A Working Paper on Second Language Acquisition Research:

Some Notes on Theory and Method

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Lecture I
Linguistic Perspectives on Second Language Acquisition

1.0 Overview & Introduction

• *Behaviorism Approaches (Skinner)*
• *Interactive Approach (Piaget)*
• *Linguistic Approaches and the LAD (Chomsky)*
• *Leaping from L1 to L2*

1.1. A Theory of L1 Acquisition

From Skinner to Piaget. Much work in the 1950s among American Linguists sought to capture the nature of language and language acquisition either via *Behaviorist Methods* (Skinner's Stimulus & Response), or via *Cognitive Maturationalism* (Piaget). Chomsky's early work in the late '50s initially focused on discrediting both schools-of-thought (as witnessed in the famous debates: Skinner vs. Chomsky (Chomsky 1959), and Chomsky vs. Piaget (Piattelli-Palmarini: ed. 1980). Although it appears that Chomsky has been credited with the 'win' between the two sides of the debates—clearly behaviorism in its purest form was destined to failure—it is a mistake to suggest that Chomsky has entirely closed the book on the debate between the two competing models: both models contain special and intrinsic aspects which do well to explain some elements of language. Having said this, Chomsky's claim that the brain contains a separate module for language (viz., the language faculty), independent of cognition, certainly heralded an important breakthrough in how we understand the nature of language and language acquisition.

=> 1. *Behaviorism (Skinner)* The study of human behavior in observable stimulus response situations. Related to behavior models is the 'habit-formation' L2 theories such as the *Audiolingual* method of the 1960s.

=> 2. *Cognitive-Maturation (Piaget)* The study of observing and correlating language development via a maturational timetable specifically tied to cognitive skills: sensori-motor, preconceptual, pre-operational, operational, etc. Distinctions between Lexical vs. Functionalism (e.g., Bickerton's Proto-language) could roughly fall into such a scheme.

Chomsky. Linguistic theory can provide general frameworks whereby data from child language acquisition can be analyzed. Theoretical considerations can unify otherwise disparate and seemingly unrelated data from language acquisition studies to provide a more uniform account of children's linguistic knowledge. Conversely, theories of language acquisition constrain proposals about adult grammars by requiring that adult grammars be *learnable* within a relatively short period of time. Theories of adult language strive not only to be consistent with what is known about children's acquisition of language, but also theories help to establish an acquisition process which is not dependent on improbable learning—the *Learnability Criterion*.

Thus, Second Language Acquisition Research should be guided by the same considerations as in L1 acquisition research, composing a unified account.

An important difference however between L1 and L2 acquisition from a linguistic theory point of view is that in L2 acquisition, learners are confronted with the dynamics of having two (or more) linguistic systems at work (in one brain/mind). How is the conflicting knowledge resolved (multi-competence)? How is L2 knowledge 'learned/acquired' and then 'stored'?

There are presently two major perspectives from which to view the relationship between theories of language and theories of second language acquisition: one involves claims regarding the impact of a theory of language on the development of a theory of second language learning, and the other involves claims regarding the use of second language data to test or develop a theory of language.

1. An adequate model of L2 is quite impossible without a coherent theory of language—as Chomsky (1981) has argued for L1 acquisition research.
    We illustrate this position with a discussion of Universal Grammar (UG).

2. Linguistic theory, because it is a theory of natural language, must be tested against second language data to be validated.
    Thus, any theory of language would be false if it failed to account for second language data.

The formal *Generative Theory of Grammar* (Chomsky) is a necessary component of a theory of second language acquisition. In the absence of a formal theory, we get not only informal description, but also a proliferation of *ad hoc* terminology that are unconstrained by any principle.

By formulating precise formal rules for the generating of sentence, it is possible (in principle) to describe what it is that is *acquired* by a learner of a specific language, and what it is that must be *cognized* by humans by virtue of innate knowledge (Plato's problem). The formal rules behind *The Principles & Parameters Theory* (=PPT) (Chomsky) function in such a manner. Given this type of information, we are in a position to make fairly precise predictions about SLA where the second language (L2) in some respect differs from the native language (L1).

1.1.1 Chomsky's Universal Grammar (UG)

Universal Grammar. UG is taken to be the set of properties and conditions which constitute the initial state of the language learner—hence, the basis on which knowledge of language develops. All languages constrained by UG are, by definition, 'possible' languages. Only UG constrains L1 acquisition.

> *Language Acquisition Device* (LAD): It is claimed that there is a language learning system (known as the language acquisition device) that constrains the possible grammars.

