

## PIDGINIZATION, CREOLIZATION, INTERLANGUAGE, AND LANGUAGE FOSSILIZATION

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This paper investigates language fossilization as a phenomenon that pidgins, creoles, and the speech of most second language learners have in common, and suggests that researchers working in these areas can benefit from one another's findings. First, the similarities and parallels that exist among pidgins, creoles, and the interlanguages of second language learners are discussed. Then, the major theories of language fossilization and two studies dealing with fossilized learners are reviewed and evaluated. While the evidence for fossilization as a psychologically real and permanent phenomenon is found to be so far inconclusive, indicating a need for further research, it is suggested that the correct production of target language forms be stressed in second language instruction, at least in the early stages.

### INTRODUCTION

A phenomenon that pidgins, creoles, and the speech of the great majority of second language learners have in common is that speakers appear to internalize certain grammatical rules (rules of syntax, phonology, etc.) that are somehow different from a "natural" or "target" language, and these rules seem to become a permanent part of their grammars. In the case of second language learners, especially, it has often been observed that even though learners are highly motivated and willing to work hard to improve their language ability, it seems to be impossible for them to unlearn the errors and learn to use the correct forms.

The term "fossilization" seems to have been first used by Larry Selinker, as a concept central to his "Interlanguage Hypothesis," to refer to the process in which certain "linguistic items, rules, and subsystems" become a permanent part of the grammatical system of a second language learner, tending to "remain as potential performance, reemerging in the productive performance of an IL [interlanguage] even when seemingly eradicated" (Selinker, 1972:215). The Defense Language Institute and the Foreign Service Institute also recognize that language learners sometimes reach "a plateau beyond which further progress is deemed well nigh impossible...because large numbers of errors--lexical, syntactic, phonetic--have become so ingrained that they are considered to have 'fossilized'" (Valette, 1991:325). They label such students "terminal." At any rate, the concept represented by such terms as "fossilized" or "terminal" seems to have become almost universally accepted as a reality, for researchers in various fields and language teachers alike.

This paper addresses the following questions: How does fossilization occur? Is fossilization always permanent? And if so, is it possible to predict which linguistic items will become fossilized in specific speakers and to prevent or delay the onset of fossilization? The first section of the paper discusses the similarities and parallels that exist among pidgins, creoles, and the interlanguages of second language learners in order to search for insights into the fossilization process. Then, the major theories and models of language fossilization are reviewed, and two recent studies that deal with (presumably) fossilized learners of second languages are reviewed and discussed.

### PIDGINS, CREOLES, AND SECOND LANGUAGE ACQUISITION

Obviously, there is a great deal of disagreement among scholars about the conditions necessary for pidginization or creolization to take place, as well as the exact definitions of the terms

“pidgin” and “creole” (Andersen, 1983; DeCamp, 1971). Most, however, would perhaps agree with Adamson’s (1988) general assessment that a pidgin is “an invented second language” and a creole is “an invented first language” (p. 22). Many researchers have noticed the similarities and parallels among pidgins, creoles, and the interlanguages of second language learners.

Ferguson and DeBose (1977), for example, claim that a true pidgin develops when an attempt to learn a second language (SL) is not entirely successful. What the learner produces then is a reduced and simplified variety of the SL with the phonological and morphological characteristics of the learner’s native language (NL). According to Schumann (1978a), simplification in pidgin languages involves the following: (1) articles are usually dropped; (2) possession is indicated by simple juxtaposition (‘friend house’); (3) inflectional features are lost (e.g., the simple form of the verb is used exclusively: ‘I eat yesterday’); and (4) verbs are negated by using *no* (‘he *no* run away’) For Ferguson and DeBose, then, this process of simplification is “pidginization.” They see true pidgins and beginning interlanguages (ILs) as similar phenomena: they both include structures transferred from the NL as well as simplified structures from the target language (TL). Ferguson and DeBose believe that this initial pidginized speech variety must undergo a degree of expansion and elaboration, or “depidginization,” before it can be used for a wide range of communicative purposes and be considered a pidgin language. They consider “depidginization” and elaboration of an IL in the direction of the TL to be similar processes since speakers of both can achieve different degrees of proficiency before the elaboration ends. The main difference, of course, is that “depidginization” is a process that occurs in a group of speakers and usually over several generations, while elaboration of an IL occurs relatively quickly in the speech of an individual SL learner.

