FIRST LANGUAGE

ACQUISITION

THE MARVELOUS capacity for acquiring competence in one's native language within the first few years of life has been a subject of interest for many centuries. Some one and a half millennia ago, St. Augustine offered in his *Confessions* a self-analysis of the acquisition of his own first language. "... And thus by constantly hearing words, as they occurred in various sentences, I collected gradually for what they stood; and having broken in my mouth to these signs, I thereby gave utterance to my will."

"Modern" research on child language acquisition dates back to the latter part of the eighteenth century, when the German philosopher Dietrich Tiedemann recorded his observations of the psychological and linguistic development of his young son. At the end of the nineteenth century, François Gouin observed the language acquisition of his nephew and from those insights derived what came to be known as the Series Method of foreign language teaching. Not until the second half of the twentieth century did researchers begin to analyze child language systematically and to try to discover the nature of the psycholinguistic process that enables every human being to gain fluent control of an exceedingly complex system of communication. In a matter of a few decades, some giant strides were taken, especially in the generative and cognitive models of language, in describing the acquisition of particular languages, and in probing universal aspects of acquisition.

This wave of research in child language acquisition led language teachers and teacher trainers to study some of the general findings of such research with a view to drawing analogies between first and second language acquisition, and even to justifying certain teaching methods and techniques on the basis of first language learning principles. On the surface, it is entirely reasonable to make the analogy. After all, all children, given a normal developmental environment, acquire their native languages fluently and efficiently; moreover, they acquire them "naturally," without special instruction, although not without significant effort and attention to language. The direct comparisons must be treated with caution, however. There are dozens of salient differences between first and second language learning; the most obvious difference, in the case of adult second language learning, is the tremendous cognitive and affective contrast between adults and children. A detailed examination of these differences is made in Chapter 3.

This chapter is designed to outline issues in first language learning as a foundation on which you can build an understanding of principles of second language learning. A coherent grasp of the nature of first language learning is an invaluable aid, if not an essential component, in the construction of a theory of second language acquisition. This chapter provides an overview of various theoretical positions—positions that can be related to the paradigms discussed in Chapter 1—in first language acquisition, and a discussion of some key issues in first language acquisition that are particularly significant for an understanding of second language acquisition.

THEORIES OF FIRST LANGUAGE ACQUISITION

Everyone at some time has witnessed the remarkable ability of children to communicate. As small babies, children babble and coo and cry and vocally or nonvocally send an extraordinary number of messages and receive even more messages. As they reach the end of their first year, children make specific attempts to imitate words and speech sounds they hear around them, and about this time they utter their first "words." By about 18 months of age, these words have multiplied considerably and are beginning to appear in two-word and three-word "sentences"—commonly referred to as "telegraphic" utterances—such as the following (Clark, 2003):

all gone milk	shoe off	baby go boom
bye-bye Daddy	Mommy sock	put down floor
gimme toy	there cow	this one go bye

The production tempo now begins to increase as more and more words are spoken every day and more and more combinations of multi-word sentences are uttered. By two years of age, children are comprehending more sophisticated language and their production repertoire is mushrooming, even to forming questions and negatives (Clark, 2003):

where my mitten?	that not rabbits house
what Jeff doing?	I don't need pants off
why not me sleeping?	that not red, that blue

By about age 3, children can comprehend an amazing quantity of linguistic input. Their speech and comprehension capacity geometrically increases as they become the generators of nonstop chattering and incessant conversation, language thereby becoming a mixed blessing for those around them! Their creativity alone brings smiles to parents and older siblings (O'Grady, 2005, p. 17):

Erase the window, Daddy. [upon seeing a frosted window in the winter]
Headlights . . . are lights that go on in the head.
Is this where you get safe? 'Cause this is Safeway and you get safe from the cold. [3-year-old in a Safeway supermarket]

This fluency and creativity continues into school age as children internalize increasingly complex structures, expand their vocabulary, and sharpen communicative skills. At school age, children not only learn what to say but what *not* to say as they learn the social functions of their language.

