Accessibility of Universal Grammar in Second Language Acquisition: a Debate, a Synthesis, and their Consequences

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Introduction

Theories of Development

Before the accessibility of Universal Grammar in second language acquisition can be discussed, it is pertinent first to discuss the implications of Chomsky's model of the theory of development. The first big question that arises in the study of language acquisition is whether or not language structure is innate or learned. The springboard for this discussion is the disparity between Jean Piaget's model of development and Chomsky's model of language development. In a review of Language and Learning: the Debate between Jean Piaget and Noam Chomsky, ed. Massimo Piatelli-Palmarini, Kenji Hakuta outlines the major concepts involved in this dichotomy.

The main argument revolves around whether or not children come with an innate language instinct, a learning structure that is specific to language. Within this debate, the contention is between two background pictures regarding development and learnability. While Chomsky's Government and Binding theory (GB) defines the innate language instinct and argues for the availability of a Universal Grammar (UG) to all language learners, Piaget argues for the "blank slate," onto which the input of the environment and interactions make indentations of change and learning. Piaget's developmental theory places the beginning-child at an almost clean-slate, which is then impacted by his/her environment from which the child will develop supporting structures in stages. On the other hand, Chomsky's UG and linguistic structures question and refute the child's ability to form such complex and abstractly specified constructions from a blank state. In the larger picture, Piaget would attribute learnability dependent on the environmental influences available to the child, yet given a freedom to choose from infinite possibilities. In a way, Chomsky's framework would limit the child's "infinite" options, for he advocates innate knowledge which is already in existence for the environment to draw out.

If seen as a clear dichotomy, there seems to be no compromises and no way to determine the truth of either theory. However, several linguists and educators have strived for a way to resolve the inconsistencies in drawing such a line between the concept of cognition and language development. As a compromise and a possible synthesis of the two ideas, Hakuta cites Pierre Changeux's notion of "genetic envelope," which assumes the existence of an innate range of developmental possibilities for structure construction that need to be developed by the environment. Another way to approach this issue is proposed by Felix and Weigl (1991), who
argue that the human mind is equipped with at least two distinct cognitive systems which also appear to develop in different ways. One of these systems, which corresponds most closely with Chomsky's idea of UG, provides the basis for the ability to perform mental operations on purely abstract entities and relations as early as approximately age two. Felix and Weigl call this system LS-system on account of the fact that it is supposed to be language-specific, activated only for the purpose of language acquisition. They call the other cognitive system PS-system, a "Piagetian-type of general problem-solver" (177). This system enables humans to gain knowledge in a wide variety of very different fields. In this model of cognition, the PS-system makes formal-abstract operations available later, around the age of puberty, as shown in Piaget's numerous works. Additionally, Felix and Weigl argue that, depending on environmental factors, adult learners tend to rely more or less strongly on the PS-system, which, nevertheless, is unable to provide the full set of information necessary for successful language acquisition.

With these various views of the cognitive/linguistic development in mind, this paper will base its assumptions on the persuasive arguments for Chomsky's theory of UG in the GB framework as a language development model. Although it is a model of UG that is constantly under criticism and revision, it is a well developed, workable framework and the basis of many empirical research. On the other hand, while the development of Chomsky's theory of principles and parameters of GB will be discussed in detail, the main focus of attention will be on the acquisition of syntax in second language acquisition.

There are linguists who would argue against UG access in SLA, claiming that L1 and L2 acquisition are qualitatively different, with different processes and structures at work in each case, supporting their arguments with empirical data that notes the differences in the language acquisition process between L1 and L2. They claim that L2 acquisition, especially in adults and adolescents, involves cognitive learning strategies rather than universal structures. However, there is also a contingency of researchers who would counter this argument with recent research that cites data documenting similarities in this process in L1 and L2 learners to say that the similar language universals are accessible in SLA, even in adults. These arguments and data are subject to question regarding several other considerations such as the critical age hypothesis. The relevant question comes down to whether or not the principles and parameters of the Universal Grammar as articulated by the Government and Binding Theory are still accessible in second language acquisition.
The following work will approach this debate from theoretical and empirical points of view, yet consider the various conclusions with a slightly different final goal in mind: the pedagogical consequences for applied linguistics in TESOL. I will first explore, in some detail, the theoretical background of the impact and implications of the theory of UG on language acquisition, and the subsequent ramifications for the theory of SLA. Then, I will attempt to sift through the experimental studies and claims in an effort to understand the theoretical research. However, the goal is to synthesize a working theory on UG operation in SLA in order to make connections to the practical implications in pedagogical theory and educational practice of second language education.

This paper will be organized as follows: The first chapter will provide the theoretical and historical background of the study. Here, I will lay out the development of UG as a valid language acquisition theory as well as the historical context of SLA as a field of study. This chapter will also make certain connections to the impact of UG on the evolution of SLA theories. In the second chapter, I will clarify the issues involved in the argument regarding the accessibility of UG in SLA. To this end, various research and articles supporting different sides of the argument will be presented, ranging from the absolutists to the compromisers, and their relevant experimental studies in some detail. This chapter will also discuss several linguists' efforts to make connections between the experimental research, theoretical arguments, and educational consequences. In the third chapter, I will explore a "side" debate regarding the critical period hypothesis, an inevitable question raised by the debate on UG accessibility for SLA, especially because most L2 learners are older that what is popularly believed to be an "ideal" age for language acquisition. Different perspectives will be looked at, not in order to prove or disprove the hypothesis, but to find the appropriate connection between the critical period hypothesis and the main question of accessibility of UG in SLA; while some has suggested that the age-dependent effects work to prove that UG becomes inaccessible under certain conditions, others say that this argument can be turned around on its head so that the empirical data on accessibility of UG in SLA can invalidate the claims for critical period hypothesis. In the conclusion, I will try to draw the research to a closure, providing the educational impact of SLA to support the validity and usefulness of the claim for partial UG accessibility and parameter resetting.
1. Theory of Universal Grammar and the Second Language Acquisition

1.1 Theoretical background on development of Universal Grammar

In the historical development of the linguistic science, the quest to understand the human capacity to acquire natural languages led to the study of generative grammar, starting with the question of how a particular natural language is learned. The greatest "mystery" was the increasing evidence that most of the important principles of grammar which the learner "knows" about the successfully acquired language is not supported by the input of linguistic utterances and supporting contexts to which the learner is exposed (Hale, 1988; 26). This brought forth the development of a principles and parameters approach to UG, as realized in GB Theory of Noam Chomsky. (White, 1989; 11)

The main point expressed in the theory of UG is that there is an innate and inborn structure within humans which contains the grammatical/linguistic characteristics that are universals for all natural languages. An abstract system of principles and rules which produce the grammatical sentences of a language, termed generative grammar, is assumed to represent the knowledge of language known as linguistic competence. Such principles and rules govern formal properties of language, such as syntax, phonology, morphology, and semantics. This system of knowledge is very complex and rich, as well as unconscious: most people will not know how to articulate such rules and properties. Although these things are not taught, adults and children utter grammatical sentences which they have never heard before, distinguishing ungrammatical or ambiguous utterances. This structure of grammar, systematic and rule-governed, is a mental construct which underlies language use and acquisition. This argument, articulated by Chomsky, that language acquisition is only possible through an innate and already "built-in" linguistic structure is called UG (Flynn 1988; 79).

In the framework of actual language acquisition process, one aspect of UG is especially relevant to discussion: principles and parameters approach to UG as described in GB Theory. One needs to remember that not every principle of UG operates in every language; different languages make use of different principles and set different parameters. While the content of UG supposedly consists of all possible systems and rules of natural languages, each language's specific selectivity operates on that language so that it is "governed" and "bound" by a select set of principles. There are also clusters of principles that are related and universally operate as a system, called
parameters. Parameters operate so that an input supporting one principle in a certain parameter setting triggers the principles within that parameter so that it can apply to and draw from other categories (White, 1989; 30). As the theory of UG thus demonstrates, the actual picture of language acquisition necessitates an interaction between the linguistic input from the particular language being acquired and the accessibility of the innate UG framework.