> > *Autonomy/Modularity*: By Autonomy, we mean that grammatical competence—one's knowledge ('cognition') of the syntax, phonology and semantics of a language—is a separate mental system (contra the *Reductionist* position of Skinner, and to a lesser degree Piaget). Thus, grammatical knowledge is not simply a special case of more general knowledge.
> > By Modularity, we mean that grammar, while autonomous, is not isolated from other mental systems, nor is it monolithic and undifferentiated (See Pinker 1984). Rather, we see language in its everyday usage as the result of the interaction of grammar with other mental systems.

1.1.2 Child Language Acquisition: PPT & Lexical vs. Functional Categories

Principles & Lexical Categories (vs. Holistic Form and Function approaches)

> *UG* The initial state of the language faculty can be regarded as UG with all the *principles & parameters* present but unattached to any language (=S_0). The final state is when UG has been transformed into one of its possible steady states (=S_t). Hence, a grammar is a state of UG, not a product of UG (maturation).

> *Innateness* Some aspects of our linguistic knowledge are 'innate'—or genetically determined. As speakers, we know more about a language than is possiblly provided by its input. We come to a language with presupposed assumptions about how a language is structured. This pre-conceived knowledge is genetically endowed to us in the form of *Universal Grammar.*
> At the lexical stage (governed by UG), form and function does seem to behave on a 'one-to one level'—i.e., form=meaning. These rough principles are absolute and without parameterization, that is, all languages share in their properties. The following lexical categories are:

1. <u>Lexical Category</u>   <u>Token Sentence Type</u>
=> Verb (VP)   *Daddy kick-ø ball.*
=> Noun (NP)   *(A) Book...*
=> PrepP (PP)   *...with daddy*
=> Adjective (AP)   *Red car...*

(Some Omissions: Case, INFL, AGR, Possessive and Word Order.)

Critical Period.   Closely associated with these principles is the notion of a Critical Period (Lenneberg). The idea being that there is a cut-off threshold by which it becomes impossible to 'acquire' the parameterized form of a language. In such an event, all that is made available are the principles of UG. The best known example of this critical period is the case of a *Genie* (Curtiss: 1977), about a young girl whose virtual isolation from any linguistic input resulted in her being permanently linguistically impaired. All that she was able to employ in her speech were the basic principles of UG—any attempt of establishing a parameterized (L1) language was fruitless. If we maintain this *Critical Period Hypothesis*, then maturational constraints on UG would suggest that re-parameterization is unavailable for the adult—UG may continue to be active though only Indirectly via an L1 overlap.

Parameters & Functional Categories

      Although one sees the clear significance of form and function at the lexical stage of L1 acquisition, one would be hard pressed to explain form and function in more abstract /formal levels of language: namely, what, for instance, is the (discourse) function of grammatical gender, nominative case, or even third person singular *'S'* ?

      Parameterization is defined in terms of a finite set of alternative values with which a given functional category can be associated. Cross-linguistic variation is therefore due to differences among the parametric values of functional categories.

(NB. We can't escape from 'grammar'—albeit mere grammar is not all there is to language—no matter how hard we try to subsume it either under more holistic ESL approaches, or under some other category like 'communication/discourse', grammar must eventually be tackled. Pure holistic teaching approaches rest on a failure/refusal to separate form from function, grammar from communication. The problem in SLA/ESL is that too many have tended to take the holistic position as a truism.)

2. Functional Category	Token Sentence Type
Case	*He/She kick-s a ball* (vs. *him/her)
Tense/Agreement	*She kick-s/ed*, *Tom's book* (=poss),
Word Order	*The car goes* (=SV) vs. (*goes Car)

--Paper Insert Radford & Galasso 1998--

Some Parameters: (see Gass et al.)

Recent work regarding the role of specific L1 parameter settings in L2 learning have shown that indeed hypotheses positing some kind of L2 transfer seem to be correct.

1. Pro-drop   The L2 parameter option for Pro-drop does seem to transfer into L2. For instance, White (Gass et al.) found that French-speaking subjects (studying English as an L2) seldom failed to identify missing pronouns—that is, pro-drop was marked (French is a Non Pro-drop language). Conversely, Spanish-speaking subjects had difficulty switching to the parameter setting of Pro as marked.

2. Agr/Infl (See §1.2.2)
3. Word Order (See Galasso 1999: handout)

1.1.3 Questions to Consider:

Q: How can we account for the protracted nature of L1 acquisition in children?

Q: What are the qualitative differences between Functional and Lexical categories, and why should a child have relatively more difficulty in acquiring functional categories? (Cite some examples.)

Q: What is behind the notion of a Principles and Parameters based Theory (PPT) of language?