Bickerton (1977) emphasizes the role of transfer in pidginization, which he sees as the simple relexification of the speaker’s NL. He also sees a similarity between pidginization and second language acquisition (SLA):

Pidginization is second language learning with restricted input (p. 49).

Scanty evidence...does indicate that second languages are naturally acquired via piecemeal relexification, productive calquing and the utilization of mother-tongue surface syntax (p. 238).

On the other hand, Bickerton (1983) makes a distinction between pidgins and creoles, arguing that “no real connection exists between second language acquisition and creolization: they differ in almost every particular” (p. 238). The differences he points out are summarized in the following chart:

<u>Creolization</u>	<u>SLA</u>
--done in groups	--done alone
--no target	--a definite target
--mainly by children	--mainly by adults
--result is a first language	--result is a second language
--"abnormal" background	--"normal" background

### **The role of language universals**

Another area where pidginization, creolization, and SLA have been compared is that of universals. Andersen (1983:30) points out that “[Bickerton’s] relexification view of pidginization excludes any possible role for universals” in either pidginization or SLA. Others, however, suggest that universal principals do play a role in pidginization and SLA. Kay and Sankoff (1974), for instance, claim that universals could be involved in pidginization in two ways. First, they suggest that a pidgin language might adopt the universally simplest structures from either (or any) of the languages in the contact situation. A second possibility is that the structures which are

equivalent or very similar in the languages in contact might form the “natural basis for a pidgin” (p. 62). This is similar to the argument Keesing (1988) makes for an “oceanic substrate” for Melanesian Pidgin.

Corder (1981) suggests an explanation of simplification in SLA which incorporates both universal principals and Bickerton's relexification view. First, he points out that SL learners cannot possibly simplify the TL because they do not know it yet. Instead, the learners simplify their NLs based on universal principals of simplification and then relexify with TL forms. According to Corder, then, SLA is not exactly like first language acquisition since universals are not directly involved. In SLA, universal principals are indirectly tapped, or “remembered” via the first language.

Meisel (1983), on the other hand, disagrees with both Bickerton and Corder. He suggests that SL learners, like first language learners, base their hypotheses about how the TL works *directly* on language universals. As an example, he claims that SL learners use a universal strategy for negative placement: “Place *Neg* immediately before the constituent to be negated” (p. 134). In a study of native speakers of Spanish, Italian, and Portuguese learning German, he found that all of the subjects consistently put *Neg* either before or after the main verb--not at the end of the clause as in German.

### Schumann's Acculturation Hypothesis

Schumann's (1978a, 1978b, 1983, 1984) Acculturation Hypothesis is an attempt to link social and psychological factors with a SL learner's IL “variety,” or stage of acquisition. Schumann makes three rather strong claims about “natural” second language learning. First, the earliest stage of IL, the “basolang,” is characterized by reduction and simplification. This is what Schumann originally termed “the pidginization hypothesis.” In the “mesolang” and “acrolang” stages of SLA, however, there is a single continuum of structures that are acquired in the same order by all learners. The only individual variation allowed for by the Acculturation Hypothesis is the degree of progress that an individual learner makes along the continuum before the IL ceases to elaborate, or *fossilizes*. Finally, Schumann claims that the major causal variables in the SLA process are social and affective variables, which, taken together, he calls “acculturation.” The essential factor in acculturation is contact--social and psychological--with the target language group. Although Schumann's theory has been very influential in SLA research, studies by other researchers have both supported and disagreed with the Acculturation Hypothesis, leading Schumann himself to conclude that the hypothesis was testable “in theory but not in fact” (1984:12):

It is the dynamic, varying, and complexly individual nature of affect which makes the idealized version of the acculturation model difficult to either prove or disprove.