1.2 Historical background on the development of SLA theory

The field of second language learning takes its roots from the program of contrastive analysis (CA), which arose in North America primarily as a means of bridging the gap between the theory of structural linguistics and the classroom teaching of foreign languages. Leaning heavily on the observation that learning of an L2 is influenced by one’s native language, the contrastive analysis hypothesis operated on the simple assumption that a foreign language learner will find it easier to acquire elements in the target language that are similar to those of his native language. In spite of the predicted usefulness, the ultimate goal of this kind of research was that, by comparing and contrasting different languages and by “utilizing such contemporary behaviorist notions as imitation, positive transfer, and negative transfer,” it would “provide the basis for more effective classroom practices by systematically revealing those aspects of the target language which needed particular emphasis through carefully constructed drill” (Newmeyer and Weinberger, 1988:35).

Although the structural linguists in the 1960’s found that the contrastive analysis held some inherent contradictions to their framework of non-universalized descriptive linguistics, the real challenge to the contrastive analysis came with Noam Chomsky’s work on GB theory of UG. Although at first, his approach, which did support a universal framework of reference, seemed to support the contrastive analysis in the framework of generative grammar, it ultimately worked against the contrastive analysis due to Chomsky’s critical review of the behaviorist psychology, which was the cornerstone of contrastive analysis hypothesis.

As generative grammar under the theory of UG was incorporated into second language learning studies, the new field of error analysis, where the linguistic errors of the L2 learner were gathered, organized, and analyzed. Thus, these early attempts at SLA research which got away from the theoretical underpinnings. As Newmeyer and Weinberger puts it:
What an interesting irony it is that the taxonomic theory of structural linguistics spawned the theory-driven second language research program of contrastive analysis, while generative grammar, committed to deep explanation, gave birth to the data-driven, taxonomic program of error analysis! (36)

On the other hand, today, the studies of second language learning have seen the resurgence of contrastive analysis, as with the redoubled efforts to separate the research science of SLA from its pedagogical ties. According to Newmeyer and Weinberger (1988), the study of SLA as a research field has “molded itself into a distinct field” only within the past twenty or so years, “finally breaking away from being just an addendum to concerns of pedagogy” (34). Thus, the effort has been extended to look at the existing linguistic theories such as UG to further develop the theory of SLA. Thereby, Suzanne Flynn, in her 1991 work “Government-Binding: Parameter-Setting in Second Language Acquisition,” describes the state of SLA research in the contemporary times by citing two “classic” approaches. Contrastive analysis at this time is defined by a hypothesis which indicates that the L1 experience plays some role in the SLA process, which results in different language groups learning a common second language differing from one another in very fundamental ways. Creative construction (CC), another approach, claims empirical research results which suggest that all L2 learners, regardless of their L1, share certain fundamental similarities in patterns of acquisition which are developmental and corresponds to those documented for the L1 learners, as according to the theory of the UG.

As much as Flynn attempts to explain learners’ errors in terms of the differences in the syntactic parameters between L1 and L2, Flynn acknowledges a need for an alternate model that is “viable both psychologically and linguistically” (1991:144). Linguistically, any SLA theory of today should be based on the linguistic theory of today, namely the theory of UG. She further argues that a UG theory can provide a way to account for both the contrastive and constructive components of SLA. Flynn quotes Chomsky to outline the concepts of UG as follows:

a. “In a highly idealized picture of language acquisition, universal grammar is taken to be a characteristic of the child’s prelinguistic state.” (Chomsky 1981: 7) “The principles of UG sharply restrict the class of grammars and narrowly constrains their forms” (Chomsky 1981: 4)
b. “UG consists of various subsystems of principles [...] many of which are associated with parameters that have to be fixed by experience.” (Chomsky 1981: 25)

The dilemma, then, is in determining how and how much this Government and Binding framework of UG can be applicable in developing the theory of SLA. As the focus
of SLA studies shifted from a study of external languages (descriptive grammar and linguistic performance) to a study of internal languages (generative grammar and linguistic competence), second language researchers started to investigate SLA within a new framework. Within this framework, SLA is seen as a process guided by the innate principles that constrain language acquisition in general, such as the principles and parameters of UG, while the involvement of transfer of structures or direct translation of the native language (L1) to the target language (L2) has been abandoned by many researchers (Uziel, 1993:49-50). On the other hand, there are still those who consider SLA processes as separate and different from L1 acquisition, examining the development and use of cognitive strategies that are specific to SLA.

According to Government and Binding theory, much of our linguistic competence stems from innate knowledge in the form of a UG. With the underlying assumption that abstract principles and parameters of UG constrain L1 acquisition, a major task of SLA research has been to describe and explain the acquisition of L2 competence. Thus, the main question becomes whether or not L2 learners still have access to the abstract principles and parameters of UG (White, 1991b: 338) governing L1 acquisition. This is the question this paper will explore on the basis of this theoretical and historical background.
2. Aspects of the Debate Regarding UG access in SLA

2.1 Background of the Competing Viewpoints

In numerous studies regarding the role of UG in SLA, the puzzling results are that, while there are any number of experimental studies done on the subject by "professionals" in the field, they all seem to come up with contradictory claims and conclusions; these contradictions occur even in analyses of the same experimental data. As the researchers in the fields of education and linguistics struggle to deal with varying evidence for similarities and/or differences between L1 and L2 acquisition, they also grapple with the either/or questions regarding the UG access in SLA.

Jacquelyn Schachter, in her paper "Testing a Proposed Universal" (1989), elucidates three different stances involved in this debate (74-5). I will add an extra dimension specified by Claassen (1988) to compile four possible positions regarding this debate:

1. An individual retains only that portion of UG that is instantiated in the individual's L1, and the access to those principles defining possible rule systems may no longer be available, nor may the other possible parameter settings not instantiated in L1. In this position, the adult L2 learner would have available for acquisition of the target language only the principles and parameter settings instantiated in the first language (Bley-Vroman 1989, Schachter 1989).

2. L2 learners as well as L1 learners "possess" UG in the same way; however, the availability of Piagetian cognitive learning strategies in the L2 learners, who in most cases are adults and adolescents, blocks or hampers the access of UG in the same extent as in L1 learners (Claassen 1988).

3. The language faculty can be re-accessed and reactivated in the course of acquiring a second language with the learner's knowledge of the first language and greater cognitive development having no serious effects on the process itself or the hypotheses the learner is capable of constructing about the grammar (Krashen 1981).

4. UG can be and is reactivated; however, the first language parameter settings have an impact on the acquisition of the second language in that the learner will assume that the settings of the first language are appropriate for the second language as well, unless positive evidence from the input indicates otherwise. This position claims that language transfer errors will occur and, when certain settings for the second language is less marked, it will be almost impossible for the L2 learners to reset this particular parameter, leading to permanent language transfer errors (Flynn 1987, 1989 and White 1989).
The first two positions, though for different reasons, deny the L2 learner's ability to access UG, ultimately proposing that L2 acquisition takes place through processes that are entirely different from L1 acquisition which takes full advantage of the innate "language instinct" of UG. Positions 3 and 4, on the other hand, take the opposite stance that this language instinct is not something that disappears with time. Whether it is partially blocked by the parameters of the first language or available in its complete, unhampered fullness, the linguists with these stances would argue that L2 learners do have access into this amazing language acquisition device. For the purposes of this paper, I will contract these positions into two opposite camps: accessibility and inaccessibility.

