

# LANGUAGE IN INDIA

Strength for Today and Bright Hope for Tomorrow

Volume 13 : 2 February 2013

ISSN 1930-2940

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## Fossilization and Plateau Effect in Second Language Acquisition

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### Abstract

In language acquisition (LA), what distinguishes the acquisition of L1 from that of L2 is fossilization as being a characteristic of L2 acquisition. The term 'Fossilization' has been borrowed from the field of *paleontology* to characterize a stage in the L2 learning process in which the L2 learner language gets "encased" or stop-short to perform like a native speaker of that language. In fact, fossilization is an inevitable phenomenon in second language acquisition (SLA) process. Compared to fossilization, learning plateau is also another phenomenon which differs from the former in that it is temporary and can be overcome by learners provided that they get subjected to certain pedagogical techniques and effective learning strategies. Thus, this paper aims at characterizing fossilization and learning plateau in SLA, examining their modern and current notions, their theorization, their relationship to Universal Grammar (UG) and how fossilization can only be assumed but not demonstrated. It also aims at exploring and examining how, when, why they occur and what linguistic and nonlinguistic factors contributing to their occurrence and the way they can be prevented and/or overcome.

*Keywords:* Fossilization, Learning Plateau, SLA, UG, L2 Learner

### 1. Introduction

People rather than LA researchers and applied linguists marvel at the rapid and easy way in which children acquire their L1. It has been observed that every normal child acquires full knowledge of his/her L1 grammar by the age of five years or so as a result of several reasons the important of which are the exposure and the interaction with the community where they live. In

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other words, the outcome of L1 acquisition is success, i.e. normal children acquire the grammar of the language to which they are exposed whatever that language may be. This surprising feat is contrasted with the failure encountered by adults when acquiring an L2. It has been largely observed that almost all L2 adult learners never reach a native-like proficiency in the L2 learned (Adjemian, 1976; Corder, 1971; Nakuma, 1998; Selinker, 1992, 1993; Nemser, 1971; Schumann, 1978, 1990; Seliger, 1978; Stern, 1975; Virgil and Oller, 1976; Selinker and Lakshmanan, 1992; Scovel, 2000; Han, 2000, 2004) among others. However, only a small number of L2 learners reach a native-like proficiency and this is conditioned by several factors.

In addition, it was Kellerman (1984) who has recognized the difference in ultimate attainment between child L1 acquisition and adult SLA. The former is characterized by ultimate attainment but the latter is not at least for the most L2 learners. Further, Towell and Hawkins (1994, p.118) have observed that SLA is not that “spectacular.” If learners are above the age of ten, SLA is not only “slow, laborious ... even in talented L2 learners,” but it tends to stop short of native-like proficiency. This “stopping short” has been referred to as “fossilization” Selinker (1972), “incompleteness” Schachter (1990) or “incomplete success” (Mitchell and Myles, 1998). Thus, fossilization is considered one of the remarkable characteristics of SLA. In addition, there are behavioral reflexes of fossilization such as *learning Plateau* (Richards, 2008), *backsliding* (Ellis, 1985; Schachter, 1988; Selinker, 1972), *persistent non-target-like performance* (Mukattash, 1986), *typical error* (Kellerman, 1989), *ingrained errors* (Valette, 1991), *persistent difficulty* (Hawkins, 2000), *long-lasting free variation* (Ellis, 1999). However, there is, in one way or other, some kind of difference between each of these concepts of which we will concern ourselves with only *fossilization* and *learning plateau*. Moreover, SLA literature has revealed numerous problems related to the study of fossilization as an inevitable phenomenon be they related to the way fossilization should be defined, studied or analyzed.

## 2. Notions of Fossilization and Learning Plateau

Fossilization as a phenomenon related to SLA process, first discussed by Selinker (1972), is widely accepted as a key attribute to adult SLA. In fact, the term “fossilization” has been borrowed from the field of *paleontology* as a metaphor used in SLA studies being an appropriate term describing earlier language forms “encased” in interlanguage (IL) of a learner that cannot be changed by special attention or practice of the L2 being learned Mukatash (1986). Further, the concept of ‘fossilization’ dates back to scholars such as Weinreich (1953) and Nemser (1971). Weinreich (1953, p. 174), for example, has talked about “permanent grammatical influence” and Nemser about “permanent intermediate systems and subsystems.” Both researchers not merely recognized the phenomenon but they also integrated it into their theoretical perspectives.

Now, if one considers the concept of fossilization, one is likely to encounter as several definitions as there are people interested in the issue. In fact, there seems to be no consensus among researchers and studies to how “fossilization” should be defined, studied and/or analysed. However, there seems to be a strong agreement among researchers in SLA studies that SLA

inevitably involves such a phenomenon. Selinker (1993, p. 13), for instance, has defined 'fossilization' under the term "fossilize" as "of a linguistic form, feature, rule, etc to become permanently established in the *interlanguage* of a second-language learner in a form that is *deviant* from the target language norm and that continues to appear in *performance* regardless of further exposure to the target language" (emphasis mine).

Another definition of fossilization but in terms of a particular structure has been stated by Nakuma (1998, p. 247) as a "term used generally to denote what appears to be a state of permanent failure on the part of an L2 learner to acquire a given feature of the target language." Further, in terms of L1 compared to L2 acquisition, a definition has been stated by Hyltenstam (1988, p. 68) as "a process that may occur in the second language acquisition context as opposed to first language acquisition" covering L2 learner's IL which is deviant from the native speaker norm. However, these definitions have been criticized by a number of researchers as they lack sophistication, thereby making the phenomenon non-measurable (Gregg, 1997). An appropriate two-tier definition with two levels, viz. cognitive and empirical has been given by (Han, 2004, p. 20). In the cognitive level, Han states that "[f]ossilization involves those cognitive processes or underlying mechanisms that produce permanently stabilized IL forms." For the empirical level, she states "fossilization involves those stabilized interlanguage forms that remain in learner speech or writing over time, no matter what the input or what the learner does."