1.2. A Theory of L2 Acquisition: Leaping From L1 to L2

• For L2 acquisition, the situation of learnability is similar, but not identical to L1. It is clear, as it is for L1, that the evidence learners have from L2 input is insufficient for the appropriate determination of second language grammar.

• Researchers using the UG paradigm attempt to explain this L2 acquisition in a similar manner to L1 acquisition via UG/Parameterization.

• Second language learners have access to universal principles—either Indirectly, through their L1, or Directly, in much the same way as L1 acquisition.

• Thus, a theory of L2 must make plain the interaction between innate linguistic principles and input so as to explain how a learner can arrive at a grammar of the target language.

1.2.1 UG Accessibility

The learner already has knowledge of one's (native) language and a powerful system of general abstract problem-solving skills. Within what general framework is the logical problem of foreign language learning to be addressed? And specifically, what is the role of the domain-specific learning system, including principles of UG?

Does UG (LAD) continue to function in adults?

=> *Position 1: Direct UG Access*

In the Direct UG Access Hypothesis, UG is just as active in L2 as it was in L1. There are no clear distinctions regarding UG—the differences may lie in the fact that now since parameters are set via L1, parameters in L2 must too either be set accordingly (whereas the two subsets of parameter settings set along side each other), where there must be some sort of parameter re-setting for L2. Like L1 acquisition, learners of the Direct Access Model are considered to be unaware of what they are learning (unconscious learning) and need nothing other than positive evidence (via natural input) to set the values of *parameters* and to instantiate *principles*. (Problem: Of course, it becomes difficult to explain the vast difficulties encountered in L2 learning under this model—what are these problems attributed to?)

L1 & L2 Input   =>   UG   Principles/Parameters--> --> L1 and L2 Grammars

=> *Position 2: Indirect UG Access*

One obvious possibility is that the innate system that guides child acquisition no longer operates in adult foreign language learning (or more weakly, that its operation is partial and imperfect. This would easily explain why L2 learning is often a difficult and ultimately unsuccessful task. This view is associated with Lenneberg's famous *Critical Period Hypothesis*.

1. <u>Fundamental Difference Hypothesis</u> (Bley-Vroman) argues against the position that adult and child language learning are fundamentally the same and rejects the notion that adults have access to UG via L2. He notes ten areas, including the lack of success, variation in goals, significance of instruction, etc. where adult L2 learning is unlike child language acquisition, and where it shows greater similarity to *general adult problem solving*. Bley-Vroman suggests that some universal principles are indeed available through the native language: i.e., the learner comes to the task of learning a L2 with a set of assumptions about the nature of language.

Bley-Vroman draws clear distinctions between *learning* and *acquisition*: acquisition refers to the unconscious internalization of knowledge, while learning refers to the conscious learning of explicit rules (e.g., conscious memorization of grammar rules is held—correctly—not to be the same thing as developing real language acquisition). The differences between 'learning' and 'acquisition' or child vs. adult language acquisition could be articulated as follows:

> i. *Internal*: It is caused by differences in the internal
> cognitive state of adults vs. children, not by external factors.

> ii. *Linguistic*: It is caused by a change in the language
> faculty specifically, not by general change in learning
> ability.

> iii. *Qualitative*: It is a qualitative difference, not merely
> quantitative.

Lack/Variation of Success and the employment of learning strategies (lecture 2).

2. <u>Indirect UG Access Model</u>

> L1 Input => UG principles & Parameters => L1 =>L2 Grammar
> ^
> ^
> L2 Input =>-------------------------------- -----^

In the Indirect Model, positive evidence (input) is still the driving force but reduced to the extent that L1 now serves somewhat as a filter to L2 obtainment: viz., the implicit knowledge of L1 mediates L2 throughout all the crucial stages of learning, particularly with regards to parameterization. This would suggest that certain L2 learners will have difficulties with alternative parameter settings—e.g., null subject language type L2 learners will have difficulties accepting the obligatory nature of overt sentential subjects (as in Spanish to English). (See Pro-drop below). The advantage of this model is that now we can suggest not just a quantitative difference, but more importantly a *qualitatively* difference in the way one learns L2 (contra the Direct Model).

The Fundamental Difference/Indirect UG Hypotheses could be schematized as follows:

I. Child Language Acquisition   vs.   II. Adult L2 Learning
a. Universal Grammar (innate access)   a. Native L1 knowledge
b. Domain-specific learning procedures   b. General cognitive problem
                                                                          solving systems

In conclusion.   Suppose that the original UG scheme is no longer available, the foreign language learner can, in a sense, reconstruct much of the UG principles via observing the L1 and the interaction between the L1 and L2. (An overlapping notion of L1 serving as scaffolding for L2 makes for a nice analogy here.) The adult language learner therefore constructs a sort of surrogate for UG--adding and overlapping onto the original template the native language. This native language must then be 'sifted': that which is likely to be universal must be separated from that which is an accidental property of L1. (These properties of L1 tend to skew the L2 acquisition toward an L1 bias. The notion of parameter (re-)setting is relevant here.)