How can we explain this fantastic journey from that first anguished cry at birth to adult competence in a language? From the first word to tens of thousands? From telegraphese at 18 months to the compound-complex, cognitively precise, sociocultural appropriate sentences just a few short years later? These are the sorts of questions that theories of language acquisition attempt to answer.

In principle, one could adopt one of two polarized positions in the study of first language acquisition. Using the schools of thought referred to in the previous chapter, an extreme behaviorist position would claim that children come into the world with a ***tabula rasa***, a clean slate bearing no preconceived notions about the world or about language, and that these children are then shaped by their environment and slowly conditioned through various schedules of reinforcement. At the other constructivist extreme is the position that makes not only the cognitivist claim that children come into this world with very specific innate knowledge, predispositions, and biological timetables, but that children learn to function in a language chiefly through interaction and discourse.

These positions represent opposites on a continuum, with many possible positions in between. Three such points are explained in this chapter. The first (behaviorist) position is set in contrast to the second (nativist) and third (functional) positions.

Behavioral Approaches

Language is a fundamental part of total human behavior, and behavioral psychologists examined it as such and sought to formulate consistent theories of first language acquisition. The behavioral approach focused on the immediately perceptible aspects of linguistic behavior—the publicly observable responses—and the relationships or associations between those responses and events in the world surrounding them. A behaviorist might consider effective language behavior to be the production of correct responses to stimuli. If a particular response is reinforced, it then becomes habitual, or conditioned. Thus children produce linguistic responses that are reinforced. This is true of their comprehension as well as production responses, although to consider comprehension is to wander just a bit out of the publicly observable realm. One learns to comprehend an utterance by responding appropriately to it and by being reinforced for that response.

One of the best-known attempts to construct a behavioral model of linguistic behavior was embodied in B. F. Skinner's classic, *Verbal Behavior* (1957). Skinner was commonly known for his experiments with animal behavior, but he also gained recognition for his contributions to education through teaching machines and programmed learning (Skinner, 1968). Skinner's theory of verbal behavior was an extension of his general theory of learning by **operant conditioning**.

Operant conditioning refers to conditioning in which the organism (in this case, a human being) emits a response, or **operant** (a sentence or utterance), without necessarily observable stimuli; that operant is maintained (learned) by reinforcement (for example, a positive verbal or nonverbal response from another person). If a child says "want milk" and a parent gives the child some milk, the operant is reinforced and, over repeated instances, is conditioned. According to Skinner, verbal behavior, like other behavior, is controlled by its consequences. When consequences are rewarding, behavior is maintained and is increased in strength and perhaps frequency. When consequences are punishing, or when there is a total lack of reinforcement, the behavior is weakened and eventually extinguished.

Challenges to Behavioral Approaches

Skinner's theories attracted a number of critics, not the least among them Noam Chomsky (1959), who penned a highly critical review of *Verbal Behavior*. Some years later, however, Kenneth MacCorquodale (1970) published a reply to Chomsky's review in which he eloquently defended Skinner's points of view. And so the controversy raged on. Today virtually no one would agree that Skinner's model of verbal behavior adequately accounts for the capacity to acquire language, for language development itself, for the abstract nature of language, or for a theory of meaning. A theory based on conditioning and reinforcement is hard-pressed to explain the fact that every sentence you speak or write—with a few trivial exceptions—is novel, never before uttered either by you or by anyone else! These novel utterances are nevertheless created by very young children as they literally "play" with language, and that same creativity continues on into adulthood and throughout one's life.