Experimental studies are carried out by proponents of both sides with the assumption that the empirical data will provide the proof to support their claims. Bley-Vroman (1989) points out that if L2 learners use the same cognitive processes as L1 learners, then L2 learners will have access to the principles of UG in their totality with the acquired foreign language competence reflecting these principles in the same way that native language competence does, even when the direct input may not provide the logical derivational data for the principles themselves. On the other hand, if such competence is not in evidence in L2 learners, the conclusion would be drawn that L2 learners do not have access to UG the same way as an L2 learner. However, there are researchers who disagree with this manner of analysis (Eubank 1991a: 220). Explanations for L2 learners' inability to perform in "complete competence" on certain principles may be much more complicated. The same data that is supposed to support Bley-Vroman's viewpoint could be interpreted to prove a point in Eubank's viewpoint supporting UG accessibility. For example, the L2 learner's failure to perform like a native may be due to other factors such as interference from his first language which may create difficulties in resetting certain parameters, or lack of appropriate input.

In this chapter, I will seek to clarify this debate, including the key issues involved in these questions, through the examination of various experimental studies and theoretical works supporting the two opposing sides. This chapter will consider each by examining the supporting arguments and empirical data. One caveat is that, even though some theorists may appear to be forming a synthesis or a compromise, appearing to be straddling the middle in an ambiguous stance, they do construct and analyze their data from the one of
the aforementioned viewpoints. However, although they fall on one or the other end of the argument in their conclusions, most researchers agree that both of these standpoints are neither conclusive nor exclusive, urging further theoretical and experimental research regarding this issue.

2.2 Competing data and competing arguments

The general assumptions of the argument against the access of UG in SLA are based on research data presenting that L2 learners, especially adult L2 learners, acquire language through series of learning strategies. These strategies, based on the learnability theory, attribute SLA processes to the Piagetian-system of general problem solver rather than the principles and parameters of UG.

There are two models of how L2 learning strategies may stand in relation to the UG framework of L1 acquisition. One model holds that there is a UG availability, but not accessibility in L2. This model suggests that L2 learners still "possess" the frames of UG in their background, but are not able to make full use of it as they did in L1 acquisition. It attributes learner's inability to access UG to the alternative of using Piagetian cognitive learning strategies. Because these strategies are now in place, L2 learners tend to resort to these strategies in language acquisition which are geared more towards specific mapping and categorizing upon the surface level instead of the deeper, structural connections and parameters underlying the grammar. In this picture, the cognitive learning strategies interfere with putting together a complete picture of the language by misleading the learners to concentrate on the surface structure of the input.

The other model suggests that UG is not even available to the second language learners. The proponents of this model claim that UG is simply no longer available to the second language learners after a certain developmental phase. According to this model, in the absence of language acquisition device of UG, L2 learners has to rely on general learning strategies in order to acquire a second language. In both models, UG cannot be accessed in the acquisition of L2 and, as a result, classifies L1 and L2 acquisition as qualitatively different.
Harold Clahsen (1988) argues his viewpoint that child L1 acquisition and adult L2 acquisition are guided by distinct sets of principles. He carries out experimental research with the hypothesis that while child L1 acquisition primarily follows the principles of UG, adult L2 acquisition follows general learning strategies. He cites the prior work by Clahsen and Muysken (1986) in which this paradigm was proposed to account for the observed differences between children and adults with regard to the acquisition of German word order. In his work "Parameterized Grammatical Theory and Language Acquisition" (1988), he compares this former research data with more empirical data supporting his claim from a study of agreement markings in adult L2 learners and child L1 learners of German.

In the this study, Clahsen examines the acquisition processes of two distinctive verbal elements of German in L1 and L2 learners: verb-position patterns in movement of finite verbs and subject-verb agreement markings. He analyzes the data obtained from two separate studies, one that focuses on the developmental interactions involved in child L1 acquisition carried out in Clahsen and Muysken (1986) and one that studies the acquisition of same elements in immigrant L2 learners of German undertaken by ZISA and documented in Clahsen, Meisel, and Plenemann (1983). Although it will not be possible to describe these experimental studies in detail, several aspects of the syntactic elements explored in the research and pertinent research methods and results are relevant in arguing against the accessibility of UG in SLA.

The syntactic analysis Clahsen adopts in his research demonstrates peculiarities of verb placement in German: the process of fronting in German word order. German has a SVO or SauxOV word order in main clauses; the finite verb occurs in the second position and in cases where there are a finite aux and a non-finite main verb, they are separate. According to the X-Bar theory, any element X can be fronted; however, fronting triggers an inversion of the subject and the finite verb, making the new word order XVS or XauxS, etc. On the other hand, in subordinate clauses, the word order is always SOV or SOVaux with the finite verb always taking the last place. As the underlying word order is identified as SOV in German (even though main clauses follow SVO), children often produce ungrammatical sentences with SOV as the main word order. In this context, Clahsen assumes UG parameters of Head Movement Constraint (which I will not go into much detail here--refer to White 1991a:175-6) to be the reason why L1 acquirers of German assume underlying SOV order.
Clahsen’s empirical data show not only that children acquire the above parameter in a specific sequence, but also that German L1 learners’ acquisition of the verb-fronting rule for main clauses develop as they attain the subject-verb agreement system. From this assessment, Clahsen establishes that availability of the agreement system marks the children’s access to the concept of finite verbal element as a distinctive feature.

Clahsen compares these conclusions regarding the principles and parameters of UG in the L1 acquisition of verb order and inflection in German to the research results from adult L2 research. Unlike the L1 acquisition process, the studies suggest that the process of adult L2 acquisition can be described in terms of a strictly ordered sequence of developmental stages characterized in terms of certain linguistic features. This sequence, according to Clahsen, does not resemble the processes outlined in UG parameters or L1 acquisition patterns; rather, they follow terms of cognitive processing strategies and constraints which operate as output constraints on underlying form. In the first phase of acquisition, L2 learners operated under strict SVO word order system, sometimes violating the grammatical construction of German. In the second phase, they develop the particle constraints and extra-position of subject. Phase three sees the acquisition of subject-verb inversion and pre-posing of adverbials. It is in the fourth phase that they finally acquire the clause-final placement of finite verbs in subordinate clauses, only acquiring this rule after mastering the patterns of the main clause and understanding that word order in subordinate clauses should be more restrictive than in the main clause.

The piece of data Clahsen holds to be the most important in his analysis is the L2 learner’s strict SVO use, especially with the verb being placed immediately after the subject, in the beginning of their language acquisition. Unlike in the L1 development of this feature, where the children were able to immediately place the verb grammatically with the occurrence of imbedded clauses, the L2 learners consistently used the SVO pattern until they mastered the clause patterns. There is a slight problem with his assumptions here, since he gives little to account for the parameters of the learners’ native language. As it turns out, SVO basic word order is consistent in all of the learners’ L1, which were Italian, Spanish, and Portuguese. He briefly addresses this problem but dismisses it quickly by citing another study which gathers data with same results in Turkish learners, “whose word order pattern most closely resembles German” (1988; 71).
He concludes from this that L2 learners make use of SVO order irrespective of their language background because of the cognitive learning strategies these adult learners access. For example, they would use the root clause order until they learn to alter this pattern for embedded clauses. Further, he compares this conclusion with the L2 learners' acquisition of subject-verb agreement in which they already seemed to possess the notion of agreement; however, they have considerable trouble attaining the agreement in terms of morphological paradigm, attaining the paradigm independent of the development of verb placement. He concludes from this analysis that the parameters of UG at work in L1 acquisition are not in operation in the L2 acquisition of these learners.