### Andersen's Nativization Hypothesis

In his Nativization Hypothesis, Andersen (1983) claims that language universals are found in pidgins, creoles, and interlanguages. In their initial stages, creoles develop in the direction of internal consistency and universal simplicity. This is what Andersen refers to as “nativization.” Nativization also occurs in the creation of pidgins and ILs, but the learner's “internal norm” is determined by both the NL and universals; that is, learners transfer structures from their NLs *and* access universals. According to Andersen, “denativization” results from more exposure to the standard language. In the case of pidgins and creoles, denativization creates a continuum (ranging from “basilect” to “mesolect” to “acrolect”) based on the amount and type of contact the learner has with native speakers. Andersen builds on the work of Schumann (1978) and Stauble (1978) to draw a parallel between stages of pidgin/creole continua and stages of IL continua, which he calls the “basilang,” “mesolang,” and “acrolang.”

## INTERLANGUAGE THEORY

Interlanguage theory started with a basic observation about the SLA process, that is, that a SL learner goes through a series of approximative stages in the process of acquiring a TL, and errors often cannot be explained solely by transfer from the NL. In outlining an “approximative system of foreign language learning,” for example, Nemser (1971) makes three assumptions about the SLA process. First, learner speech at any given time is “the patterned product of a linguistic system,” (p. 116) distinct from the NL and the TL, and internally structured; that is, the speech of a SL learner is “structurally organized” and therefore a useful phenomenon to study in itself. The second assumption is that SL learning involves an evolving series of stages before finally “merging” with the TL (which Nemser recognizes is extremely rare for adult learners). Third, according to Nemser’s approximative system, the proficiency of learners at the same stage roughly coincides with major variations ascribable to differences in learning experiences. By Nemser’s definition, “learner systems” are transient, and “effective teaching implies preventing, or postponing as long as possible, the formation of permanent intermediate systems and subsystems (deviant phonological and grammatical structures)” (p. 117).

In his Interlanguage Hypothesis, Selinker (1972) begins by assuming that there is a latent psychological structure present in the brain, capable of making “interlingual identifications,” which is activated when a person attempts to learn a second language. Unlike some other conceptualizations of latent language structures or language acquisition devices responsible for first language acquisition, however, there is no guarantee that Selinker’s latent structure will be activated at all when SL learning is attempted. In other words, attempted learning may or may not be successful, or learners may be successful to varying degrees. Selinker suggests that there are five central psycholinguistic processes operating within this latent psychological structure which underlie IL behavior. These five processes are *language transfer, transfer of training, strategies of second language learning, strategies of second language communication, and overgeneralization of target language linguistic material* (p. 215).

A mechanism of *fossilization* is also assumed to be present in this latent psychological structure. Selinker describes potentially fossilizable linguistic phenomena as “linguistic items, rules, and subsystems which speakers of a particular NL will tend to keep in their IL relative to a particular TL, no matter what the age of the learner or amount of explanation and instruction he receives in the TL” (p. 215). He further claims that SL learners’ “backsliding” from what they have learned to be a TL norm is neither random nor toward the NL, but instead toward a (possibly fossilized) IL norm. Selinker hypothesizes that each of the five processes he believes to be central to SL learning “forces fossilized material upon surface IL utterances,” so that combinations of these processes largely control the fossilizable material that appears in the surface structures of IL utterances, producing what Selinker terms “entirely fossilized IL competencies” (p. 217). When entire IL competencies become fossilized in a whole group of learners, the result is a new dialect of the language. Thus, in Selinker, Swain, and Dumas (1975) it is suggested that an understanding of fossilization may provide important possibilities for theories of pidginization and creolization, as well as for theories of language change in general.

## MODELS OF LANGUAGE FOSSILIZATION

Vigil and Oller (1976) propose a model of rule fossilization that extends Selinker’s original notion of fossilization to any case in which *any* grammatical rules become a *relatively* permanent part of a psychologically real grammar. In contrast to Selinker’s implicit emphasis on “errors” as the only fossilizable phenomena that require explanation, their model and conceptualization of fossilization attempts to account for the incorporation of all relatively permanent new rules in a learner’s developing grammar, whether or not those rules conform to the norms of the TL. In other words, Vigil and Oller (V & O) seem to be arguing that all rules in a learner’s grammar may eventually “fossilize”—some at a proficiency level equivalent to target language norms and some at

a lower level. The latter, of course, will be the rules perceived as fossilized "errors." In addition, unlike Selinker's more or less syntactically-determined reasons for fossilization, V & O see interactive, pragmatic factors as the primary explanation for the process of fossilization: it occurs as a part of, or perhaps as a result of, the interactive process of communication.

