer were likely to occur. Accordingly, such errors or "bad habits" were

considered damaging to successful language learning because they prevented the formation of the correct target language habits.

Although behaviorist views of transfer are largely defunct, the central notions that they gave rise to—"difference" and "difficulty"—are still very much alive. It was linguistically rooted in structuralism and psychologically rooted in behaviorism. The Contrastive Analysis Hypothesis (CAH) proposed by Lado (1957: 2-30), was based on this assumption:

"...the student who comes into 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." (Lado, 1957)

Based on the assumption above, Lado not only laid out the theoretical bases of the CAH but also described the technical procedures needed to carry out the detailed contrastive analyses that were considered necessary for the preparation of "scientific" teaching materials. Two basic claims of the CAH (Lado, 1957) were proposed as well:

- 1) The level of difficulty experienced by the learner will be directly related to the degree of linguistic difference between the L1 and L2.
- 2) Difficulty will manifest itself in errors; the greater the difficulty, the more frequent the errors.

## **2 THE MENTALIST VIEW**

In the early 1970s, criticism against the CAH and related behaviorist views on language transfer gathered force. First, there were the doubts concerning the ability of Contrastive Analysis to predict errors. These doubts arose when researchers began to examine language-learner language in depth. Second, there were a number of theoretical criticisms regarding the feasibility of comparing languages and the methodology of CA. Third, there were reservations about whether CA had anything relevant to offer to language teaching. The invalidity of CA was the result of empirical, theoretical, and practical considerations.

In order to examine the predictability of errors, Dulay and Burt (1974a) set out to examine the four causes of learner error carried out by Brooks (1960). They (Dulay and Burt, 1974) identified four types of error according to their psycholinguistic origins:

- 1) Interference-like errors, for example: those errors that reflect native language structure and are not found in first language acquisition data.
- 2) First language developmental errors, for example: those that do not reflect native language structure but are found in first language acquisition data.
- 3) Ambiguous errors, for example: those that cannot be categorized as either interference-like or developmental.
- 4) Unique errors, for example, those that do not reflect first language structure and also are not found in first language acquisition data.

Dulay and Burt (1974) calculated the frequencies of these error types in the speech data of Spanish-speaking children learning English. They claimed only 3 percent interference errors

which constituted a powerful attack on the CAH. They argued that children do not organize a L2 on the basis of transfer or comparison with their L1, but rely on their ability to construct the L2 as an independent system, in much the same way as in L1 acquisition. They suggested that interference may be a major factor only in phonology (Dulay and Burt, 1974). Though their research was challenged by other researches and the mean percentage was more likely to be 33 percent, it is obvious that the major difficulty in attempts at empirically validating the CAH has been the lack of well-defined and broadly-accepted criteria for establishing which grammatical utterances are the result of language transfer. In particular, interference errors are difficult to distinguish from developmental errors. As James (1980) points out, it is possible that all the first languages sampled contrast with the target language with respect to the structure involved. Given the practical problems of assigning errors to categories such as those employed by Dulay and Burt, it is obvious that the results of research do not agree. Therefore, the CAH together with habit-formation theory is not capable of providing an adequate explanation of SLA. It was this conclusion that lay the attacks on CAH.

Chomsky's attack on behaviorism struck at the psychological basis of theories of language learning. It was argued by Chomsky (1965) and other mentalists that extrapolating from studies of animal behavior in laboratory conditions, as Skinner (1957) did, could show nothing about how human being learn language in natural conditions. The terms "stimulus" and "response" were dismissed as vacuous when applied to language learning, because it was not possible to tell what constituted the stimulus for a given speaker response. The concept of "analogy", which Skinner (1957) had evoked to account for the language user's ability to generate novel sentences, was ridiculed as far too crude a notion to capture the creative use of language that lay within each individual's competence. Besides, the concepts of "imitation" and "reinforcement" were rejected as inadequate, both because it was shown in L1 acquisition that parents rarely corrected formal errors or rewarded correct utterances, and that children were only able to imitate utterances which lay within their existing competence and could not, therefore, learn new habits in this way (Chomsky, 1965).

Chomsky's (1965) attack on Skinner's theory of language learning led to a reassertion of mentalist views of first language acquisition (FLA) in place of the empiricist approach of behaviorists. Chomsky stressed the active contribution of the child and minimized the importance of imitation and reinforcement. He (Chomsky, 1965: 200-23) claimed that the child's knowledge of his mother tongue was derived from a Universal Grammar (UG) which specified the essential form that any natural language could take. As McNeill (1970) put it:

The facts of language acquisition could not be as they are unless the concept of a sentence is available to children at the start of their learning. The concept of a sentence is the main guiding principle in a child's attempt to organize and interpret the linguistic evidence that fluent speakers make available to him. (McNeill, 1970: 2)

The UG existed as a set of innate linguistic principles which comprised the "initial state" and which controlled the form which the sentences of any given language could take. The UG was a set of discovery procedures for relating the universal principles to the data provided by

exposure to a natural language. According to Chomsky (1965), for the "Acquisition Device" (AD), which contained the UG, to work, the learner required access to "primary linguistic data". However, this served only as a trigger for activating the device. It did not shape the process of acquisition, which was solely the task of the acquisition device. For Chomsky (1965), the task of the linguist was to specify the properties of the AD that were responsible for the grammar of a particular language.