=> *Position 3: A Maturational UG Approach*

1.Competing Cognitive System (S. Felix)

Summary   Felix has suggested that adults learning L2 do not suffer from a learning deficit, but rather from a learning excess. Felix claims that the more developed cognitive problem solving apparatus in adults actually gets in the way of natural language acquisition (as seen with L2 learning). Felix correlates Piaget's early child stage of concrete operations to the fact that young children can't operate abstract formal systems (=Radford & Galasso's 1998) Lexical VP Stage). Hence, what Felix is on about is the notion that L1 in children is automated via a Language Specific Cognitive system (LSC). This is equivalent to LAD that enables the child to acquire language even though her Problem Solving Cognitive System (PSC) is immature and inactive.

Felix attempts to correlate and attribute that facts that (i) children acquire language—even though their cognitive (PSC) systems are undeveloped owing to their LSC)—with the fact that (ii) adults find it very hard to acquire language—in spite of a full-fledge cognitive (PSC) system. This explanation has the advantage that it attributes the decline in adult language learning to a specific cognitive development--the rise of formal operations.

I. <u>Child</u>	vs.	II. <u>Adult</u>
(Non-formal operations)		(Formal operations)
LSC => LAD 'innate'		a. No access to LSC (LAD)
(successful L1 acquisition/mastery)		(Unsuccessful L2 master)
b. As LSC changes/matures into PSC		b.PSC kicks in at puberty
(unsuccessful mastery of L2)		(General cognitive problem solving skills interfere with LSC/LAD learning-strategies are applied to learning L2).

--Insert Smith & Tsimpli on Cognition & L2 Acquisition--

2. Alternative 'States' Model of Language Acquisition (V. Cook)

In this metaphor, the language faculty itself changes (or matures) with time—there is no separate UG, but a UG that steadily transforms itself: $UG_{1..2..3..}$ The model would look something like the following:

-->	i. Principles (+ form in L1) (Lexical stage)
Input =>UG -->	ii. Parameters (+Settings in L1) (Functional stage)
-->	iii. Vocabulary (+L1 lexical items) => (Permissible L2)
	(L2 learning would be subsumed under iii. here).

Cook claims that a grammar is a state of UG, not a product of UG. The initial state of L2 is not zero because it already incorporates an L1. This approach is similar to an Indirect UG Access Hypothesis except for the fact that it assumes that UG matures. This view, in a more radical version, could also be taken as support for Felix's cognitive maturational model.

=> *Position 4: No UG Access*

> This position suggests that UG is unavailable for L2 learning. Some other cognitive (non-linguistic) *learning strategy* must be activated. L2 under this model doesn't incorporate the principles or parameter settings of UG. (Problems: (i) Such a loosely constrained acquisition apparatus should entail what we call wild grammars—i.e., grammars that don't have a basis in UG. (ii) How can we account for studies supporting L2 transfer hypotheses?)

> | |
> |---|
> | L1 Input => UG Principles & Parameters => L1 Grammar |
> | L2 Input => Some other mental processes => L2 Grammar |

1.2.2 Preliminary Results and Conclusions

In the case of L2 UG accessibility, the four positions as outlined above predict very different outcomes for L2 language learning.

=> The first position *(Direct UG Access)* proposes that as long as the language faculty (or possibly the LAD) has been activated normally within due course for L1, then there is no reason to believe that it can't become active in the exact same way again. This model would suggests that adults do not necessarily need to be handicapped in learning L2—since no only is their Language faculty fully engaged (as was for L1), but in addition so is their more cognitive problem solving system mature. It is quite clear that this should make for relatively easy access to L2—without any substantial interference from L1.
(Problem: We later see that this is not born out in L2 studies regarding L2 to L2 interference regarding parameter resetting, etc. See Lecture 2).

=> The second position *(Indirect UG Access)* initial gains the advantage in being able to account for the well known facts concerning L2 leaning difficulty, fossilizing, and general lack of success regarding acquisition. Clearly a qualitative difference must apply to the adult learning L2. Although this position also assumes UG to remain active in the adult via the L1 grammar, UG doesn't however interact directly with the L2 input, but merely indirectly (as a filter) via the previously set parameterization of L1. In other words, parameters do not get re-set here, but merely serve as a guide-line in how to learn and develop a strategy for dealing with the parameter. Adults never loss their L1 parameterization for specific items, what they do is consciously manipulate what they *know* of the input and map it onto an L1 UG. This model has the benefit in accounting for the many language transfer type errors found in the data. This is due to the fact that the learner will more often than not assume that the newly acquired language is similar to that of the native language. In other words, the learner simply assumes the L1 value of the parameter setting still holds for L2.