Instead of the parameters of UG, Clahsen then gives several inductive learning strategies as processes involved in the L2 acquisition of German word order (58):

a. The Canonical Order Strategy (COS) allows only direct mappings of underlying structure to surface form due to the ease of processing.

b. The Initialization-Finalization Strategy (IFS) allows sentence-initial and sentence-final alterations of underlying form.

c. The Subordinate Clause Strategy (SCS) prohibits any sort of permutation in embedding.

He explains that the reason L2 learners first adopt SVO order, even when their L1 takes SOV is their initial use of the Canonical Order Strategy, mapping the Canonical word order onto all their production of utterances, initially ignoring possible movements or separations. In stage two, when the adverbials are found in initial position, yet the learners maintain SVO order and fail to invert the subject and verb as required by German rules, Clahsen sees this as an effort to maintain the canonical order and at the same time applying IFS strategy, where movement can take place. When the finite and the non-finite verbs are separated in stage three, he again sees an effort to maintain the SVO order, moving the non-finite verb to the end of the sentence for the resulting SauxOV. It is during the final stage, learners learn to invert the subject and the finite verb when another element has been fronted. Finally, Clahsen argues that the observed differences between children's L1 and adults' L2 acquisition of German syntax are due to the fact that children have access to principles of UG when acquiring a first language, while adults make use of these inductive learning strategies based on general learning principles when acquiring a L2.
In “Second Language Competence versus Second Language Performance: UG or Processing Strategies,” Lydia White (1991a) presents counter-arguments for these claims of Clahsen (1988). She suggests that these strategic processes are not enough to explain the extent of competence in adult L2 acquisition and cannot replace the over-arching concept of UG. She also posits that these strategies detail the use of a second language rather than the acquisition processes.

As she argues against Clahsen’s (1988) data/analyses, White raises questions on the validity of “inductive strategies” as an language acquisition process, and not language performance process. She critically examines the three strategies outlined by Clahsen as having a part in L2 acquisition of German word order, COS, IFS, and SCS, and comes to the conclusion that they may be valid strategies in existence, but that the larger context of UG is still underlying the acquisition of L2, according to the data presented by Clahsen. For example, the COS presupposes the learner’s knowledge of the Canonical order. But how does the acquisition of this knowledge occur if indeed neither UG nor the learner’s L1 makes a difference, as pointed out by Clahsen?

White raises three argumentational contexts: the distinction between competence and performance, reception and production, and acquisition and operating principles. She raises the valid issue that the processing strategies, such as were discussed by Clahsen (1988) and Clahsen and Muysken (1986), deal with the matter of performance, how the L2 learner uses his/her knowledge the language at a given point. UG processes, on the other hand, describe “what is involved in grammar-building, in creating an interlanguage grammar, which represents the L2 learner’s current knowledge” (1991a: 169). Second, she problematizes the processing strategies as ones involved in parsing of input utterances and output utterances. While the psychological paradigms for these necessary processing strategies, a working grammar is underlying these processes. Universal Grammar, she claims, underlies this working grammar (White, 1991a: 171--see figure 1). Third, she differentiates between studies detailing the actual acquisition and just operating principles. While the strategies theory claim to account for both reception and production, the evidence for them often come from production only. She claims that strategies run into inconsistencies when we consider them in terms of grammar building.
Looking critically at Clahsen’s strategy formulation, one is left with an unanswered question: how does the L1 learner come to assume the underlying SOV order as their initial assumption when the L2 learners adopt SVO? If transfer from L1 is discounted, why does a claim for accessibility of the same UG framework yield such a devastating difference between L1 and L2 acquisition? White points out that Clahsen fails to lay out enough UG theory to discount the possibility of a transfer from L1. In fact, this word order difference can be attributed to the transfer of a basic UG frame assumption: that the head position parameter usually operates consistently across syntactic categories, in Spanish, Portuguese, Italian, and even in Turkish. As White clearly lays out, German is an exception in the particularity of not following this parametric pattern. Therefore, the L2 learner assumes that L2 will show consistent head position across categories, assuming SVO word order from the position of specifiers and complements in NPs and PPs in German which suggest that German is head initial. The L2 learner can then change to the underlying SOV order, because, once L2 learners notice discontinuous elements, such as the SauxOV order, the Head Movement Constraint comes into play. HMC then requires raising heads to head positions rather than adjoining them to maximal projections. If the underlying order is SVO, with verb movement to the right to derive the SauxOV order, movement could involve adjunction to VP, violating the HMC. Thus, a switch to underlying SOV is forced by the UG parameters, while the SauxOV order can be derived by movement of the finite verb into INFL, which does not violate the constraint (354-6). This analysis effectively discounts Clahsen’s assumptions and establishes White’s claim that the same data can be analyzed to account for a complete accessibility of UG principles in to L2 learners.

Jacquelyn Schachter (1989), on the other hand, makes different assumptions to account for her claim that UG is inaccessible in SLA: she holds that certain principles and parameter settings are not available to the adult L2 learner, including all those not instantiated in L1. To support her assertion, she chooses a UG principle she claims is convenient to surface level analysis: Subjacency, a constraint on movement rules at the S-structure level. The principle formulates that no constituent can be moved over more than a single bounding category (viewed as a barrier to extraction of a constituent from an embedded clause; i.e., in English, said to be subject-S and noun phrase-NP), accounting for the ungrammaticality of a sentence such as follows, where the wh-word moved across the object N position of the NP to the sentence initial position, moving over two bounding nodes, NP [a friend of N] and S [Jane]:

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*Whom [does Jane love [a friend of]]?*

In her research, Schachter specifically notes that although some kind of Subjacency rule exists for the grammar of all languages, it varies from language to language in what can be extracted in a language or what constructions they can be extracted from. With this consideration, she designs an experiment which utilizes the interrelated syntactic constructions in English: wh-movement and Subjacency rules. She presents a hypothesis that if learners of English as a second language, who acquire proficiency in English, have access to UG, their demonstration of knowledge of syntactic constructions will correlate with their judgment of Subjacency constraints in wh-movement out of those constructions. In a grammaticality judgment test designed to test for "the presence of Subjacency in the psychological knowledge state" of L2 speakers of English, she includes three types of proficient speakers of English: (1) native speakers of English as controls, (2) proficient Korean speakers of English (Korean is a language which shows no evidence of Subjacency), and (3) proficient Chinese and Indonesian speakers of English (Chinese allows no wh-movement and Indonesian allows it only for subjects, but both show evidence of Subjacency).

The relatively simple procedure of Schachter’s experiment involved two kinds of grammaticality judgment tests. First, four syntactic construction tests, each consisting of six grammatical sentences, tested for sentential subjects (SS), relative clauses (RC), noun phrase complements (NC), and embedded questions (EQ), as in the following examples (79):

SS: *That oil prices will rise again this year* is nearly certain.
RC: *The theory we discussed yesterday* will be on the exam next week.
NC: *There is a good possibility that we can obtain the information elsewhere.*
EQ: *The dorm manager asked me who I wanted to have as a roommate.*

Similarly, there were four kinds of Subjacency tests, based on the violations on the above four constructions, as follows (80):

SS: *Which party did [for Sam to join t] shock his parents?*
RC: *What did Susan visit the store [that had t in stock]?
NC: *Who did the police have evidence [that the mayor murdered t]?*
EQ: *Who did the Senator ask the President [where he would send t]?*

Schachter claims that these tests were designed to examine the relationship between knowledge of syntactic constructions and their Subjacency violations.
If we accept her premises as stated above, the results from Schachter's tests show serious doubt about L2 learners' access to UG. Only the native speakers of English showed consistent understanding of syntax that corresponded with their knowledge of the applications of Subjacency rule, while only about one-third of the non-native speakers of English showed this native competency with knowledge of both the syntactic construction and the Subjacency violations involving it. Two-thirds of the non-native speakers showed knowledge of the syntactic construction without the corresponding awareness of the Subjacency constraints. Schachter's results also showed that Subjacency effects at the structure level in one's native language have a small influence. The Korean group, the group whose native language background shows no evidence of Subjacency, has correspondingly fewer subjects who show knowledge of Subjacency effects in English. However, this difference is not sizable enough to claim that they differ significantly from other non-native speakers.