However, recently, it has been looked at the stopping-short characteristic of SLA as *plateau effect* (Richards, 2008). Thus, Richards (op.cit) has defined this phenomenon as a temporary cessation when learners move from intermediate to advanced levels. Thus, *learning plateau* can be simply defined as a natural learning process with a temporary cessation of language learning. In fact, Richards looks at "temporary fossilization" as *plateau effect* that can be overcome specially when there are certain pedagogical procedures, effective learning strategies and techniques followed by teachers and learners alike. In this sense, *plateau effect* temporarily prevents L2 learners from further learning development. In that, when L2 learners are learning L2 structural rules and concepts, there will come a time when they hit a plateau where they can no longer make noticeable progress. Several researchers (Richards, 2008; Long, 2003; Yi, 2009) among others contend here that when reaching the learning plateau, it is likely that learners are able to make progress but under certain conditions which contrast with *fossilization* which if learners reach, they will never make any progress whatever efforts they devote to it. This can, in fact, be a very frustrating experience, and unfortunately what most L2 learners do is just stop learning. In fact, only few learners try to continue learning. Those are perhaps greatly motivated. Further, Richards (op.cit) ascertains that the plateau effect is not an end point, it is a natural stage of learning process and learners continue making progress when they intend to do so. He has also provided several techniques and pedagogical procedures that help L2 learners make progress as will be discussed later on in this paper.

### 3. Theory of Fossilization

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Fossilization, more or less, is a construct first introduced into the SLA research by Selinker (1972), who appears to have seen it as a way of both characterizing and explaining the product of the SLA process in terms of what many researchers consider one of its single most salient qualities (compared to L1A), that is, relative failure. Thus, the theory of fossilization, more or less, implies that fossilization may occur in a particular domain of the grammar rather than in the whole grammar. In other words, fossilization theory initially implies that fossilization may be a characterization of a specific rule of the grammar and not a characteristic of the grammar as a whole. In addition, Selinker (1993) states that fossilization is not merely ‘domain-dependent,’ but ‘context-dependent’ as well. Providing an evidence for this, Long (2003, p. 372) refers to what is called “fluctuation...across contexts, not just by uniformity in performance across all contexts, and was meaningfully sought under conditions of natural exposure, that is, in second, as opposed to foreign, language settings.” Now, one is likely to question the issue of the context used by Selinker. As stated by Long, context remains “undefined and in practice difficult to operationalize.” Therefore, fossilization becomes a situation in which the learner might produce an L2 form correctly in one context but not in another, thereby evidencing a fluctuation in L2 performance. To qualify as fossilization, “this fluctuation would have to have persisted in the learner’s speech for an extended period of time (perhaps two to five years at the very least) in spite of copious interaction with native speakers in an environment where the learner’s L2 is spoken as a first language” (Long, op.cit). Therefore, a processing dimension is needed, one which combines cognitive factors with input characteristics. It is not the case that all inflectional morphology is vulnerable to maturational constraints, or likely to stabilize, or fossilize, but perhaps non-salient, irregular inflections, for instance, or ambiguous, optional pragmatic rules, are the items that even good learners are most likely to miss and which are especially problematic for learners with low input sensitivity.

However, the occurrence of fossilization is conditioned by several factors, viz. cognitive, effective and social. There is also what has been termed by Han (2004) a sensitive period which plays a crucial role in the occurrence of fossilization. Han believes that the primary role is played by the sensitive period and that the effects of such a period are intricately tied up with cognitive, affective, and social factors including, among other things, L1 transfer. For instance, once the L2 learners are beyond the sensitive period, they will have a low sensitivity to L2 input and therefore will suffer from reduced ability to benefit from exposure to input. As has been stated above, permanence is a characterization of fossilization which makes it different from stabilization or learning plateau as will be discussed later on. In that Long (2003) agrees with Selinker that permanence *per se* is a quality which makes fossilization differ from learning plateau. The issue of permanency of fossilization has been made more clear by (Han, 2004) who cites a very interesting phenomenon illustrating the permanency of fossilization:

Professor Chien-Shiung Wu, who has died aged 83, was a physicist whose brilliance carried her from obscurity in China during the early thirties to fame in the United States during and after the second world war. As a postdoctoral physicist, *speaking idiosyncratic English* but with a unique knowledge of gaseous fission products, she was called in by the great Enrico Fermi when, in 1942, an experimental reactor began to run down within weeks of going critical. She quickly and correctly diagnosed poisoning by the rare gas xenon, produced in the fission process.

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*In 1992, Wu came to Europe for an 80th birthday symposium held in her honor at the international Cern laboratory at Geneva. She was delighted and, with her early difficulties with English still evident, talked about her beta decay work and the importance of choosing critical experiments. It is said that few left the meeting uninspired by her amazing clarity of thought, or unmoved by the power of her quiet yet very special genius (emphasis mine).* (Han, 2004, p. 12)

This excerpt shows vividly that when fossilization occurs, it will ever be permanent. Despite the fact that Professor, Wu had arrived in the U.S. in 1936 and had since lived and worked there for about 56 years which furnish her with exposure to English, her second language, could not overcome all of her difficulties with English she had experienced in her early life. Although Professor Wu was very intelligent proved by her many and several scientific achievements over the intervening decades, she had failed to improve her English, though she might have intended to do so. In fact, Professor Wu's case is typical of millions of those who are L2 acquirers. "[l]ong exposure and concerted efforts, become caught up somewhere in the learning process and find themselves unable to progress [though] continuous exposure to input, adequate motivation to learn, and sufficient opportunity for practice" Han (2004, p. 213).