=> The third position *(A Maturational UG)* challenges the position that UG remains in a stable state throughout the speakers' life-time and adds the strongest support yet to Lenneberg's *Critical Period*. Taking a biological stance where *maturation* is most certainly the default, this view suggests that other cognitive means must be responsible for any language learning.

(Problem: this model may in fact be too removed form UG—e.g., given such a model, how would we then account for any L1-L2 language transfer errors at all?)

(The *No Access Model* clearly collides with theoretical issues regarding linguistic theory.)

Conclusion: Experimental Design and Results (Galasso)

There have been a number of recent studies to suggest that indeed L1 to L2 interference is common-place (cf. Flynn for Spanish & Japanese, Liceras for Pro-drop, and Schachter. (Eds) Gass and Schachter: 1989). The overwhelming data seem to point to a position that advocates some form of an Indirect UG Access. Galasso (in prep) likewise suggests that among Immigrant Spanish Learners of (level-0/1) English, L1 interference is so heavily influenced it often requires high intensity, explicit strategy instruction to break the 'L1 parameter grip'. The following examples indicate that parameterization—having to do with Spanish as a Null Subject language—is extremely difficult to dispense with.

Spanish L1 Interference:
A Pro-Drop Sequence Paradigm

Target English Sentence	Student Reproduction (oral & written)	Phenomenon
1a. *I like to sleep*	1b. *ø Like ø sleep*	L1 null subject, -Infl
2a. *"I" like to sleep* ("I' being stressed)	2b. *Me like ø sleep*	L1 passive V/Acc Subject -Infl
3a *I like to sleep*	3b. *I-like to sleep*	L2 target achieved on surface
4a. John likes to sleep (after intense explicit instruction)	4b. *John I-like to sleep*	L1 null subject interference Prn I treated as V Infl
5a. John likes to sleep	5bd. ø I-like to sleep	Severe L1 interference

1.2.3 Phonology (With Special Reference to Spanish L1 > English L2)

=> English Sound System (consonants)   (Celce-Murcia)
        (b-d-g, p-t-k)

=> Spanish Articulation Problems (place & manner)

=> The Role of Context in Speech Comprehension: Unacceptable Collocations
        E.g.,   *He *looks / cooks eggs.*   (/k/ -> /l/)

=> Lexical vs. Functional Phonology: Morphophonemics
        E.g., Lexical *"s"* vs. Functional *"s" ,-ed,*
                * Sally wear-ø strange sock-ø(=3prs 'S')
                (Sally wear-s strange sock-s) (ESL omission of function 's')

                *Sally-ø sock-ø are strange   (=poss 'S')
                (Sally's socks are strange)

=> Drill Approximation
        E.g.,
                i.   *Visit* /v/ => *Bisit* /b/
                ii.   Family /f/ => fisit /f/ (targeting labio-dental fricative)

        Approximate to:

                iii.   Fisit => Visit or /f/ => /v/ (targeting voiced)

1.3 Skills
Assigned Readings in Celce-Murcia

        Speaking   Promoting Oral Comm. Skills
                        Teaching Pronunciation
        Listening   Listening Comprehension in Second Language
                        Instruction
                        A Synthesis of Methods for Interactive Listening

Lecture II

Methods: Learning Strategies in Second Language Acquisition

2.0 Overview & Introduction

In foreign language acquisition, different learners also follow different paths (cf. Meisel, Clahsen, and Pienemann: 1981). There is *variation* in what one might call *learning strategies*—from large scale differences like the distinction between 'avoiding' and 'guessing', to something as specific as using very particular mnemonic tricks and devices to aid memorization of vocabulary, etc. These tactics resemble what one finds with general adult skill learning. Although there has been some question over whether or not formal instruction is a must for L2 acquisition—the fact that L2 can be learned as a pidgin reinforces this view—L2 studies seem to show that formal instruction does make a crucial difference in quantity and quality of language learned. This suggests that L2 learning is a type of general problem solving—e.g., cognitive models for problem solving. (NB. This questions L2 learning in the face of the Fundamental Difference Hypothesis that represents a clear difference between cognition and language modularities.)