From this data, Schachter builds an argument that L2 learners have available and accessible only a limited extent of UG, if any. The limit would apply only to the extent of the specific instantiation of UG operating in one's native language. Even though these L2 learners have become proficient in English to the extent that they knew the constructions of syntax, they have practically the recognition of Subjacency violations that are so "instinctive" to the native speakers. The access of UG in the limit of native language occurrences of a certain parameter is confirmed to a degree by the better performance of Chinese and Indonesian speakers whose languages display some Subjacency, the still-poor acquisition of Subjacency puts even that much access to doubt. According to Schachter, UG accessibility in SLA is often "proved" by data that exhibit no violations to UG in the learners' performance; yet, she claims, close scrutiny of judgments of non-native, proficient L2 learners of English indicates otherwise.

To counter Schachter's study and analysis, I will examine Sigal Uziel's (1993) study on the acquisition of Subjacency and the Empty Category Principle (ECP) by adult native speakers of Hebrew learning English as a second language. He begins with the counter-hypothesis that SLA is a process of resetting UG parameters, and that these parameter adjustments are indeed available even to the adult second language learners. He proposed to evaluate second language grammars as "systems of knowledge, which reflect the complexity and systematicity specified by principles of UG" (50). He based his
research on a similar study done by G. Martohardjono in 1991, "Testing WH-Movement in the Acquisition of a Second Language," which, he claims, reinforce the claim that UG is available to the L2 learner.

Uziel's study procedure involved subjects in three groups: a control group of native speakers of American English, and two test-groups of ESL learners whose native languages were Hebrew and Italian. Members of both test groups were identified as advanced learners in the same standardized placement test. In order to investigate the acquisition of Subjacency by the subjects, a grammaticality judgment test which contained complex sentences with one embedded clause in each was used, much like Schachter's example sentences. Before the actual test was given, the subjects were tested for vocabulary and basic knowledge regarding the formation of WH-questions in order to ensure that the subjects had control of these control elements.

Uziel claims that significant difference between the test groups' performance on judging strong constructions and their performance on judging weak constructions supports his hypothesis: both the Italian speakers and the Hebrew speakers did better on correctly judging the former construction. According to Uziel, since the performance of speakers in both test-groups was consistent with a pattern which was predicted on the basis of the complexity specified by UG, these results reinforce his claim that the L2 learners resort to UG in acquiring their second language.

The results also reinforces the claim made by Flynn (1987) that if the parameter-setting in the L1 and the L2 are same, the L2 learner will rely on his/her existing linguistic knowledge in learning the L2. The parameter-setting for Subjacency in the strong constructions is identical in the three languages tested, but it varies with the respect to the weak constructions. Therefore, the L2 learners could rely on the setting in their L1 when acquiring the strong constructions, but not the weak one. Uziel attributes the poor performance of the L2 learners in correctly judging the weak construction to the necessity for a process of parameter-value reassignment, which caused a delay in the acquisition of the relevant parameter-setting in the L2.

Although Uziel's counter-analysis is viable, he does not make a strong argument about how his results support his claim. In fact, his results do not prove anything counter
to Schachter's conclusions; instead, he draws a different set of conclusions to explain a similar set of results. However, Schachter and Uziel both test a more remote and complicated aspect of syntax, in this case, Subjacency. On the other hand, other research, such as those of Suzanne Flynn (1988, 1989, 1991) test the wider range of head-direction parameter for the effects of UG access. In three different studies, she argues that UG is accessible, that the only difference between L1 learners and L2 learners is that L2 learners need to reset their parameters from the ones in their L1.

In her work "Nature of Development in L2 Acquisition and Implications for Theories of Language Acquisition in General," Flynn (1988) isolated three sets of L2 learners at the same level of ESL (English as a Second Language) and still came out with two distinct patterns of acquisition, "both of which recapitulate L1 patterns but in distinct ways" (86). The first set of learners, with L1 background of Japanese and Chinese, seem to display what is generally characterized for an early pattern of L1 acquisition: gradual control of the grammar--which suggest that the learners are slowly working out the grammar constrained by abstract structural principles. Because their L1 had a parameter setting that is different from their L2, the interlanguage process involves resetting the parameters, which explains why their data resembles the L1 learner in the beginning stage. On the other hand, the second set of learners, whose native language was Spanish with the same parameter setting, bypassed the early stages of grammatical development and begin to directly apply grammatical principles available from the L1 to the domain to the sentence grammar of L2.

Flynn states that these results demonstrate that general principles of acquisition are being applied in L2 acquisition, just as in L1 acquisition, specifically in the head direction parameter. From this analysis of the results, she forms her firm stance on the debate on accessibility of L2:

L2 learners, like L1 learners, are constrained in their mapping from the primary language data to the adult grammar. They are sensitive to differences in structures between the L1 and the L2 and apply the same principles that were applied in L1 acquisition. Where there is a match in parametric values between the L1 and the L2, acquisition is facilitated; such a finding suggests that there is no need to assign a new value to the parameter set to match the L1 grammar. When there is not a match, a new value must be assigned to the principle. This results in a pattern of acquisition that corresponds to early L1 stages of acquisition of this parameter for the language being acquired. (86)
In her 1989 research, Flynn isolates the role of the head-initial/head-final parameters in the acquisition of English relative clauses by adult Spanish and Japanese speakers. As she had hypothesized, the results indicated significant differences between the Spanish and Japanese speakers in terms of their patterns of acquisition of restrictive relative clauses. The experiment consisted of elicited imitation tasks in which the learners were presented with four different types of restrictive relative clauses such as these:

a. The student who called the gentleman answered the policeman.
b. The policeman who the student called greeted the businessman.
c. The boss introduced the gentleman who questioned the lawyer.
d. The diplomat questioned the gentleman who the student called.

The results yielded two pieces of information. There were significant differences in terms of mean number correct and significant differences in terms of the patterns of errors made in imitation of the structures between the Japanese and the Spanish learners, with the Spanish learners greatly outperforming the Japanese speakers. With respect to patterns of errors, the Spanish speakers indicated no significant structural difficulty with the head-complement direction parameters. In contrast, the results for the Japanese speakers indicated significant structural difficulty with these complex sentences.

Flynn draws several conclusions from these results. First, she suggests that the difference here is due to the difference between the head direction of the L1 and the L2. Spanish is head-initial, as is English, while Japanese is head-final. Second, she notes that the results characterize both acquisition of adverbial adjunct clauses (Flynn 1983) and restrictive relative clauses, and suggests that adult L2 learners' hypotheses about head-complement structures are constrained by the same principle of structural organization--the head-direction parameter (Flynn 1989; 102-4). These results correspond to her earlier research but attribute more to the impact of the exact parametric value of L1 in the acquisition of L2.

In another similar study in 1991, Flynn investigated the same parameter, again with Spanish and Japanese speakers learning English. This time, the speakers were evaluated in their production of three types of complex sentences in English that varied in both head-direction and direction of anaphora (159). One important facet of this research is that its results showed not only the differences, but the similarities between the L1 and L2
acquisition. Since the similar details on differences between the two groups of learners were already discussed, I will only note the similarities here. Flynn notes that both the Spanish and Japanese speakers often showed a preference for forward anaphora. Test results from both groups also indicated significantly fewer anaphora errors made on sentences with forward anaphora than on sentences with backward anaphora. Also, she analyzes that the errors made by both groups of speakers on these sentences were not random but reflected the application of principal-based hypotheses to the L2 learning task; hence, she could draw the conclusion that both the Spanish and Japanese speakers are applying a common set of principles to L2 acquisition. This conclusion again supports that these two groups of adult L2 learners were operating within the frame of a UG in their language acquisition.