In fact, fossilization may set in once and for all, and the learner simply gets stuck at a plateau, never to go any further. Another well-known example of permanence of fossilization is that of Alberto, investigated by Schumann (1978), a 33-year-old Costa Rican who had lived in Massachusetts for four months when his language progress first began to be investigated. Along with five other Spanish-speaking immigrants, (two five-year-old children, two adolescents and one other adult), his speech was monitored over a period of 10 months, by a variety of means, including free expression in natural settings to pencil and paper tests in the classroom. While the other five all made progress, Alberto quickly fossilized. Schumann believes that what happened with Alberto was that he went through a process similar to 'pidginization,' that is, he constructed a basic *lingua franca* for the limited social purposes that brought him into contact with English speakers. Thus, for negation, Alberto only used the two earliest stages: *no* + *V* as in *I no understand good* and *don't* + *V* as in *don't know* and thus using the first of these most often. For interrogatives, Alberto inverted subject and auxiliary in only 5% of cases, reserving the correct form for only certain verbs – *say* and *like*. Occasionally, he would produce full verb movement – as in *what are doing these people?* In addition, although he achieved 85% accuracy for plural morpheme *-s*, Alberto got the possessive morpheme *-s* right in only 9% of obligatory contexts, regular past tense in 7% and irregular past in 65% Schumann (1978, p. 36-58).

This shows that Alberto, indeed, was particularly far from native-speaker forms in his use of auxiliaries, and Schumann has concluded that Alberto could only be said to possess *can* and certain copula forms of *be*. The other five learners were well ahead of him on this, however. Now, the question is why was Alberto's language 'pidginized' in this way? In other words, do age and other factors have something to do with this pidginization of Alberto's IL? In fact, Schumann rejects both age and cognitive level. Instead, he draws the attention to the fact that Alberto's speech is very close to classic pidgins in a number of ways. Schumann believes that Alberto found himself in a situation very similar to that of a speaker of a pidgin. For Schumann, in truth, this is a crucial variable in LA. In fact, Alberto's pidginization of the English language, Language in India [www.languageinindia.com](http://www.languageinindia.com)

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then, came about because he felt that no further expressive needs could be met by the language. This actually draws our attention to the fact that one of the reasons of fossilization is the learner's satisfaction with his/her already existent IL.

Now, taking Alberto's case into account, Han (2004) claims that this is one of the indications that the Chomskyan approach to LA is not sufficient. Here, it should be remembered how Bruner insists upon the need for a Language Acquisition Sport System (LASS) to complement the Language Acquisition Device (LAD) and how the child's entourage provides a context which was not simply communicative, but also affective. What could be suggested here is that this affective aspect is also of great importance in the learning of an L2. Alberto had no love either for or through the English language. The same is true of millions of L2 learners, and may account for their relatively rapid fossilization. Many researchers have attempted to explain it (e.g. Adjemian, 1976; Corder, 1971, 1975, Nakuma, 1998; Selinker, 1972, 1992, 1993; Nemser, 1971; Schumann, 1978, 1990). Others have attempted to discover: 1) why fossilization occurs (e.g. Seliger, 1978; Stern, 1975; Virgil and Oller, 1976); 2) the precipitating conditions (Schumann, 1978, 1990; Virgil and Oller, 1976); 3) what kind of linguistic items or levels are likely to be fossilized (Selinker and Lakshmanan, 1992) and 4) why some learners are more prone to fossilize (Adjemian, 1976; Scovel, 1969, 1978, 1988, 2000; Virgil and Oller, 1976). However, there has been little investigation, as will be looked at later on in this paper, by SLA theorists regarding the possibilities of preventing or overcoming fossilization and/or plateau effect, and little explanation related to those adult L2 learners who do overcome one or more 'areas of stability' in IL, i.e., those learners whose IL does not fossilize in the early stages of the SLA process, and who do reach a high level of proficiency in the L2 (Acton, 1984; Birdsong, 1992; Bongaerts, 1999; Ioup, *et al.*, 1994; Mizuno 1999).

As has been stated earlier, it is extremely rare for the learner of an L2 to achieve full native-like competence: fossilization refers to this phenomenon as non-target forms which become fixed in IL. In addition to Professor Wu and Alberto discussed above, many other examples can be found for instance, (Mukkatesh, 1986), looking at the written production of 80 students at a Jordanian university, has found that after 11 years of instruction in learning English, they continued making errors such as the use of simple past instead of simple present and that no amount of grammatical explanation of error correction had any effect. Moreover, fossilization may simply affect certain structures. In this regard, (Selinker, 1993, p. 49) wrote: “[f]ossilizable linguistic phenomena are 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.”

Moreover, Long (2003) claims, as Selinker repeatedly underscores, that it is fossilization that results in the “non-target-like ultimate achievement, operating in learners irrespective of their age.” Thus, Long questions the issue of whether fossilization is a characteristic of children SLA or it is merely of adults.’ However, he asserts that no studies have attempted to show fossilization in children L2 doubting whether it could happen with children acquiring L2. He also emphasizes the assumption that children achieve native-like accuracy in L2 when they are given

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an appropriate chance to adopt or assimilate it. Birdsong (1999) attempts to characterize this phenomenon as well. Birdsong, thus, has concluded that to acquire native-like competence in L2 is “maturationally constrained.” In this regard, Long (2003, p. 374) points out that those children who are exposed to L2 “before the offset of one or more sensitive periods for language development can reach native-like levels [but] those exposed later cannot.” He has gone even further questioning the issue of where, how and at which level does “fossilization supposedly occur?” Now, the question worth addressing is that if fossilization is an inevitable phenomenon L2 researchers and teachers are to encounter, which unit of IL worth analyzing, viz. is it the whole, “the module, the linguistic rule, particular forms, words, meanings, collocations, form/function relationships, ranges of variation, all of these, or something else?” Long (op.cit. p.374). In fact, all these questions remain unanswered by Long sufficing to say that so much future research on SLA is needed to determine appropriate answers to such very interesting and salient questions.