2.1 Variation in Learning

The lack of general guaranteed success is the most striking characteristic of adult language learning. In contrast to adults, children (L1) inevitably achieve (=acquire vs. learn) perfect mastery of the language. Well known chronic deficits include phonology (accent), vocabulary retention, function word usage, and syntax. This lack of general success typifies other characteristics of domain-specific cognitive adult learning: e.g., playing chess, bridge, the piano, etc. Any model (theory) that entails uniform success—as child L1 models must and do—is a failure as a model of adult language leaning. This is one reason behind the important contribution of an innate LAD for child L1 acquisition (one aspect of the Skinner vs. Chomsky debate).

    => *Pidgin Systems*:   Some learners develop 'Pidgin' systems or grammars to cope with their communication tasks. Although these devices do not in themselves constitute a real language (*proper*), they nonetheless are quite successful in communication. This variation of strategy learning has basically taken and separated those portions of a language which are made-up of more substantive-meaningful units—e.g., lexical categories—and have dispensed with the more formal non-substantive units—e.g., functional categories. (See lecture 1 Lexical vs. Functionalism in child language acquisition).

--Insert Bickerton: Pidgin/Proto-language--

=> *Over Grammaticalization*:   In stark contrast to Pidginization, other learners tend to dwell on those more abstract and functional aspects of language--even to the detriment of their fluency. In other words, they place an extreme importance to formal grammar at the expense of practical speech. Such students often thrive on written examinations where grammar and paradigm memorization is at its optimum--while on the other hand, such students tend to dread more creative and oral spontaneous communication tasks.

(NB. Recall that the word 'Pidgin' may actually be a borrowing from the English word 'Business', showing that this system's main goal is to facilitate language exchanges in a basic level of communication for the market place.)

Such variation in aims & methods follows naturally from the notion that L2 is an *a posteriori* adult learning skill akin to other cognitive skills. It is to be expected that different people will attack the required learning differently, dependent on the aims and the goals of the student. Children, on the other hand, do not have the luxury of setting their own goals—their motivation for language is internally (innately) driven.

=> *Fossilization*:   It has been long noted that learners of L2 eventually reach a stage of learning, a stage short of success, and that they then stabilize (fossilize) at this stage. Typically speaking, aspects of fossilization will mostly constitute some form of functionalism: e.g., English Nom. Case gender *He*(=she), *Him*(=her), or 3Psg 'S (*She cook often*). In children (L1), of course, there is no fossilization.

The above characteristics of foreign language learning tend to lend to the conclusions that domain-specific language-acquisition systems of children cease to operate in adults—and that adult L2 learning resembles general learning fields for which no domain-specific learning system is believed to exist.

The best case scenario would hold that if adults function with some form of principled UG for L2, it would have to manifest itself at the very least Indirectly from UG--it seems that a more robust cognitive learning apparatus is behind the learning strategies discussed above.

2.2 Cognitive Theory in L2 Learning

Linguistics and Cognitive Psychology each posit separate and different paradigms for describing L2 learning. While Linguistic Theory assumes that language is acquired/learned separately from cognitive skills (cf. Smith & Tsimpli), Cognitive Theory assumes that a crucial link exists between language learning and cognition—for examples, the development of information processing frameworks for memory, storage, selection, etc.). In this latter cognitive sense, language is ultimately tied to both IQ and cognitive skills.

(NB. Cognitive Theory as presented here should not be misconstrued as pertaining or belonging to the Cognitive Approach which was heavily influenced by Chomsky himself vs. Behaviorist approaches).

2.2.1 L2 Strategies

Declarative vs. Procedural Knowledge

=> *Declarative knowledge* is things (in the world) that we know about—that we have gained access to and can be stored in our memory. Such things are factual, experiential, emotional, etc. One defining aspect of Declarative Knowledge is that it can easily be pass-on (taught & learned) to people, generations and culture. This type of knowledge differs from Procedural knowledge in the sense that it can be negative or even disregarded. Procedural knowledge seems to have a more innate and biological nature. Declarative knowledge for L2 learning principally consists of the formal rules of language.

=> *Procedural Knowledge* (akin to cognitive skills) refers to the ability to perform or manipulate various mental procedures. The natural way a child uses the LAD (UG) to acquire language would be an example of Procedural knowledge.

> *Consequences for L2*   An interesting paradigm can be drawn here between
> (i) the natural way in which a child acquires her L1 (=Procedural), [and the way]
> (ii) a person goes about learning an L2 (Declarative).

Such a paradigm would enable us to give a quasi-cognitive explanation for the many persisting Quantitative & Qualitative differences found between L1 'acquisition' and L2 'learning' (as discussed in this paper)—namely, a declarative knowledge requiring much more cognitive scope & powers puts a heavier burden on the brain. (In other words, for the computer buffs among us: Declarative Knowledge is analogous to software (hence, it is easier to manipulate though much more prone to processing difficulties), while Procedural knowledge is hard/wired-ware (hence, it is virtually impossible to manipulate).