According to mentalists, the child built up his knowledge of his mother tongue by means of hypothesis testing. The child's task was that of connecting his innate knowledge of basic grammatical relations to the surface structure of sentences in the language he was learning. According to McNeill (1970), the child did this by forming a series of hypothesis about the "transformations" that were necessary to convert innate knowledge into the surface forms of his mother tongue. Therefore, the child appeared to build up his competence by "successive approximations", passing through several steps that are not yet English.

Mentalists also claim that, together with the mechanisms in L1, UG and its mentalist theories and empirical research should account for SLA as well (Chomsky, 1965). The concept of "hypothesis-testing" was used to explain how the L2 learner progressed along the inter-language continuum, in much the same way as it was used to explain L1 acquisition. Corder (1978) made this comparison explicit by proposing that at least some of the strategies used by the L2 learner were the same as those by which L1 acquisition takes place. In particular, Corder suggested that both L1 and L2 learners make errors in order to test out certain hypothesis about the nature of the language they are learning. Corder saw the making of errors as a strategy, evidence of learner-internal processing (1978). This view was intended to be in opposition to the view of the SLA presented in the CAH.

Though the accounts of inter-language theory has closely followed the principles of mentalist theories of language acquisition, the emphasis on hypothesis-testing and internal processes is direct borrowing from L1 acquisition theory. In one respect, however, mentalist theorizing cannot be easily carried over into SLA research. However, Selinker (1972) argued those adults who successfully achieve native-speaker proficiency in the TL do so because they continue to make use of the "acquisition device", or "latent language structure". Thus, like the child in L1 acquisition, the successful adult L2 learner is able to transform the universal grammar into the structure of the grammar of the TL. This takes place by reactivating the "latent language structure". However, most adults fail to achieve such structure and fossilize some way. Selinker (1972) explained this by suggesting that these adult L2 learners fall back on a more general cognitive mechanism, which he labeled latent psychological structure. This is still genetically determined and is responsible for the central processes described above. Therefore, Selinker proposed SLA can proceed in two different ways. It can utilize the same mechanisms as L1 acquisition, or it can make use of alternative mechanisms, which are presumably responsible for other types of learning apart from language (Selinker, 1972). Cognitive organizer was introduced to describe the mechanisms responsible for the second type of learning, and the process of SLA that resulted from its operation was called creative

construction. As a result, Selinker (1972) provided the theoretical framework for interpreting SLA as a mentalistic process and for the empirical investigation of language-learner language.

However, one of the major problems of the UG lies in the difficulty in defining the markedness construct. Various criteria have been used to explicate it-core vs. peripheral grammar, complexity and explicitness. Moreover, it is not clear whether markedness is to be seen as just a linguistic construct or whether it has psycholinguistic validity.

In conclusion, above analysis indicates that what L2 learners transfer, is not in simply language-specific linguistic features in the NL which do not possess any necessary inner relation with their L2 counterparts no matter how resembling the two might be. Rather, any transfer phenomenon may involve certain instantiation of an underlying UG principle in the NL. Accordingly, mentalists emphasize that learner's innateness and talent are crucial in SLA. This conclusion of UG theory is a great improvement compared with previous contrastive analysis which put its emphasis on overt similarities and dissimilarities between two language systems.

### **3 THE COGNITIVE VIEW**

However, mentalist view also showed their imperfectness in transfer study. In the late 1970s, linguists began to view the role of mother tongue from a different angle: one can view transfer as much a creative process as any other part of acquisition. Basic to our study of learner-internal mechanisms is the distinction between cognitive and mentalist explanations of SLA. This distinction concerns the nature of the internal mechanisms responsible for inter-language development. A cognitive view considers the mechanisms to be general in nature. It sees the process of learning a language, whether a first or a second one, as essentially the same as any other kind of learning. Language learning engages the same cognitive systems---perception, memory, problem solving, information processing, etc. as learning other types of knowledge (Kellerman, 1977). In a cognitive view, language learning is treated as "skill learning", analogous to learning how to ride a bicycle or play a violin, although probably more complex.

The main difference between cognitive and mentalist accounts of language learning also lies in how they view the relationship between "knowledge" and "control" (Kellerman, 1978). In a cognitive account, knowledge is not seen as distinct from control. There is no clear dividing line between what learners know and what they can do with their knowledge, as the way linguistic knowledge is represented in the mind of the learner is influenced by the uses to which this knowledge is put. In contrast, a mentalist account of L2 acquisition treats "knowledge" and "control" s separate, and also sees the mechanisms responsible for the development of each as distinct (Kellerman, 1978). The central claim of a mentalist theory of language acquisition is that linguistic knowledge constitutes a separate cognitive faculty, independent of the other cognitive systems involved in the use of his knowledge.

During the mid to late 1970s the emphasis was on the determination of how and when learners used their native language and on explanations for the phenomenon. Little by little, the study of language transfer has come into the cognitive period. Thus, a wide range of researches on language transfer in terms of linguistic universals and markedness theory began which inherited and developed mentalist view, but studied language transfer in the cognitive framework. In this period, Kellerman's proto-typicality and psycho-typology, together with Eckman's Markedness Differential Hypothesis are representative of cognitive studies of language transfer in SLA.

## ACKNOWLEDGEMENTS

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