Another question to be addressed here is that which linguistic domain or level of the TL is likely to fossilize first? In fact, several researchers have concluded that the first domain to *fossilize* in a language is phonology, i.e. pronunciation (Selinker, 1972, 1992, 1993; Han, 2000, 2004; Long, 2003; Mitchell and Myles 1998; White, 1990, 1996, 2003; Goad and White, 2006; Acton, 1984) among the many others. Regarding the issue of why some adult L2 learners may approach native-like competence while the majority may not, it has been observed, (Han, 2003, 2004, White, 2003, 1996; Lardiere, 1998; Selinker, 1993; Fidler, 2006; Goad and White, 2006; Long, 2003), that those who do not approach native-like competence are said to “cease” or “fossilize” in their acquisition of the TL. However, Mitchell and Myles (1998, p. 13) argue that adult SLA is typified by ‘incomplete success’ as opposed to L1A or L2A by children. Mitchell and Myles have provided two explanations for this phenomenon: *psycholinguistic* and *sociolinguistic*. Psycholinguistic explanation consists in the fact that the language-specific mechanisms which are characteristic of children “cease to work for older learners.” The *sociolinguistic* explanation lies in the fact that older learners do not have the ‘social opportunities’ and/or motivation to completely identify with the native speaker community. In short, fossilization in SLA has attracted many researchers in the field and has “become widely accepted as a psychologically real phenomenon of considerable theoretical and practical importance” (Long, 2000, p. 171) that requires much more research and study especially in the case of child L2 learners.

#### **4. Different Accounts of Fossilization**

There are four major accounts of fossilization in SLA research: (a) fossilization as “permanent transfer” Weinreich (1953); b) fossilization as “permanent intermediate systems and subsystems” Nemser (1971); c) fossilization as a “manifestation of difficulties in L1 parameter resetting” Hale (1988) and d) fossilization as the product of the Multiple Effects Principle (MEP) involving “transfer,” Selinker and Lakshmanan (1992). In fact, these accounts represent different eras and theoretical perspectives. The first account rendered by Weinreich as an ‘account of fossilization within a structuralist/functionalist framework.’ This era has been seen as an era when the Contrastive Analysis Hypothesis (CAH) was in its prime. The second account represented by

Nemser is in an era when CAH lost its strength, i.e. when learner “errors” began to attract the interest of SLA researchers and investigators for the essential insights they provide the researchers and teachers alike. In fact, this era was the pioneer of Error Analysis (EA) in which the learner “errors” have been looked not as negative characterization on the part of the learner that must be eradicated (Brooks 1960, cited in Hendrickson, 1978) but as evidence that the learner is internalizing the L2 system systematically in a rule-governed way. However, Hale’s account has been framed within the framework of UG and the parameter-setting model of LA. On the other hand, Selinker and Lakshmanan tackle fossilization from a more pedagogical perspective seeking to integrate UG based and contextually-based SLA characteristics of such a phenomenon.

However, what is common to the abovementioned accounts, as has been stated by Selinker and Lakshmanan (1992), is actually the implicit or explicit assumption that “transfer” is a factor influencing fossilization. Another property common to these accounts is the implied or expressed assumption that learners acquire deviant forms in L2 due to transfer from L1 to L2. Weinreich (1953) has exemplified what he has called “permanent grammatical transfer,” i.e. types resulting from “interlingual identification,” or what has been referred to as “false equivalence.” The impetus of Weinreich’s account of fossilization stems from L1 forms that have been (wrongly) identified with (falsely equivalent) L2 “forms [that] are transferred to the latter, becoming stabilized and eventually fossilized” (Nakuma, 1998, p. 248).

On the other hand, Nemser’s (1971) account of fossilization reveals vividly the broad scope of the issue in question. What Nemser argues for is that the learner’s “intermediate system,” or what has been called by Selinker (1972) “interlanguage” as “an autonomous plane relative to that of native competence and performance.” What this shows is the fact that, as an “intermediate system,” learners’ IL will never reach the competence of the native speaker and that this system differs from that of the native speaker in many ways. Following that logic, it must hold true that once such an IL is “permanent,” it qualifies automatically as “fossilized,” given that it is by definition deviant from the native target system. (Hale, 1988, p. 32), however, has hypothesized that fossilization may be a result of “certain L1 parameter settings [that] may be extremely difficult to eradicate from acquired L2, at least at the level of integrated linguistic competence, as opposed to conscious intellectual understanding of surface grammatical facts.” Moreover, Hale’s hypothesis is based on “parameters whose effects are diffuse within the grammatical system as a whole.” Further, Selinker and Lakshmanan (1992, p. 198) propose an account of fossilization by proposing their MEP which states that “when two or more SLA factors work in tandem, there is a greater chance of stabilization of interlanguage forms leading to possible fossilization.”

## **5. Fossilization and Universal Grammar**

From a UG perspective, the assumption that UG principles are still available to L2 learners is still a matter of controversy ending up with different views and conclusions. In fact, while some researchers have concluded that UG principles are not available to L2 learners (e.g. Clahsen, 1999), others (e.g. Schachter, 1996) argue that UG principles are still available but partly, some

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others (e.g. White, 2003; Mitchell and Myles, 1998; Cook, 1983, 2003; Gass and Selinker, 2008) hold that these principles are still fully available. As stated above, one of the reasons of fossilization is the assumption that L2 adult learners may not still have access to UG. This could actually reveal the doubtful hints raised above about the fact that children do not fossilize when they learn L2 but adults do. One possible explanation to this is that children at the age of 7-9 still have an access to UG and hence they succeed in learning L2 while adult learners may not still have an access to UG and thus they are likely to fossilize. Thus, if UG as a linguistic knowledge base is no longer accessible by L2 learners, language acquisition will mainly rely on the learner's L1 as a knowledge base. As a result SL adult learners find those SL structures that are similar to L1 structures easier to learn, and generally find it harder to deal with SL structures which are not shared by their L1 (Bialystok, 1997).