V & O's model of rule fossilization is a dynamic cybernetic one in which a feedback loop containing information about affective relationships and cognitive experiences constantly provides a source (i.e., a speaker) with information about how messages are being received and reacted to by an audience (i.e., a listener). V & O claim that while a learner's own self-monitoring feedback is one factor in the fossilization of rules, the primary factor controlling the development of learner grammars (or ILs) is the "source-audience feedback loop." Oversimplifying somewhat, the model predicts that as long as a learner continues to receive some type of corrective feedback from the audience (or to a lesser extent from the self-monitoring system), the learner's grammatical system will continue to develop without fossilization taking place. If the learner receives favorable feedback or if the corrective feedback falls below a certain minimally-acceptable level (i.e., the learner is satisfied with his or her ability to make himself or herself understood to the audience), then grammatical forms used by the learner will tend to fossilize, whether those rules match the norms of the TL or not.

In a reaction to Vigil and Oller's model, Selinker and Lamendella (1979) extend the scope of Selinker's original conceptualization of fossilization and discuss the role that "extrinsic feedback" plays in IL fossilization. Extrinsic factors are defined as "those characteristics internal to the individual learner which are oriented toward the external environment, and which act as the interface between the learner and the environment in which IL learning takes place" (p. 364). Like V & O, Selinker and Lamendella (S & L) believe that various types of feedback are a necessary part of any theory attempting to explain successful IL learning, but S & L suggest that internal factors control the *onset* of fossilization.

First, S & L disagree with V & O's claim that rules will always tend to fossilize whenever learners begin to receive a "predominance" of positive expected feedback. They point out that there are other factors involved--motivation, attitudes, acquisition and communicative strategies, etc.--which also play a part in determining at what point a certain rule will fossilize (or stabilize) for different learners. Second, although S & L agree with V & O that learners' interactive needs are the most direct source of fossilization, for S & L, linguistic rules first tend to *stabilize* (although not necessarily *fossilize*) when the "interactional needs" of the learners are being met. The "permeability" of a particular learner's current IL could (but not necessarily) end once the learner is able to meet his or her own "real-world" needs. S & L consider this point to be the "lower bound" on when fossilization could (but, again, not necessarily) set in. They make an important distinction between "stabilization," which may or may not be permanent, and "fossilization," in which IL learning ceases before the learner has managed to achieve "all levels of linguistic structure and in all discourse domains," in spite of the fact that he or she has the "ability, opportunity, and motivation to learn the TL and acculturate into the target society" (pp. 373-4). By S & L's definition, then, "defossilization" can *never* occur, while "destabilization" is an important aspect of second language learning. S & L also believe "differential stabilization" and "differential fossilization" are normal in a learner's IL; that is, certain rules or subsystems may stabilize or fossilize while others continue to develop, both in terms of linguistic level and discourse domain.

## TWO RECENT STUDIES OF "FOSSILIZED" LEARNERS

### An attempt at "defossilization"

In a study concerned with fossilization and backsliding, Mukattash (1986) examined the role and significance of systematic error correction and explicit grammatical explanation in an attempt to "defossilize" certain grammatical errors characteristic of the IL of adult Jordanian Arabic-speaking learners of English. The subjects in his study were fourth-year students of English

Language and Literature at the University of Jordan, who had had an average of eleven years of formal instruction in English, including a great deal of explicit instruction in English grammar. Furthermore, at the time of the study, the subjects were students in an advanced course in contrastive linguistics and error analysis.

During the first ten weeks of the course the subjects were made aware of and trained to describe and justify the major types and probable causes of errors typically made by Jordanian Arab learners of English. Then they were given a test on which they were asked to write short notes about certain issues in the subject area. Their test answers were analyzed for errors. Based on this analysis, Mukattash found that two major error types were prominent: errors in the verbal system and errors in relative clause formation. Verbal errors included errors in tense, phase, aspect, voice, and BE-deletion. Relative clause errors included errors involving relative pronoun deletion, pronominal reflexes, relative pronoun replacement, and non-restrictive clauses. These errors were discussed in detail in class. Another essay-type test was given at the end of the course, and the errors were analyzed as before and compared to errors made on the first test. The comparison revealed that a "great number" of errors that occurred on the first test reappeared on the latter test, and furthermore, errors occurred on the second test that did not occur on the first. In other words, there was no evidence that "defossilization" took place for Mukattash's subjects, despite explicit discussion and correction of the errors.