2.3 Pedagogical/educational implications

As I have so far reviewed, all the empirical data stems from actual “tests” on the “subjects” acquiring language. This, in itself, necessitates that there be an unbreakable connection between linguistic research of SLA and the educational research of L2 teaching, refuting Newmeyer and Weinberger’s (1988) relief at the separation of theory and practice. To further demonstrate the educational implications of SLA research, Chiang and Costello (1983) carry out an experimental study on the basis of theoretical considerations as educational researchers. Their goal is not so much to argue against the theoretical debate of UG accessibility, but to refute the theory in order to clarify their educational consequences. They especially seek to prove wrong the claims made by Newmark and Reibel (1968) which imply that:

a. language learning capability is qualitatively the same in L2 learners as in acquiring L1,
b. the natural acquisition of language in L1 as appropriate for SLA also, and
c. the systematic organization of the grammatical form of the language material is unnecessary and insufficient for the mastery of the language.

To disprove above three claims, Chiang and Costello research into Carol Chomsky’s study (1969) in which the acquisition of syntax in children from 5-10 was examined in terms of L1 acquisition. Her research results maintained that English is not
fully acquired as a first language until after a child has reached the age of ten. She also claimed that it is possible to say that all native speakers of English will master a given syntactic structure in a definite sequence that corresponds to the principles of UG. To explain this definite sequence, she orders them in terms of relative complexity and asserts that it is this relative complexity of such structures that determine this sequential ordering during acquisition.

Chiang and Costello carries out an experimental study with an appropriate adjustment to C. Chomsky’s study in order to examine the phenomenon of syntax acquisition in children learning English as a second language. They conduct their study with groups of children attending middle and high schools in Taiwan, with controlled groups similar to those in Felix and Weigl’s study. On the other hand, the conclusions they come to are startlingly different than those reached by Felix and Weigl.

The results of Chiang and Costello’s study show that the “natural” sequencing of the syntactic structure as it was specified for C. Chomsky’s L1 learners were different in students of ESL, seemingly due to many factors including language transfer. Chiang and Costello interpret these findings a reaffirmation that the syntactic structures of L2 learners do not develop in the same way as those of native children, i.e., they do not have ready access to UG principles that are available in the natural L1 learners. This interpretation leads them to conclude that, in instruction of L2, systematic organization of the grammatical forms of the language material is necessary, if not sufficient in itself.

However, in spite of the fact that Chiang and Costello (1983) argue hard and fast against the three claims made by Newmark and Reibel (1973), only few of the proponents of accessibility side of the debate hold such absolutist view of complete UG accessibility in L2 learners. Rather, as arguments and analyses of Flynn and White would suggest, an integrated view, which makes much more sense than insisting on extremes and accounts for much research data similar to those of Chiang and Costello 1983 (and even Schachter 1989 and Claelsen 1988), proposes that principles and parameters of UG are selectively accessible in SLA, sometimes due to the more-marked parameter settings from L1 that perpetuate language transfer errors in performance of grammaticality tests.
3. Critical period debate and its complications for SLA

3.1 Backgrounds of the critical period hypothesis in relation to language acquisition

There are assumptions made on the biological view of the human functions in regards to language acquisition; the one that we are concerned with in discussing second language acquisition is the question of the critical period hypothesis. The critical period hypothesis, mostly constructed on the psychological and neurological basis which suggests that certain developmental characteristics of the brain consolidate and become difficult to access after a certain age, is supported by various yet inconclusive data and thoughts. However, because the research on this issue is fragmented, there are several grounds upon which some scholars oppose this idea which has become "common" knowledge in many ways.

Numerous research results attest to adult L2 learners as clearly less successful than child L1 or L2 learners at acquiring the full range of language behaviors. As an explanation of this phenomenon, the critical age theory is widely accepted as a "logical" answer. The critical age theory, also referred to in parts as "age-dependent effects in language acquisition," is therefore considered by many to be a "central question in second language acquisition"(Birdsong 1991; 147). Although, as the researchers discussed hereafter point out, this field has only fragmented knowledge relating to the issues at hand, they frame the bulk of argument within the theory of UG, with regards to the controversial demonstrations of access/no access to UG by L2 learners. Various parts of this controversy is focusing on proving and disproving the validity of one particular assumption: access to the parameters of UG stops at the critical age. While there is a larger support for the critical age in phonology, concerning "accents" (Broselow 1988, Flynn 1991), for the purposes of this paper, we will concentrate on the evidence for age-dependent effects in acquisition of syntax.

Consistent with the arguments supported by Bley-Vroman (1991) and Schachter (1989), the proponents of the critical period hypothesis perceive the UG theory of innate language structures as a biologically dominated function, claiming that this phenomenon may be available for learning only during a prescribed period of time, much like song learning faculties of some species of birds; if not taken advantage of within this time
constraint, the processes are lost forever to the organism (Nottobohm 1970). If this kind of biological constraints is active in the language learning faculties, then we can draw the conclusion that adult language learning processes must differ significantly than those of children. In this framework, it is possible to make the assumption that the adult L2 acquisition process might proceed by an inductive "stimulus-generalization" process of learning rather than by deductive processes isolated in child L1 acquisition consistent with a theory of UG for language learning (Flynn and Manuel 1991).

3.2 Problematic aspects of critical period research methodology

On the other hand, Flynn and Manuel (1991) give several counter-arguments for such an assumption. They argue that the evidence provided by research data in the history of the critical period hypothesis definitely disprove this assumption. Research data and conclusions of early research by Snow and Hoefnagel-Hohle (1978) and later works of Newmeyer and Weinberger (1988) cite experimental studies involving adult acquisition of L2 morphemes which provides that, even for adults, an L2 learner's grammar "itself obeys the crucial properties of naturally occurring human languages, subject to the same principles of organization and constraints" (Newmeyer and Weinberger 1988; 39). Flynn and Manuel also bring in phonological evidence with workable cases of adult L2 learners acquiring "flawless" native-speaker accents, while other cases of learners who begin L2 acquisition before the "critical age" revealed maintenance of the L1 phonological patterns.

More specific criticisms of the current critical period hypothesis, however, center around the fact that none of the constructs that support the hypothesis are based on known or proven grounds. First, the specific nature of adult-child linguistic differences are not yet known. In spite of recent claims about the diminished or non-existent role of UG in the adult, Flynn and Manuel asserts that we do not yet know exactly where and in what syntactic domains differences will emerge. For example, many studies that argue for differences between the child L1 learner and the adult L2 learner in an ultimate level of attainment focus on surface aspects of L2 language knowledge connected to a periphery of language knowledge (i.e., lexical or language-specific agreement phenomena) rather than to the more abstract subsystems of principles and rules of UG. In support this argument, they cite the study by Johnson and Newport (1989) which did not find an age-dependent effect when considering word-order phenomena (132).
The second point of their counter-argument is their claim that the theoretical and empirical argumentation involved in the critical period hypothesis is imprecise. Even in the cases of empirical research investigating the abstract subsystems of the UG construct, they find that this research often involve phenomena whose theoretical status is not yet known. For example, they cite Schachter's experimental studies using subadjacency rules (Schachter 1988). Because of ambiguous status of subadjacency rules in the theoretical realm, Flynn and Manuel warns that studies which have attempted to isolate the role of UG in the adult L2 acquisition process on the basis of traditional definitions of subadjacency are extremely controvertible. Not only are the kinds of principles involved a problem, but the validity of methodology and experimental tasks that tests the acquisition of these principles are very much in question. They assert that unless there is more knowledge about the relationship between actual performance of task completion and cognitive domains, especially with the often used grammaticality judgment tasks, no conclusive hypothesis can be ascertained. Such tasks, which may show results that could stem from other factors such as semantic or pragmatic judgments, are unreliable as a measure of linguistic competence (Flynn and Manuel 1991; 133).