Another explanation from a UG perspective is that of a 'Failed Functional Features' (FFF) hypothesis, elaborated by Hawkins and Chan (1997). According FFF hypothesis, while UG principles remain available through life, post-critical-period learners have no access to UG *parameters* unless these have previously been triggered by L1 input. A plausible answer to the question addressed earlier about the issue of why only few adult L2 learners reach native-like or near-native competence is that on the basis of Schachter's (1996) assumption that adult L2 learners still have access to UG but partly, one can postulate that, because of this partial access to UG, some adult L2 learners do not fossilize and hence attain native-like or near-native-like competence. In addition, for researchers who believe in continued full access to UG in adult SLA, the fact that many L2 adult learners fossilize with divergent IL grammars is not an indication that UG is not available in SLA, but rather of failure to reset certain *parameters* (Han, 200, p. 31). White (1996, p. 115) has expressed her doubts regarding such a phenomenon saying: "why some learners 'fossilize' with divergent ILGs (interlanguage grammars) whereas others successfully attain a native-like grammar, why some parameters are successfully reset whereas others are not, why positive input is only sometimes successful as a trigger for grammar change?" in fact, adult L2 learners' lack of access to a full range of UG, in Schachter's (1996, p. 163) view, directly contributes to their incomplete L2 ultimate attainment. Schachter states that what a mature speaker of an L1 has as a result of L1 learning is a grammar stripped of those aspects of UG not incorporated into the L1 grammar, and further, that the adult learner of an L2 has only a partial access to UG demonstrates that adult formed L2 grammars are necessarily incomplete.

## **6. Assuming, not Demonstrating Fossilization**

The views on fossilization vary on the basis of the perspective in which it has been tackled. Researchers believe that assuming the existence of fossilization is something no one can deny, yet demonstrating it is something uneasy to determine. Ellis (1985, p. 48), for instance, states that "[f]ossilized structures can be realized as errors or as correct target language forms. If, when fossilization occurs, the learner has reached a stage of development in which feature *x* in his interlanguage has assumed the same form as in the target language, then fossilization of the correct form will occur. If, however, the learner has reached a stage in which feature *y* still does

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not have the same form as the target language,” the fossilization will manifest itself as an error. Further, (Han, 2004, p. 63) presumes that “[f]ossilization – according to observations – is a process that may occur in the second language acquisition context as opposed to first language acquisition. It covers features of the second language learner’s IL that deviate from the native speaker norm and are not developing any further, or deviant features which– although seemingly left behind– reemerge in the learner’s speech under certain conditions. Thus, the learner has stopped learning or has reverted to earlier stages of acquisition.” Han (op.cit.), furthermore, adds that fossilization has three facets: cross-learner variation, inter-learner variation, and intra-learner variation. For this reason, she claims that fossilization should be conceptually analyzed at both macroscopic (cross-learner variation) and microscopic levels (inter- and intra-learner variation) to understand the general causal factors for differential success across and within learners. In her opinion, at the macroscopic level, the process is factored by both L1 influence and the critical period, and at the microscopic level, by various factors related to the learners including their background, prior language learning experience and cognitive processing styles, setting, (i.e. environment) and input.

Further, Han identifies two types of fossilization: local and global. When fossilization occurs at the level of structures, she calls it ‘local fossilization;’ however, when it occurs at the overall competence level of the learners, she calls it ‘global fossilization.’ Local fossilization, to her, is the norm (Han, 2004, p. 106) and that certain linguistic features within an IL system are more prone to fossilization than others are. This, in fact, supports the claim the fossilization occurs in a particular domain of the grammar and not in the whole grammar of a language. Indeed, linguistic items that have low communicative value and items that are linguistically and cognitively complex tend to fossilize sooner than others do. Further, phonological items may fossilize earlier than syntactic items due to the early closure of their sensitive period (see Aton, 1984). In short, one of the major claims by Han is that fossilization is modular by nature and that it does not permeate the entire language nor does it debilitate any learner completely from learning. Success and failure coexist in each and every individual learner’s IL (Han, 2000). (Long, 2003, p. 371) argues that the “research designs, subjects, data, and measurement criteria considered relevant” to fossilization vary considerably. So do the explanations offered for it when fossilization is treated as product, not process.” There is, however, considerable evidence that though it is said that “fossilization is pervasive,” particularly in adult SLA, it has been “largely impressionistic.”

Thus, on the basis of the above assumptions about fossilization provided by many researchers (e.g. Han, 2000, 2004; Long, 2003; Birdsong, 1992; Ellis, 1985) among others, one is likely to observe that there are two problems raised repeatedly. First, there is no unified assumption to how fossilization can be studied or analyzed and second, it has not been adequately described on empirical bases. Fossilization underlies the assumption that most adult SL learners never reach native-like proficiency in their L2s. This general lack of success contrasts to a great extent with child L1A (White, 2003) where native competence is the norm. As has been noted above, Han distinguishes between global and local fossilization. Globally, fossilization affects the entire IL so as to say that no further L2 learning will occur. Locally, however, one particular subsystem

(e.g. syntax) or even a particular feature (e.g. 3rd person singular marking) can fossilize while some other areas proceed and develop noticeably.

There are also some cases that show both development and regression. Such a combination of progress and stagnation for one Japanese learner of English is described by Filder (2006) who has studied him pointing to the fact that such assumptions should be rethought and revisited to demonstrate the process of fossilization in the right perspective. In fact, no single SLA researcher denies the inevitability of fossilization in SLA specially when learners are adults but it is very difficult to determine its nature or which factor causes which domain in the grammar (e.g. syntax, morphology, phonology etc.) to fossilize first due to what has been termed by Long (2003) “the insufficient data” or the kind of study fossilization undergoes. As far as the type of study is concerned, Long prefers longitudinal studies to cross-sectional ones because the former provides the researcher with sufficient data and insights through which he/she can base his/her findings and conclusions. In short, while it is easy to assume the existence of fossilization, it is relatively difficult to demonstrate it. Needless to say that there is still a crucial need for further studies in fossilization especially with longitudinal studies to show the hidden secrets of this very essential phenomenon in SLA as opposed to learning plateau which will be discussed in what follows.