This study seems to suggest, as Mukattash points out, "that there is not much value in explicit and systematic error correction in the case of advanced adult foreign language learners" (p. 201). However, Mukattash is also quick to point out that while this observation seems to be true of the subjects in his study as a group, he did not attempt to compare individual performances of learners on the two tests (which I see as a major flaw in his research design), and "individual differences as well as motivation are main factors that determine the effectiveness of error correction" (p. 201). Mukattash also strongly suggests that these results may not apply to younger learners and/or learners in the initial stages of learning. In addition, he speculates that error correction may still be useful to help learners learn to self-monitor, if self-monitoring is a relevant skill for them, as it would be for prospective foreign language teachers or translators, for example.

### **A reduction in the errors of very advanced learners**

In a longitudinal study of errors produced by "very advanced" learners of English, Lennon (1991) addressed three issues: (1) whether the errors of such learners are concentrated in particular categories; (2) whether individual advanced learners differ in the distribution of errors over various categories; and (3) whether errors are reduced over time with extensive exposure to the SL community. Lennon's subjects were four German university students, all female, who were spending six months studying at a university in England. All of the subjects had studied English formally in Germany for "many years," but none of them had ever spent more than a few weeks in an English-speaking country. During their six months in England, they had British roommates and attended normal university lectures and classes, but did not receive any special English language instruction.

On fifteen separate occasions during the six-month period, Lennon elicited and recorded "picture story narrations" from each of the four subjects. Transcriptions of these recordings formed the data base for the study. Lennon defined an error as "a linguistic form, combination of forms, or utterance, which [would] not be produced by the subject's native speaker counterparts" (p. 32). Errors were classified into ten exhaustive and mutually exclusive descriptive categories: (1) intra-lexeme (phonological, morphological, and categorization errors); (2) intra-noun phrase (articles, determiners, adjective choice, etc.); (3) intra-verbal group (tense and aspect choice); (4) preposition and adverbial particle choice; (5) choice of pro-forms; (6) position of adverbials and participles; (7) verb complementation; (8) clause linkage (conjunction choice, relative pronoun choice, etc.); (9) sentence structure; and (10) lexical choice.

Lennon found that his subjects' errors were indeed highly concentrated in specific categories. 23% of the 745 errors in his corpus consisted of lexical choice errors (category 10),

and another 22% were preposition and adverbial particle choice errors (category 4). Therefore, as Lennon points out, “nearly half (45%) of all errors are lexical or have a lexical element to them” (p. 40), and, not surprisingly, “it appears that the advanced learner’s main problems are with lexis and preposition choice” (p. 43). Furthermore, 21% of the errors consisted of intra-verbal group errors (category 3) and 12% of intra-noun phrase errors, so that over three-quarters (77%) of the total errors in the corpus were accounted for by just four categories. In comparison, only 7% of the total errors were intra-lexeme errors (category 1), 6% were choice of pro-form errors (category 5), and the remaining categories together accounted for only 10% of the total errors.

Lennon also found that the individuals in his study differed markedly in their distribution of errors in some categories, but that there was little variation among subjects in other categories. Little variation occurred among subjects in the proportion of lexical choice errors (range: 20%-25%) and intra-noun phrase errors (range: 9%-14%), for instance. Some substantial differences did occur among subjects with regard to intra-verbal group errors and preposition and adverbial particle choice errors, however. Two subjects had a preponderance of intra-verbal group errors (29% and 26%) over preposition and adverbial particle choice errors (15% and 17%), while the other two subjects reversed the results (17% and 11% vs. 23% and 34%) in those respective categories.

Finally, Lennon did find some evidence that “total error is reduced over time” (p. 43). Three of the four subjects had considerably lower “error frequencies” during the second eight weeks of the study than during the first eight weeks. Only one subject, the one with the highest overall error frequency, showed a slight (and as Lennon suggests, probably insignificant) increase in error frequency from the first to the second term. (Error frequency was calculated in terms of errors per T-Unit, and a T-Unit was defined as “one main clause and all of its attendant subordinate clausal elements” (p. 32).)