The third argument against the limitations implicated by the critical period theory is that UG is not a theory of end-state competence as so many experimental studies are designed to test. Flynn and Manuel sees the essential claims of a theory of UG as one that constrains the language learner's hypotheses about possible grammars for a language. It may provide restricted possible values for language variation and multiple consequences for grammar construction; however, this theory is not contingent upon the proficiency attained. On these grounds, Flynn and Manuel argue that research that merely isolates differences between the supposed end-states achieved by children and adults critically fails to rule out the role of UG in adult L2 acquisition. They push for argumentation to support their claims by precisely demonstrating that UG does not constrain an adult learner's hypotheses about the new target grammar and not simply that the end-states attained differ between adults and children. They also make it a point to clarify that while UG underlies the L1 in the adult end-state and continues to be available to the adult, it is passive and inoperative during SLA (Flynn and Manuel 1991; 134).
3.3 Rebuttal to skepticism on grounds of theory and methodology

There are those who would emphatically refute the arguments of Flynn and Manuel. Just taking Chomsky's version of UG and experiential input, there have been cases where a child has been unable to acquire L1 because he/she has been denied the right input and trigger to access UG in time. Susan Curtiss (1982,1989) has done research which show cases where input deprivation for long years has made complete language acquisition an impossible task. David Birdsong (1991), an advocate of the critical period hypothesis, claims that although the task for adults learning a second language is vastly different, because they have not been deprived of linguistic input, just so for this reason, the notion of access to UG must be framed differently for L1 and L2 acquisition. According to Birdsong, age-related differences among L2 learners are routinely attested, unlike what Flynn and Manuel suggests. He also claims that it is unreasonable to dismiss factors such as motivation, length of exposure, and neurological structure on the basis of a debatable linguistic theory.

In a rebuttal to each of Flynn and Manuel's counter-argument to the critical period hypothesis, he takes up each point and attempts to answer the questions raised. Responding to their skepticism concerning the dearth of knowledge of adult-child linguistic differences, he claims that the critical period hypothesis does not cling to a certain age as defined by the number of years since birth. Instead, just as Piaget would describe developmental stages and phases, there is a range in concerning the actual timeline. The current critical period hypothesis neither claims that all areas of languages will be affected during the same period for all individuals nor insist on the one-time loss of ability. However, it will maintain that there exists certain neurobiological effects which establish sensitive periods for first or second language learning (152-3). He cites works of Long (1988) who examines conflicting empirical data to come to the conclusion that both L1 and L2 acquisition are subject to maturational constraints, specifically sensitive periods during which learning is successful, and after which it is irregular and incomplete. This argument is further clarified in the actual argument (explored in following chapters) for why this may be so through the examination of parameters of UG in SLA.

Birdsong responds to the methodology questions by listing his reasons for using grammaticality judgment tasks. He contends that if UG is available in adult L2 acquisition:
one, its effects should resemble those in natives' grammaticality judgments, assuming that the natives have access to UG in their L1 acquisition; two, theoretical contrasts on grammaticality such as that-/t-effects should be confirmed in the judgments by natives and learners alike; three, learners should be able to demonstrate by their judgments linguistic knowledge that surpasses what is available in input; and four, learners' judgment data should suggest that their interlanguage grammar conforms to constraints on natural languages generally.

Birdsong also argues that the disparity between the uniformly natural and successful acquisition of L1 acquisition and the "general failure of adult L2 acquisition to achieve native competence" cannot be dismissed as easily as Flynn and Manuel would have it. There is a need for a theory that can explain the extremity of this disparity regarding language acquisition structure itself; he claims that the same structures with an "additional" stress of a second language is not enough to explain the extent of the disparity. He points to the inconsistency in Flynn and Manuel's citation of evidence that some adults do end up learning a second language as an argument against the age-dependent effects while they discount the "near-universal" failure of adult L2 competency by saying that UG is not concerned with end-state competence.

Although Flynn and Manuel claim that no other satisfactory model for SLA has emerged, I would like to quote M. Sharwood Smith (1988a) as she presents the various options open to us.

The Parasitic Hypothesis holds that UG is no longer active in second language acquisition and that traces of conformity to UG in interlanguage may be traced back to features of L1 carried over into the developing grammar. The Recreative Hypothesis holds that UG is active in second language acquisition and that grammatical development unfolds very much along the same lines as it does for first language acquirers. The Reconstructive Hypothesis holds that UG is still active but in a different way in that the learner sets parameters shared by L1 and L2 in the way ... that have been set for L1: This entails complications where there is no evidence in the input for resetting the interlanguage parameters of that interlanguage is aligned with native-speaker L2. (25)
3.4  How does critical period theory relate back to UG access in SLA?

Going back to the other side of the argument, however, Barry McLaughlin (1977), in his article “Second Language Learning In Children,” refutes the arguments presented for the critical period hypothesis on these and several other grounds. Although his research mainly concerns SLA in children, he covers several issues pertinent to the adult acquisition of L2 in his article. First, he questions the claim of neurological substratum which establishes that there is a developmental course of lateralization in the biological sense, where the cerebral cortex loses its plasticity before puberty and the corticothalamic speech mechanism no longer flexible. He cites Lenneberg (1967) who carried out a study of child aphasic patients in support of the critical period hypothesis. McLaughlin claims that a close review of this research reveals data which would indicate that lateralization is completed much earlier—even before the age of five. McLaughlin claims that “this would mean that if the critical period is to be associated with the developmental course of lateralization, it must be confined to the ages of 2 to 4 or 5... [which] ignores evidence that the language acquisition process continues well beyond the age of five” and cites several research data by Carol Chomsky (1969) as evidence (1977: 439-40).

One of the pieces of evidence cited in the argument for critical period hypothesis is the speed and efficiency of language acquisition in younger children as opposed to the adults. McLaughlin problematizes such data; for instance, he calls into question the validity of N. Chomsky’s 1959 example of the immigrant child and his parents’ English acquisition. In this example, the immigrant child had no difficulty learning the language of the new country, whereas the child’s parents, who were highly motivated to do so, struggled ineffectively with the language of the new country, imposing the phonology and syntax of L1 on L2. McLaughlin claims this phenomenon could be attributed to the fact that while the child’s exposure to the L2 was much more intensive and continuous than that of the parents, rather than because of their respective access of the “critical period.” To support his argument that age does not determine language acquisition, McLaughlin cites numerous studies comparing school children of different age levels whose evidence refutes the view that younger children learn a second language more easily and accurately. These studies evidence that older children can learn faster than younger children, given the same natural input of the language. The only place where McLaughlin would give credence to the critical period hypothesis is in the area of “the motor patterns involved in speech,” or
accents. However, he concludes, “the critical period hypothesis... applied to all aspects of language acquisition, not simply to the motor aspect,” is problematic (1977: 441).

Although McLaughlin, as a psycho-linguist, leans heavily upon psychological data and ramifications, his work supports Flynn and Manuel's arguments against the critical period hypothesis and its restrictions on access to UG in SLA. In looking at this question, we need to consider the fact that adults are clearly capable of learning a second language even after the claimed critical period, making it almost impossible to argue for a monolithic critical period in adult L2 learning. Furthermore, Flynn and Manuel claim that the theory of UG holds the best promise for adult L2 acquisition, saying that UG provides a clearer and succinct explanations for L2 acquisition than other, non-UG models, and that it also seems to account for a wider range of data. On the other hand, McLaughlin ignores the overwhelming evidence (Birdsong 1991) that while adults do learn certain aspects of a second language more speedily and more fluently, in the long run, they do not master some of the specificities of the language to the native capacity, unlike children, who more often than not do.