## 7. Fossilization vs. Learning Plateau

As has been mentioned earlier, the phenomenon of getting stuck at a particular point during language learning process, specially L2 learning has been interpreted and referred to differently by different scholars and applied linguists. In fact, fossilization has been conceptualized and reconceptualized. For instance, it has been referred to as *backsliding*, (e.g., Ellis, 1985; Schachter, 1988; Selinker; 1972), *stabilized errors* (e.g., Schumann, 1978), persistent *non-target-like performance* (e.g., Mukattash, 1986). *typical errors* (Kellerman, 1989), *ingrained errors* (Valette, 1991), *systematic use of erroneous forms* (Allwight and Bailey, 1991). *variable outcomes* (Perdue, 1993), *cessation of learning* (e.g., Odlin, 1993), *structural persistence* (e.g. Selinker and Lakshmanan, 1992), *errors that are impervious to negative evidence* (Lin and Hedgcock 1996), *long-lasting free variation* (Ellis, 1999), *persistent difficulty* (Hawkins, 2000), *ultimate attainment* (Birdsong, 1992) and *plateau effect in learning* (Richards, 2008). In addition, the present researcher presumes that fossilization involves *recurring IL forms* which are not necessary to be always erroneous. However, as far as erroneous forms are concerned and which are not persistent to correction, one can call such recurrent erroneous forms *irrecoverable errors*.

These different concepts imply the fact that getting stuck at a particular point in language learning process is not easy to determine. It is rather a mysterious and challengeable area of study. Selinker (1993) classifies fossilization into two categories, viz. individual fossilization and group fossilization. While the former is the persistence of individual learner’s IL development, the latter is the plateau in the diachronic development of a community language. In addition, Wei (2008, p. 127) classifies individual fossilization into two kinds, namely, “error reappearance, and

language competence fossilization.” The former refers to the inadequate IL structures which are “thought to have been corrected but continue to appear regularly.” This type of fossilization is clearly observed in the IL of learners with low proficiency. The latter however, refers to the “plateau in the development of L2 learners’ phonological, grammatical, lexical and pragmatic competence” who spend a longer period of time learning such an L2 till reaching a relatively high level and then stopped for several reasons. However, L2 learners under the plateau effect can continue learning only if they are subjected to extensive learning by following appropriate learning strategies and techniques. Agreeing with Selinker (1993), Wei holds that if competence fossilization becomes “pervasive in a community, group fossilization comes into being. Such pervasion often leads to a new dialect. Indian English and Singapore English are good cases in point” (Wei, op.cit).

In addition, Selinker and Lakshmanan (1992) have also classified fossilization into temporary fossilization and permanent fossilization. They state that stabilization indicates that fossilized interlanguage consists of learning plateaus where development of given L2 features is simply ‘arrested’ or ‘inhibited’ *for shorter or longer periods of time*. Permanent fossilization, however, occurs as a result of social, psychological and interactive variables. Psychologically, Wei defines plateau as a terminology of educational psychology. It describes such a phenomenon that in the process of learning a new structure, the learner cannot make a noticeable progress whatever effort he/she tries to do. Yi (2009, p. 137) contends that “[o]n the learning curve, big improvements come very quickly; then the rate of improvement slows right down to almost nothing.” He adds that in early stages of learning, SL learners of average intelligence do not experience much difficulty due to their high motivation and curiosity. In fact, it is believed that L2 learners whatever their L1 may be have been seen to be successful in the early stages of language learning. However, unfortunately, as they proceed in their learning process, this success begins to deteriorate or slow down. This has been accounted for by referring to the learners’ early activities when they imitate, memorize, practice, speak and write eagerly. In addition, Yi argues that plateau effect on language learning is observable in terms of learners’ behavior and psychology. In the former, for instance, “the learners do not make active response to the teacher’s instructions as they used to do” (Yi, op.cit, p. 141). Learners often feel the difficulty of learning English and they feel unable to remember new structures and words.

In the latter, however, L2 learners reject “new linguistic input.” Learners feel the difficulty of recalling new words, patterns and usage under the influence of short-term memory. In that, (e.g. Tulving, 1972 cited in Yi, 2009) has interpreted this by stating that whatever the learners learn in the classroom is hardly processed by long-term memory. In addition, such learners find it difficult to apply their language knowledge automatically to performance. In spite of their long experience in the TL, they find it rather difficult to use what has been learned before “spontaneously and unconsciously to communicate.” Their ability of creating novel utterances gets stuck. In other words, their acquired language knowledge remains in “the conscious and cognitive level; it is not efficiently transformed into language competence, forming an unconscious communicative ability” (Yi, op.cit, p. 142).

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Recently, effective and personality factors in language learning have been paid much more emphasis and attention to (Stern, 1983). Gardner *et al* (1959), for instance, consider attitudes and motivation an essential cause of more or less successful L2 learning. That is, whenever L2 learners are well-motivated and have high attitudes toward the language they are learning, they are successful learners and the otherwise is definitively true. Researchers (e.g. Guiora, 1972) have accounted for this phenomenon by proposing the concept of ‘language ego’ or what has been referred to as ‘personal image’ which a learner develops about him/herself in his/her language development process. In this regard, Yi (2009, p. 142) holds that “[j]ust as a child acquires a ‘body image,’ every individual acquires his language ego.” He adds that during the puberty “the language ego is fluid and its boundaries are not rigid.” To Yi, this is the main reason why children acquire a new language, accent, dialect whatever the language in question might be more easily than adults. However, as an individual grows, “the language ego becomes less flexible and loses its permeability.” He sees language ego as a “defensive barrier, psychologically protecting the identity and dignity of the individual.” As far as L2 learners are concerned and getting on plateau, they have strong language ego arousing “frustration, depression, anxiety and embarrassment.”