### **Evaluation of Mukattash and Lennon**

In terms of the question of whether fossilization is a psychologically real and permanent phenomenon, the two studies reviewed above would seem to suggest totally opposite conclusions. Mukattash’s study does seem to suggest that certain syntactic forms, once fossilized, may be impossible to change, while Lennon claims to have found some evidence exactly to the contrary. Differences in research design may help to explain part of the discrepancy. First, Mukattash was dealing only with written English while Lennon was studying only errors in spoken English. Also, Mukattash’s subjects received a great deal of formal instruction but no contact with native speakers or natural use of the language. Lennon’s subjects, on the other hand, received no formal instruction whatsoever but were immersed in the target language and culture during the period of the study. This could possibly imply, then, that errors in speaking are more easily defossilized than errors in writing, and/or that exposure to the target language and target culture is more effective than explicit grammatical explanation in any process of “defossilization.” The latter implication, especially, would provide some support both for Schumann’s Acculturation Hypothesis and Vigil and Oller’s model of fossilization as a largely interactive process.

Undoubtedly, another important influence on the results were the two very different methods used to gather the data in the two studies. A major strength of Mukattash’s study was his elicitation technique. His subjects, while concentrating on a meaningful task (taking an examination) were probably unaware of the fossilization study and therefore not monitoring excessively. Lennon’s “picture story narration” method, on the other hand, seems to be a highly artificial task for college-age students. It seems likely that the subjects would be very conscious that it was only their English ability, and certainly not their storytelling ability, that was being tested, and thus their speech would tend to be highly monitored. Furthermore, since each subject performed the same type of task fifteen times during the six-month study, the subjects could almost certainly be expected to perform better on each succeeding attempt due to practice and familiarity alone. Therefore, perhaps Lennon’s findings of reductions in errors over time, while interesting, should be viewed with a certain amount of skepticism.

Rather than providing any direct measure of the permanence or impermanence of language fossilization, the true value of these two studies may be that they seem to go a long way toward identifying and categorizing the types of syntactic errors that seem to persist in the grammars of very advanced learners of English as a second language. This in itself may be a big step in the direction of beginning to identify (for two specific languages at least) the “potentially fossilizable linguistic phenomena” central to Selinker’s Interlanguage Hypothesis and Selinker and Lamendella’s model of language fossilization. Mukattash’s study also suggests that it may be errors which are “traceable to L1 [first language] influence” which seem to be the most numerous and hardest to eliminate in the speech of advanced learners. This seems to lend some support to Selinker and Lamendella’s model of fossilization, which includes a role for extrinsic factors as well as interactive and feedback factors, over the purely interactive model of Vigil and Oller.

## CONCLUSIONS

Despite a nearly universal intuitive acceptance of the concept by researchers and educators alike, so far there seems to be little concrete evidence that fossilization is a psycho-logically real and permanent phenomenon. Still, fossilization as a hypothetical construct would seem to have an important role to play in theories of second language acquisition as well as theories of pidginization and creolization. Language fossilization is obviously a very complex and (at this point) a poorly understood phenomenon. It seems likely that any comprehensive model of fossilization will have to take into account factors inherent in the learner (e.g., native language, aptitude, attitude, motivation, and learning and communication strategies) as well as external factors (e.g., type of training, amount and type of feedback and error correction, and affective factors). This would seem to suggest, then, that it may be impossible to predict exactly which linguistic items are likely to fossilize and when fossilization is likely to occur in specific individual learners. This may not rule out the possibility of making general predictions for certain groups of learners, however, which would certainly have important implications for pidgin/creole and second language acquisition theories as well as pedagogical implications for second language teaching.

At this point, since the evidence is so far incomplete, from a pedagogical point of view it may be “safest” to assume that error fossilization will occur at some point for some linguistic items for most second language learners and, therefore, to stress the correct production of target language forms in the early stages of instruction at least. Meanwhile, the need for more research in this area is strongly indicated--perhaps more quantitative, longitudinal studies involving larger samples of subjects speaking several different native languages and, if possible, learning several different second languages under a variety of differing conditions. This seems to be an area where pidginization/creolization studies and studies in second language acquisition have a similar concern and could benefit from each other’s research findings.

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