While the answers to this debate are still inconclusive, many of the empirical data involved in this debate are actually provided by the explicit studies that are being carried out to test the accessibility of UG in SLA, as in the debate between Flynn and Manuel (1991) and Birdsong (1991). However, both call for more research and more data to look into the matter of UG access in SLA. Instead of the neurological background for a critical period hypothesis dictating the extent of UG availability, they claim that empirical evidence provided by precise experimental studies based on UG framework can shed some light on whether or not UG is available to even adult L2 learners, and this in turn can act as evidence to prove/disprove critical period hypothesis.
Conclusion

On one hand, there are a substantial number of researchers who present both empirical and theoretical arguments supporting the argument that UG is strictly a learning device used by child L1 learners, that L2 learners have no access to Universal Grammar whatsoever. According to this view, the crucial difference between first and second language acquisition is the actual accessibility versus inaccessibility of principles of UG. On the other hand, there is just as much empirical data and as many theoretical arguments insisting that adult learners do, in fact, use UG-information in the process of acquiring a second language. Those who have joined one or the other camp argue that the methodology of the other side is defective in some way and thus not to be taken seriously. Those who have not yet consolidated their stance call for further and unambiguous data. At this point in the development of the field neither of these approaches seem able to contribute to clarification of the issues involved in this question. As I have shown, the question of UG accessibility in SLA has different linguists attacking the others' view in order to defend their own. While this may be an accepted form of debate, it is hardly practical in forming a workable synthesis when trying to apply to the field of pedagogy. The problem underlying the UG accessibility issue is not a problem of insufficient data or methodology, but rather a problem of the conclusions that one draws from the currently available data. My inclination is to accept the currently available data on both sides and to focus on an examination of the rationales and conceptual perspectives underlying the two opposing views in order best to assess how and where to go from here. Therefore, basing my assumptions on the background and the empirical data and their analyses as I have laid out so far, I will attempt to organize them into a working hypothesis.

I will first look at the first stance on the unavailability of UG as articulated by Clahsen and Bley-Vroman. The predictions are, one, that cognitive learning strategies would take over the place of UG and therefore render it unavailable, and two, that only the abstract UG principles of L1 are available to the learner, again, rendering UG unavailable to the possibility of resetting. In the first scenario, although their assignment of value to cognitive strategies are valid, the strategies are aimed at, and operative on, surface structures only. Assuming the very definition of UG, this leads to the conclusion that an adult second language learner has no access to the deep structure of the grammar. The second scenario, either as an addendum to the first or as a separate hypothesis, dictates that
L2 learners should only be able to acquire knowledge about those abstract properties that are identical in both L1 and L2. Resetting parameters is outlawed, because the very idea of resetting assumes that the learners have access to a level of abstraction at which parameter values are still open.

As one can imagine, there are many counter-examples that contradict these hypotheses. For one, I myself learned English as an adolescent and experienced no great difficulty in developing strong and precise intuitions about most of the UG-related contrasts in English, such as syntactic movements, early on in my acquisition. Inaccessibility claim can lose its ground just with an example showing a small percentage of adult L2 learners who masters the language to a fluency that displays knowledge of abstract structures, such as Felix's (1991) observation that many of his German students to whom he has taught syntax “using mostly English material did develop fairly precise intuitions about many of the facts that are traditionally taught in syntax classes” (93). In fact, much of the results of the studies done by White, Flynn, and others also report similar findings.

There is another way to look at inaccessibility that is also problematic in a closer examination. Bley-Vroman (1989) makes the claim that adult L2 learners may be developing an alternate model of grammar on the basis of their first language, where it is not UG that takes a role in SLA, but rather, some kind of abstraction from the properties of L1. There are two problems with this theory. First, given that this surrogate structure is supposed to resemble UG and that the principles governing UG itself are not “set in stone,” we cannot begin to distinguish between an alternate structure and the “real” UG in SLA. The second problem is that, in order to form a workable grammar of an L2 which differs from L1, one must be able to abstract away from the properties of L1, not on the basis of it. For example, if I am to grasp the strict SVO order of English, I have to accept the possibility that other languages work differently from Korean, which has a strict SOV word order. However, I must also have some intuition that differences between natural languages are not arbitrary, or I will have no way to distinguish the regularities and irregularities in English. As Felix (1991) describes:

... a second language learner must approach the task of acquisition with the expectation that natural languages may differ in some domains, but not in others, independent of what the evidence looks like (95).
For example, L2 learners must know that a second language, though it may differ in word order, still operates with essentially the same kinds of grammatical categories as their first language. They must know, at least to some extent, what is universal and what may be subject to language-specific variations. This “knowledge” seems to be a basic description of UG, a learner “knowing innately” that there is “a restrictive set of principles that specify what is a possible structure in natural languages, where these principles have certain parameters left open” (Felix 1991; 95).

Now, I must consider this reasoning with the considerable amount of data that show L2 and L1 acquisition working in a very different way. Considering much of the data discussed in this paper, there must be a way to account for some L2 learners displaying no access of UG. Let’s examine Chiang and Costello’s (1983) data and conclusion. The data shows students learning English as second language in middle/high school who have considerable difficulty judging the grammaticality of certain constructions and parameters. From this, Chiang and Costello draws the conclusion that UG is not available to them.

However, I was a learner of English as second language myself; yet, when I was in high school, only after several years of being a learner of English, I could easily judge the grammaticality of sentences like Chiang and Costello’s sample questions. Where does this leave us? I would posit that inability to access UG does not prove the inaccessibility of UG. What do I mean by this? The students in Chiang and Costello’s research might as well have access to UG, but failed to discover it for reasons other than cognitive structures of UG, reasons that can include insufficient input to overcome L2 influence, insufficient practical implications of the language (since, for these children, classroom was the only place for learning this language), and lack of chances for real language usage.

In other words, for the children in Chiang and Costello’s research, English has ceased to be a “natural” language for them; there is little wonder that they may have resorted to cognitive strategies. In fact, there is a real question of motivation involved in language learning. The first language, as a main means of communication for a child, would involve a great deal of psychological motivation, while a second language, especially one whose input is restricted exclusively to the classroom situation, would not involve a great deal of learner motivation, therefore limiting their access of innate abilities such as the framework of UG.
Theory should never get away from practice if the goal is to ground the theory in reality. In an effort to in turn use these theories in the development of the actual classroom pedagogy and teaching methodology, Hideyuki Takashima’s (1992) conclusions in his research article “Transfer, Overgeneralization and Simplification in Second Language Acquisition” is relevant:

From most research in L2 acquisition, it is possible to extract evidence in support of two interlanguage tendencies that are often considered as either-or prepositions. One is the tendency for interlanguage development to proceed along lines that are common to all language learning and the other is a tendency for any interlanguage to be shaped by features of the learner’s mother tongue. What we have shown is that for our learner of particular constructions in English, both tendencies are manifest. Also, what we have suggested in general terms is that, since it is difficult to understand the whole process of learning a language, we as teachers have to carefully assess where learners are in their acquisition and teach in such a way that we can accelerate their learning. We know students learn in spite of teachers, but if they have a choice, they usually seek out a language teacher to accelerate the process. So, as teachers we need to help students learn in a way that taps their natural acquisitional abilities (p. 114).

In order for the pedagogical quality of language education to improve, teachers need to be aware of, and keenly interested in, the linguistic background and current research in SLA theory. Just as pertinently, for SLA theory to advance beyond squabbles over the interpretation of the same data, researchers need to be aware of the pedagogical implications of their experimental study and empirical data, not to mention the conclusions they draw. By working together with language pedagogy, SLA may have more social consequences than ever, especially in this century of multi-culturalism and multi-lingualism.
BIBLIOGRAPHY