What has been discussed above shows how learning plateau differs from fossilization. While the former is temporary, the latter is permanent. In this, learning plateau is similar to a concept used by Selinker (1993) called *stabilization* first proposed by Schuman (1978) describing the language produced by the subjects other than Alberto. (Selinker and Lakshmanan, 1992) point out that stabilization is the first sign of (putative) fossilization, and if the only difference between stabilization and fossilization is permanence (see Bley-Vroman, 1989), then including persistent “fluctuation” as a legitimate index of fossilization creates another problem. However, not all stabilization is a precursor to, or an indication of, fossilization. In that, Han (1998) views stabilization and fossilization as two parts of a continuum. She conceptualizes fossilization as a cognitive process, properly inferable only from long term stabilization, demonstrable only by longitudinal studies, occurring at the level of IL subsystems rather than the entire system. Accordingly, *stabilization*, like *plateau effect* can be overcome and not the end of learning as in the case of *permanent fossilization* which cannot be overcome whatever efforts they devote to it. Han adds that fossilization manifests itself in three ways: “invariant appearance of IL forms over time, backsliding over time, and stabilized variations over time” (Han, 1998, p. 87). As in any area of SLA theory construction, one way to account for plateau effect and/or fossilization is to subject them to empirical tests: “[s]hort of other problems, any that can survive such testing are candidate explanations and any that cannot are probably not.” Fossilization has been seen by Richards (2008, p. 19) as referring “to the persistence of errors in learners’ speech despite progress in other areas of language development. They are errors that appear to be entrenched and difficult to eradicate, despite the teacher’s best efforts.”

In the case of *learning plateau*, learners for one reason or another lose motivation to continue learning and this, unlike fossilization, can pedagogically be overcome by creating new purposes

and motivation for the learners. Richards (2008) points out that learning plateau can be moved over. In other words, learners under certain conditions can pursue their learning in the same track provided that they undergo particular pedagogical techniques and effective learning strategies which can create the required motivation, attitudes and interest in L2 learners. Fossilization, to Richards (op.cit) is permanent in the sense that when L2 learners get stuck in a particular domain or in the grammar as a whole, they cannot move forward in spite of motivation, desire and new stimuli as in the case of Professor, Wu and Alberto discussed so far. This actually has been proved true by a considerable number of researchers (e.g. Han, 1998, 2000, 2004; Wright, 2008, 1998; Selinker, 1993, 1996; Gass and Selinker, 1992, 2008; Selinker and Lakshmanan, 1992; Birdsong, 1992; Wei, 2008; Richards, 2008) among the many others.

## 8. Preventing Fossilization

As has been discussed above, when fossilization occurs, it becomes irrecoverable. In other words, when fossilization appears in SLA process, it becomes permanent as has been seen in the case of Professor, Wu and that of Alberto. Some researchers (e.g. Ushioda, 1993) even go further saying that even motivation has nothing to do with failure to progress up the proficiency scale due to inaccuracy. Many learners being highly motivated to advance in proficiency are nevertheless unable to improve their proficiency ratings significantly after they have reached a particular level. Chuanren (1992) claims that factors contributing to this problem can be conceptual confusion about the role that linguistic accuracy plays in language proficiency, lack of concern about linguistic forms and other pedagogical conditions. However, many researchers do not submit to this phenomenon but attempt to provide solutions to prevent fossilization to occur and others have proposed methods for changing fossilized levels in L2. Researchers (e.g. Acton, 1984; Valette, 1991) argue that the key strategy for the prevention of fossilization lies in providing a maximum degree of accurate and appropriate input in early levels of instruction. This input is of three types: 1) teacher input, 2) recorded input and 3) student input. In *teacher input*, for instance, teachers should attempt to prevent fossilization, viz. only those teachers who have a good command of the second language being taught and near-native accent should teach beginning classes. Unfortunately, and as far as Arab world is concerned, weaker teachers are teaching beginning classes. Those who have native-like or near-native competence teach advanced classes even in the university level. Regarding *recorded input*, the best of this type of input is video-recorded for correct pronunciation. For *student input*, when communicating with their peers, students should focus on and acquire the patterns they hear.

In addition, Acton (1984, p. 71) has proposed a method for changing fossilized pronunciation. He feels that when a learner reaches puberty, it seems axiomatic that his/her “ability to learn a second language, including the possibility of acquiring a native-like accent, begins to deteriorate.” He adds that learners’ pronunciation becomes inevitably and irrevocably fossilized when they have achieved a level of competence which indicates that they become functionally bilingual. The method proposed by Acton consists of seven steps: 1) *conversation control* in which learners have to be relaxed and feel not threatened in conversation, 2) *monitoring strategies* which specify that “[f]ossilized learners generally find it necessary to do some type of

conscious monitoring in order to be able to ultimately affect change in everyday conversation,” 3) *non-verbal correlates* of pronunciation, 4) *dictionary use* in which the learners have to focus on “the relationship between pronunciation and orthography” for which dictionary use is emphasized for checking especially the pronunciation of vowels many of which the learners are not aware of, 5) *oral reading* in which learners are advised to prepare 200 to 300 word texts for revising their pronunciation, 6) *informant use*, here, each student solicits the assistance of an informant, a native speaker of English for improving pronunciation and 7) *integration* which is a phase that entails using, in an “on-the-job conversation”, i.e. what learners have ‘corrected’ in isolation, in formal exercises and oral readings they have gone through previously (Acton, op.cit. p. 76-78).