In an attempt to broaden the base of behavioral theory, some psychologists proposed modified theoretical positions. One of these positions was **mediation theory**, in which meaning was accounted for by the claim that the linguistic stimulus (a word or sentence) elicits a "mediating" response that is self-stimulating. Charles Osgood (1953, 1957) called this self-stimulation a "representational mediation process," a process that is really covert and invisible, acting within the learner. It is interesting that mediation theory thus attempted to account for abstraction by a notion that reeked of "mentalism"—a cardinal sin for dyed-in-the-wool behaviorists! In fact, in some ways mediation theory was really a rational/cognitive theory masquerading as behavioral. Mediation theories still left many questions about language unanswered. The abstract nature of language and the relationship between meaning and utterance were unresolved. All sentences have deep structures—the level of underlying meaning that is only manifested overtly by surface structures. These deep structures are intricately interwoven in a person's total cognitive and affective experience. Such depths of language were scarcely plumbed by mediational theory.

Yet another attempt to account for first language acquisition within a behavioral framework was made by Jenkins and Palermo (1964). While admitting that

their conjectures were "speculative" and "premature" (p. 143), the authors attempted to synthesize notions of generative linguistics and mediational approaches to child language. They claimed that the child may acquire frames of a linear pattern of sentence elements and learn the stimulus-response equivalences that can be substituted within each frame; imitation was an important, if not essential, aspect of establishing stimulus-response associations. But this theory, too, failed to account for the abstract nature of language, for the child's creativity, and for the interactive nature of language acquisition.

It would appear that the rigor of behavioral psychology, with its emphasis on empirical observation and scientific methodology, only began to explain the miracle of language acquisition. It therefore opened the doors to new approaches which, with the tools of cognitive psychology, emphasized the presumed innate properties of language, and subsequently the importance of social interaction in child first language acquisition.

The Nativist Approach

The term **nativist** is derived from the fundamental assertion that language acquisition is innately determined, that we are born with a genetic capacity that predisposes us to a systematic perception of language around us, resulting in the construction of an internalized system of language.

Innateness hypotheses gained support from several sides. Eric Lenneberg (1967) proposed that language is a "species-specific" behavior and that certain modes of perception, categorizing abilities, and other language-related mechanisms are biologically determined. Chomsky (1965) similarly claimed the existence of innate properties of language to explain the child's mastery of a native language in such a short time despite the highly abstract nature of the rules of language. This innate knowledge, according to Chomsky, was embodied in a metaphorical "little black box" in the brain, a **language acquisition device** (LAD). McNeill (1966) described the LAD as consisting of four innate linguistic properties:

1. The ability to distinguish speech sounds from other sounds in the environment
2. The ability to organize linguistic data into various classes that can later be refined
3. Knowledge that only a certain kind of linguistic system is possible and that other kinds are not
4. The ability to engage in constant evaluation of the developing linguistic system so as to construct the simplest possible system out of the available linguistic input

McNeill and other researchers in the Chomskyan tradition composed eloquent arguments for the appropriateness of the LAD proposition, especially in contrast to behavioral, stimulus-response (S-R) theory, which was so limited in accounting for the creativity present in child language. The notion of linguistically oriented innate

predispositions fits perfectly with generative theories of language: children were presumed to use innate abilities to *generate* a potentially infinite number of utterances. Aspects of meaning, abstractness, and creativity were accounted for more adequately. Even though it was readily recognized that the LAD was not literally a cluster of brain cells that could be isolated and neurologically located, such inquiry on the cognitive side of the linguistic-psychological continuum stimulated a great deal of fruitful research.

More recently, researchers in the nativist tradition have continued this line of inquiry through a genre of child language acquisition research that focuses on what has come to be known as **Universal Grammar** (White, 2003; see also Gass & Selinker, 2001, pp. 168–191; Mitchell & Myles, 1998, pp. 42–71; Cook, 1993, pp. 200–245, for overviews). Assuming that all human beings are genetically equipped with abilities that enable them to acquire language, researchers expanded the LAD notion by positing a system of universal linguistic rules that went well beyond what was originally proposed for the LAD. Universal Grammar (UG) research attempts to discover what it is that all children, regardless of their environmental stimuli (the language[s] they hear around them) bring to the language acquisition process. Such studies have looked at question formation, negation, word order, discontinuity of embedded clauses ("The ball that's on the table is blue"), subject deletion ("Es mi hermano"), and other grammatical phenomena. (More details about UG are covered in a later section of this chapter.)