=> Following the argument above, a cognitive three-staged development can be sketched for L2 learning (O'Malley et al.: 25-27):

> 1. *Cognitive Stage*   This first stage involves conscious activity in L2 on
> the part of the learner—what knowledge that is acquired is purely
> Declarative (vocabulary memory, grammatical rules, etc.) At this stage,
> L2 Interferences are at its maximum since L2 declarative knowledge is in
> one-to-one competition with its L1 counterpart. (L1 usually wins).
> => L2 is heavily influenced-dominated by L1

2. *Associative Stage* This second stage represents the trial & errors period in which L2 attempts to map onto L1. Errors of this kind start to be identified, analyzed and corrected—sometimes overcorrected. During this stage, the L2 declarative knowledge is beginning to be refined as procedural knowledge. A certain automacy develops in the L2, although declarative knowledge surfaces (prompting L1 interference type errors: vocabulary laps, grammar, etc.).
=> L2 is still influences but to a lesser degree.

3. *Autonomous Stage* Finally, Declarative knowledge is seeded as procedural knowledge—L2 performance becomes fine-tuned or even mastered. The L2 speaker becomes unaware of grammatical rules and may often code-switch the two languages between precise grammatical phrases.
=> L2 is seemingly incorporated into L1

=> It is believed (cf. Anderson: 1980) that declarative knowledge can become proceduralized through practice. However, it may be that some types of declarative knowledge are easier to access and assimilate into procedural knowledge than others.

=> The Functional vs. Lexical categorical distinctions seem to play a role here in what first gets accessed in L2:
(i) *Lexical* items tend to be learned at the very earliest stage of L2 learning.
(ii) *Function* items and more abstract grammatical elements tend to follow lexical items in a protracted manner.

=> A maturational time-table for L2 Learning   Relating what has been said above regarding Declarative vs. Procedural knowledge, a maturational time-table can be erected showing how the three stages above get assimilated in the brain of an L2 subject. Similar to L1 child language acquisition, L2 learners start with certain predisposed assumptions about how language works.

The first maturational stage attempts to filter the L2 material in ways that are similar to L1--this, at times, has the consequence of trying to square a circle. As more declarative L2 knowledge gets filtered, more positive evidence becomes available to the subject, L2 to L1 inconsistencies become apparent. (This is consistent with parameter mis-settings, L1 interference, etc.

The second maturational stage attempts to reanalyze the L2 data, from the starting point of L1. Cognitive Strategies for learning L2 show up here.

The third and final stage (corresponding to the Autonomous stage) represents the point at which the subject assimilates the L2 declarative knowledge and makes it part of

his/her procedural knowledge. L2 mastery takes place once L2 declarative knowledge gets assimilated roughly in the same manner as the L1 (innate) procedural knowledge (in child language acquisition).

(NB. Of course, the larger question here is—Does L2 Declarative Knowledge ever really get to the stage where we can claim it as Procedural Knowledge?)

=> *Top-Down vs. Bottom-Up Processes*

Bottom-Up   Fundamental processes which tend to rely solely on the one-to-one meaning relation (i.e., Iconic). (An example of this would be a child trying to memorize meanings of individual lexical items on a definition basis only—i.e., without collocation properties or context.) An Item is analyzed in isolation of its context.

Top-Down   More advances processes that activate several specific types of information stored in memory in the form of contextual or experiential facts about the world. Adult L2 learners have vast amounts of Top-down capacities that can help in L2 learning. This clearly is not the case for L1 child language acquisition where any top-down material would come by way of innate knowledge (The LAD).

2.3 Skills
Assigned Readings in Celce-Murcia

=> *Reading*   Academic Reading and the ESL/EFL Teacher
=> *Writing*   Grammar in Writing
=> *Grammar*   Teaching Grammar

Lecture III

Methods: Language Teaching Approaches

3.0 Overview & Introduction

The section presents the various approaches and methodologies for ESL teaching. By examining the stages of L1 acquisition, and then by applying it as a feasible L2 learning apparatus, we hope to better understand the implications—benefits and shortcomings—of the various approaches.

3.1 A Survey of Current Approaches

=> Affective-Humanistic Approach (Curran, Galyean)
- Meaningful Communication (input =output, filters)
- Zero resistance and low anxiety
- Individual learning at one's pace
- Class atmosphere more important than materials or methods

* Instruction methods should be designed around the concept of (i) breaking all known psychological barriers to learning while, at the same time, (ii) tapping and unleashing more successful forms of learning.