However, some other researchers claim that only local fossilization can be changed even partly (see Han 2000, 2003, 2004; Acton, 1984; Valette, 1991). Further, Selinker (1993) ascertains that fossilization is not an across-the-board phenomenon. Rather, there is continual growth in some areas and relative stability of error in others. For example, older “fossilized” Hungarian learners of English may continue to pick up new verbs, constructions, and phrases, while continuing to pronounce English *water* as *vater*. However, for those particular areas which show little change, it is accurate enough to think about localized fossilization. Many researchers (e.g. Selinker, 1993) feel that it is simplification of some forms in L2 that leads to fossilization arguing that L2 learners of English tend not to use English Cleft such as *what I did yesterday is clean my car*. Instead, they say; *I cleaned my car yesterday*. What Selinker means is that learners very often “simplify the TL information” and hence this will lead to fossilization exemplifying that by citing the phenomenon of French immersion learners who use one form of the verb for the whole paradigm. It is (Klein cited in Selinker, 1993), however, who makes a good attempt at studying fossilization when he states that if “freezing’ does not take place too early because fossilized systems are often simple and therefore they are more easily learnable systems” Selinker (1993, p. 48). However, Corder (1981, p. 110) has made it clear that one cannot simplify what one does not possess. Moreover, Ushioda (1993) has done a study exploring the relevance of acculturation theory to language fossilization in which she studies two native Japanese speakers with long experience living in an English-speaking environment. She states that absolute success in learning a second language is achieved by very small minority of people perhaps a mere 5%. In short, preventing fossilization is something every SL teacher and learner hopes to obtain, yet, there must be a methodology of scientific techniques that could be used to achieve such a goal which shall be the ultimate concern of the present researcher’s future work and research in such a field.

## 9. Overcoming Learning Plateau

Several researchers and teachers have concerned themselves with how to make their learners overcome learning plateaus and what effective techniques and learning strategies they can apply to help them move from the plateau dilemma. For instance, Wei (2008) has proposed that to overcome learning plateau, L2 learners should be involved in extensive learning by creating motivations and enhancing their attitudes toward the L2 they are learning stating that “successful

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language learning involves attention to both form and meaning” (p. 130). He adds that curricula should provide stimulating, sufficient and optimal input. From acculturation point of view, learners should be immersed in authentic or pseudo-authentic situations in which learners will be involved to identify themselves with native speakers. Thus, objectives can be set for such learners providing them with the advantages of communicating with native speakers and the value of communicating fluently. In addition, Richards (2008, p. 20) holds that teachers can involve learners in learning situations for “becoming active monitors of their own language production through listening to recordings of their own speech and through having others monitor their speech for fossilized errors in focused listening sessions” applying *noticing* and *output hypothesis*. He adds that teachers should be selective, i.e. they should focus on “error correction and the issues of what kinds of errors to correct and when and how to correct them.”

As far as activities that should be involved in classroom to overcome learning plateau are concerned, Richards (2008) suggests three main techniques: (i) incorporating a more explicit treatment of grammar within the curriculum, (ii) building a *focus on form* into teaching through the use of activities centering on raising consciousness, or noticing grammatical features of input or output and (iii) using activities that require stretched output (i.e., which expand or “restructure” learners’ grammatical systems through increased communicative demands and attention to linguistic form). As far as learners are concerned, Richards (op.cit, p. 21) provides the following techniques to be paid much more attention to and achieved by them:

1. Expand their grammatical competence, including acquiring new ways of using known forms, as well as adding more complex language resources to their linguistic repertoire.
2. Become more fluent and accurate language users.
3. Develop the capacity to monitor their own language use as well as that of others, and to notice the gap between their productive competence and those of more advanced language users.
4. Continue to develop their vocabulary, particularly at the 5,000 to 6,000 word range.
5. Develop a greater awareness of and familiarity with patterns of lexical collocation.
6. Master the use of conversational routines and other means of participating actively in conversation and other forms of spoken discourse.
7. Further develop their proficiency in listening, reading, and writing.

However, Richards (op.cit) stresses that to achieve these objectives, learners should be provided with “a rich source of language learning experiences that allow for the gradual development of language skills across the different modalities of speaking, listening, reading, and writing.” He adds that such experiences will make learners “successful monitors and managers of their own learning, aware of the limitations of their current level of language ability, but also aware of the means by which they can move beyond the intermediate learning plateau to more advanced levels of language use.”

## 10. Conclusion

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Fossilization and learning plateau, to me, as they seem, are two phenomena that should be rethought and revisited by researchers and those who concern themselves with SLA so as to discover their hidden secrets. Fossilization has been considered as one of the stubborn problems facing applied linguists, researchers, teachers and even SL learners themselves. Thus, in this paper, I have discussed fossilization and plateau effect on SL learners examining their concepts in SLA literature, exploring what SLA researchers thought of them and the way they tackle both phenomena. Fossilization has been accounted for differently by different scholars psychologically, cognitively and from a UG point of view. However, learning plateau is a psychological learning phase learners experience when moving from lower level to advanced one. In spite of the issue of stopping learning in both cases, learning plateau differs from fossilization in the fact that while the former can be overcome by employing effective learning strategies, learners cannot get rid of the latter whatever efforts they devote to it. Thus, when fossilization occurs, it continues irrespective of correction, motivation and exposure to the L2 input as opposed to learning plateau. However, language learners start getting fossilized first by being on learning plateau, and then if it continues, it gets stuck in that level. Thus, we can conclude that the relationship between fossilization and learning plateau is that of a continuum. Fossilization and its rival, i.e. learning plateau are the cornerstones of understanding SLA, its nature and process because they address SLA's most salient aspect as to why most SL adult learners stop-short of obtaining native-like or near native-like competence and only few achieve it.

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### Acknowledgements

The author would like to gratefully thank Prof. Panchanan Mohanty for his valuable comments and suggestions on previous versions of this paper which contribute a lot to its development.

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