One of the more practical contributions of nativist theories is evident if you look at the kinds of discoveries that have been made about how the system of child language works. Research has shown that the child's language, at any given point, is a legitimate system in its own right. The child's linguistic development is not a process of developing fewer and fewer "incorrect" structures—not a language in which earlier stages have more "mistakes" than later stages. Rather, the child's language at any stage is **systematic** in that the child is constantly forming hypotheses on the basis of the input received and then testing those hypotheses in speech (and comprehension). As the child's language develops, those hypotheses are continually revised, reshaped, or sometimes abandoned.

Before generative linguistics came into vogue, Jean Berko (1958) demonstrated that children learn language not as a series of separate discrete items but as an integrated system. Using a simple nonsense-word test, Berko discovered that English-speaking children as young as four years of age applied rules for the formation of plural, present progressive, past tense, third singular, and possessives. She found, for example, that if children saw a drawing of an object labeled as a "wug" they could easily talk about two "wugs," or if they were presented with a person who knows how to "gling," children could talk about a person who "glinged" yesterday, or sometimes who "glang."

Nativist studies of child language acquisition were free to construct hypothetical **grammars** (that is, descriptions of linguistic systems) of child language, although such grammars were still solidly based on empirical data. These grammars were largely formal representations of the deep structure—the abstract rules underlying surface

output, the structure not overtly manifest in speech. Linguists began to examine child language from early one-, two-, and three-word forms of "telegraphese" (like "allgone milk" and "baby go boom" mentioned earlier) to the complex language of five- to ten-year-olds. Borrowing one tenet of structural and behavioral paradigms, they approached the data with few preconceived notions about what the child's language ought to be, and probed the data for internally consistent systems, in much the same way that a linguist describes a language in the "field."

CLASSROOM CONNECTIONS

Research Findings: Evidence of young children's production of "telegraphic" utterances of two and three word sentences appears to be universal. The language of children at the subsequent ages of 3, 4, 5, and even older (like the sentence, "Erase the window") brings a smile to adults' faces. All of this is a product of children's "creative construction" of language.

Teaching Implications: Adult learners of a second language are creative, but perhaps not in quite the same way. Telegraphic utterances seem to be the product of the intellectual maturation of children, and such childlike forms don't often appear in adults' language. But phonological, grammatical, lexical, and semantic creativity is quite evident. Consider English learners who have said: "I'm happy to get this burden out of my chest." "I like the [language learning] strategy of reproduction with a partner." "My lack of English is very frastlating to me." What examples of such creativity have your students shown in their learning? How do you respond to them?

A generative framework turned out to be ideal for describing such processes. The early grammars of child language were referred to as **pivot grammars**. It was commonly observed that the child's first two-word utterances seemed to manifest two separate word classes, and not simply two words thrown together at random. Consider the following utterances: "my cap"; "that horsie"; "bye-bye Jeff"; "Mommy sock." Linguists noted that the words on the left-hand side seemed to belong to a class that words on the right-hand side generally did not belong to. That is, *my* could co-occur with *cap, horsie, Jeff,* or *sock,* but not with *that* or *bye-bye. Mommy* is, in this case, a word that belongs in both classes. The first class of words was called "pivot," since they could pivot around a number of words in the

second, "open" class. Thus the first rule of the generative grammar of the child was described as follows:

Sentence $\mapsto$ pivot word + open word

Research data gathered in the generative framework yielded a multitude of such rules. Some of these rules appear to be grounded in the UG of the child. As the child's language matures and finally becomes adultlike, the number and complexity of generative rules accounting for language competence, of course, boggles the mind.