=> Comprehension-Based Approaches (Terrel, Krashen)
- Focus on receptive skills first
- The two processes—sending & receiving—entail different tasks
- L1/L2 goes through a (stage-1) silent stage—focus on comprehension
- L2 learning is centered around extracting chucks of a language
- L1 is looked on as being similar to L2 in terms of motor skills (for the former) and production skills (for the latter)--a natural process is at hand
- Increase amount of language data processed per unit of time

* Instruction methods focus on establishing the core productions of speech—talking and comprehension are the key words here.

=> Production-Based Learning Approaches (Bar-Lev)
- Target language/structure is devised and presented in a way to maximize its natural simplicity. Although targets may seem somewhat unnatural to a native speaker (even though not ungrammatical), their mapping from L2 to L1 is enhanced
- The targets of all language instruction must always be authentic: grammar, pronunciation, etc. This goes against notions that L2 subjects will eventually iron out their language errors (fossilization)
- Meaningful speech production is the aim from the start.

* Instruction methods strive to facilitate early language usage in any way possible.

=> Cognitive Approach (Chomsky vs. Skinner, Pinker, Clahsen & Muysken)
- Language learning is viewed as rule acquisition and cognitive—not habit forming
- Grammar must be taught--inductively (rules after practice) or deductively (practice after rules)
- Focus on Analyses of language

* Instruction methods incorporate what we have learned in the linguistic—psychological schools notably driven by Noam Chomsky.

3.2 An Integrated Approach

=> The Role of Teaching Literature in ESL/EFL Today
- Vocabulary: Culture tied idioms and expressions vs. the universals of story telling.
- Grammar: Syntax in context—grammar analyses within the reading.
- As a source for writing—rich context, as a springboard for personal writing, etc.
- Speaking may be pursued via oral presentation—with readings again serving as a springboard for individual presentation topics.
- Oral Reading: Oral presentations may be initiated as a writing assignment, and then carried over as a speaking presentation (with reading involved as an option).
- Group Activities

3.3 Approaches
Assigned Readings in Celce-Murcia

> => *Approaches*   Language Teaching Approaches
> Cornerstones of Method
>   and Names of the Profession
> Innovative Approaches

(Abstracts & Presentations)

References

Bickerton, D. (1990) *Language and Species*. University of Chicago Press

Celce-Murcia, M. (ed. 1991) *Teaching English as a Second or Foreign Language.* Heinle & Heinle Pub.

Chomsky, N. (1959) Review of B.F. Skinner *Verbal Behavior. Language,* 35, 26-58.

-----(1965) *Aspects of the Theory of Syntax.* Cambridge, Mass. Press.

-----(1981) 'Principles and Parameters in Syntactic Theory'. In *Explanation in Linguistics: The logical problem of language acquisition.* (eds) N. Hornstein and D. Lightfoot. Longman: London.

Clahsen, H. & Muysken, P. (1986) 'The Availability of Universal Grammar to Adult and Child Learners'. *Second Language Research*. 2, 93-119

Cook, V.J. (1988) *Chomsky's Universal Grammar: An Introduction*. Blackwell: Oxford. (ms. 1994) *The Metaphor of Access to Universal Grammar in L2 Learning*. University of Essex (Appears in Implicit and Explicit Learning of Language: Academic Press. isbn 0-12-237475-4)

Felix, S. (1981) 'On the (in)applicability of Piagetian thought to language learning'. *Studies in Second Language Acquisition.* 3: 201-20.

Galasso, J. (1999) *Interference in Second Language Acquisition: A Case Study into the Transfer of Functional Categories (Spanish to English).*

Gass, S. & Schachter, J. (1989)

Lenneberg, E. (1967) *Biological Foundations of Language*. Wiley Press: New York.

Meisel, J. Clahsen, H. Pienemann, M. (1981) 'On determining developmental stages in natural second language acquisition'. *Studies in Second Language Acquisition* 3: 109-35

O'Malley, J.M. & Chamot, A.U. (1990) *Learning Strategies in Second Language Acquisition*. Cambridge University Press.

Piatelli-Parmarini (ed. 1980) *Language and Learning: the debate between Jean Piaget and Noam Chomsky*. Routledge & Kegan Paul: London.

Pinker, S. (1984) *Language Learnability and Language Development*. Harvard Univ. Press: Cambridge, Mass

Radford, A. (1990) *Syntactic Theory and the Acquisition of English Syntax: The Nature of Early Child Grammars in English*. Blackwell: Oxford.

Radford, A. & Galasso, J. (1998) 'Children's Possessive Structures: A Case Study'. *Essex Research Reports in Linguistics.* 19, April 1998

Smith, N. I.M. Tsimpli (1995) *The Mind of a Savant: Language Learning and Modularity*. Blackwell: Oxford.