Challenges to Nativist Approaches

In subsequent years the generative "rule-governed" model in the Chomskyan tradition was challenged. The assumption underlying this tradition is that those generative rules, or "items" in a linguistic sense, are connected **serially**, with one connection between each pair of neurons in the brain. A "messier but more fruitful picture" (Spolsky, 1989, p. 149) was provided by what has come to be known as the **parallel distributed processing** (PDP) model, based on the notion that information is processed simultaneously at several levels of attention. As you read the words on this page, your brain is attending to letters, word juncture and meaning, syntactic relationships, textual discourse, as well as background experiences (schemata) that you bring to the text. A child's (or adult's) linguistic performance may be the consequence of many levels of simultaneous neural interconnections rather than a serial process of one rule being applied, then another, then another, and so forth.

A simple analogy to music may further illustrate this complex notion. Think of an orchestra playing a symphony. The score for the symphony may have, let's say, 12 separate parts that are performed simultaneously. The "symphony" of the human brain enables us to process many segments and levels of language, cognition, affect, and perception all at once—in a parallel configuration. And so, according to the PDP model, a sentence—which has phonological, morphological, syntactic, lexical, semantic, discourse, sociolinguistic, and strategic properties—is not "generated" by a series of rules (Ney & Pearson, 1990; Sokolik, 1990). Rather, sentences are the result of the simultaneous interconnection of a multitude of brain cells.

Closely related to the PDP concept is a branch of psycholinguistic inquiry called **connectionism** (Rumelhart & McClelland, 1986), in which neurons in the brain are said to form multiple connections: each of the 100 billion nerve cells in the brain may be linked to as many as 10,000 of its counterparts. In this approach, experience leads to learning by strengthening particular connections—sometimes at the expense of weakening others. For example, the first language acquisition of English regular past tense forms by children may proceed as a series of connections.

First, a child may confidently connect the form *went* with the verb *go*. Then, children will often perceive another connection, the regular *-ed* suffix attached to a verb, and start using the word *goed*. Finally, with more complex connections, children will perceive *goed* as incorrect, and maintain both connections, the *-ed* form connected to most verbs, and the *went* form as a special connection. "According to such accounts, there are no 'rules' of grammar. Instead, the systematicities of syntax emerge from the set of learned associations between language functions and base and past tense forms, with novel responses generated by 'online' generalizations from stored examples" (N. Ellis, 2003, p. 88).

Finally, in recent years a further development of connectionist models of language acquisition is seen in a position that oddly hearkens back to the spirit of behavioral approaches. **Emergentism**, a perspective, espoused by O'Grady (1999, 2003), MacWhinney (1999), and others, holds that "the complexity of language emerges from, relatively simple developmental process being exposed to a massive and complex environment. The interactions that constitute language are associations, billions of connections, which co-exist within a neural system as organisms co-exist within an eco-system. And systematicities emerge as a result of their interactions and mutual constraints" (N. Ellis, 2003, p. 81). This perspective disagrees sharply with earlier nativist views by suggesting that "there is no inborn Universal Grammar (i.e., no innate grammatical system)" (O'Grady, 1999, p. 623).

Emergentism perhaps represents a more cautious approach to a theory of language acquisition than was evident in the early nativist claims, some arguments (Schwartz, 1999) notwithstanding. By attending more judiciously to observable linguistic performance and to the identification of neurolinguistic components of language acquisition (Schumann et al., 2004), researchers can be more cautious about making too strongly "mentalistic" claims about the psychological reality of rule construction in language acquisition.

Approaches from within the nativist framework—as well as the challenges just outlined above—have made several important contributions to our understanding of the first language acquisition process:

1. Freedom from the restrictions of the so-called "scientific method" to explore the unseen, unobservable, underlying, abstract linguistic structures being developed in the child
2. The construction of a number of potential properties of Universal Grammar, through which we can better understand not just language acquisition but the nature of human languages in general
3. Systematic description of the child's linguistic repertoire as either rule-governed, or operating out of parallel distributed processing capacities, or the result of experiential establishment of connections

Functional Approaches

More recently, with an increase in constructivist perspectives on the study of language, we have seen a shift in patterns of research. The shift has not been so much away from the generative/cognitive side of the continuum, but perhaps better described as a move even more deeply into the essence of language. Two emphases have emerged: (1) Researchers began to see that language was just one manifestation of the cognitive and affective ability to deal with the world, with others, and with the self. (2) Moreover, the generative rules that were proposed under the nativist framework were abstract, formal, explicit, and quite logical, yet they dealt specifically with the **forms** of language and not with the the deeper **functional** levels of meaning constructed from social interaction. Examples of forms of language are morphemes, words, sentences, and the rules that govern them. Functions are the meaningful, interactive purposes within a social (pragmatic) context that we accomplish with the forms.

Cognition and Language Development

Lois Bloom (1971) cogently illustrated the first issue in her criticism of pivot grammar when she pointed out that the relationships in which words occur in telegraphic utterances are only superficially similar. For example, in the utterance "Mommy sock," which nativists would describe as a sentence consisting of a pivot word and an open word, Bloom found at least three possible underlying relations: agent-action (Mommy is putting the sock on), agent-object (Mommy sees the sock), and possessor-possessed (Mommy's sock). By examining data in reference to contexts, Bloom concluded that children learn underlying structures, and not superficial word order. Thus, depending on the social context, "Mommy sock" could mean a number of different things to a child. Those varied meanings were inadequately captured in a pivot grammar approach.

Lewis Carroll aptly captured this characteristic of language in *Through the Looking Glass* (1872), where Alice argues with Humpty Dumpty about the meanings of words:

> "When I use a word," Humpty Dumpty said, in a rather scornful tone, "it **means** just what I choose it to mean—neither more nor less."
> "The **question is**," said Alice, "whether you cán make words mean so many different things."
> "The **question is**," said Humpty Dumpty, "which is to be master— that's all."

Bloom's research, along with that of Jean Piaget, Dan Slobin, and others, paved the way for a new wave of child language study, this time centering on the relationship of cognitive development to first language acquisition. Piaget (1955; Piaget & Inhelder, 1969) described overall development as the result of children's interaction with their environment, with an interaction between their developing perceptual

cognitive capacities and their linguistic experience. According to Piaget, what children learn about language is determined by what they already know about the world, a point of view that others (Vygotsky, 1978, for example) have claimed is too unidirectional. Gleitman and Wanner (1982, p. 13) noted in their review of the state of the art in child language research, "children appear to approach language learning equipped with conceptual interpretive abilities for categorizing the world. . . . Learners are biased to map each semantic idea on the linguistic unit *word.*"

Dan Slobin (1971, 1986, 1997), among others, demonstrated that in all languages, semantic learning depends on cognitive development and that sequences of development are determined more by semantic complexity than by structural complexity. "There are two major pacesetters to language development, involved with the poles of function and of form: (1) on the functional level, development is paced by the growth of conceptual and communicative capacities, operating in conjunction with innate schemas of cognition; and (2) on the formal level, development is paced by the growth of perceptual and information-processing capacities, operating in conjunction with innate schemas of grammar" (Slobin, 1986, p. 2). Bloom (1976, p. 37) noted that "an explanation of language development depends upon an explanation of the cognitive underpinnings of language: what children know will determine what they learn about the code for both speaking and understanding messages." So child language researchers began to tackle the child's acquisition of the functions of language, and the relationships of the forms of language to those functions.

Social Interaction and Language Development

In recent years, it has become quite clear that language functioning extends well beyond cognitive thought and memory structure. Here we see the second, social constructivist emphasis of the functional perspective. Holzman (1984, p. 119), in her "reciprocal model" of language development, proposed that "a reciprocal behavioral system operates between the language-developing infant-child and the competent [adult] language user in a socializing-teaching-nurturing role." Some research (Berko-Gleason, 1988; Lock, 1991) looked at the interaction between the child's language acquisition and the learning of how social systems operate in human behavior. Other investigations of child language (for example, Budwig, 1995; Kuczaj, 1984) centered on one of the thorniest areas of linguistic research: the function of language in **discourse**. Since language is used for interactive communication, it is only fitting that one study the communicative functions of language: What do children know and learn about talking with others? About connected pieces of discourse (relations between sentences)? The interaction between hearer and speaker? Conversational cues? Within such a perspective, the very heart of language—its communicative and pragmatic function—is being tackled in all its variability (Clark, 2003; O'Grady, 2005).

Of interest in this genre of research is the renewed interest in the performance level of language. All those overt responses that were so carefully observed

by structuralists and hastily weeded out as "performance variables" by generative linguists in their zeal to get at "competence" have now returned to the forefront. Hesitations, pauses, backtracking, and the like are indeed significant conversational cues. Even some of the contextual categories described by—of all people—Skinner, in *Verbal Behavior*, turn out to be relevant! The linguist can no longer deal with abstract, formal rules without dealing with all those minutiae of day-to-day performance that were previously set aside in a search for systematicity.

Several theoretical positions have been sketched out here. (See Figure 2.1 for a summary.) A complete, consistent, unified theory of first language acquisition cannot yet be claimed; however, child language research has manifested some enormous strides toward that ultimate goal. And even if all the answers are far from evident, maybe we are asking more of the right questions.

We turn now to a number of issues in first language acquisition—key questions and problems that have been and are being addressed by researchers in the field. A study of these issues will help you to round out your understanding of the nature of child language acquisition.
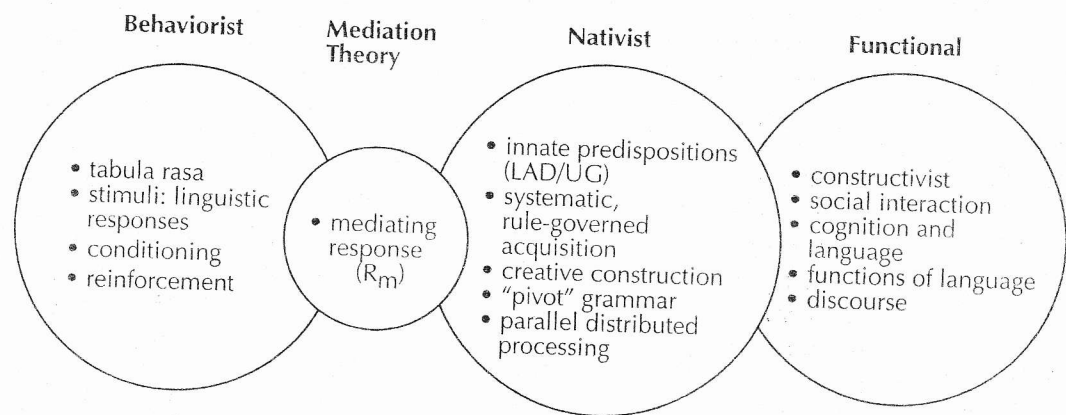
Behaviorist

- tabula rasa
- stimuli: linguistic responses
- conditioning
- reinforcement

Mediation Theory

- mediating response (R_m)

Nativist

- innate predispositions (LAD/UG)
- systematic, rule-governed acquisition
- creative construction
- "pivot" grammar
- parallel distributed processing

Functional

- constructivist
- social interaction
- cognition and language
- functions of language
- discourse

Figure 2.1. Theories of first language acquisition

ISSUES IN FIRST LANGUAGE ACQUISITION

Competence and Performance

For centuries scientists and philosophers have drawn basic distinction between competence and performance. **Competence** refers to one's underlying knowledge of a system, event, or fact. It is the nonobservable *ability* to do something, to perform something. **Performance** is the overtly observable and concrete manifestation or realization of competence. It is the *actual doing* of something: walking, singing, dancing, speaking. In technological societies we have used the competence-performance distinction in all walks of life. In our schools, for example, we have

assumed that children possess certain competence in given areas and that this competence can be measured and assessed by means of the observation of elicited samples of performance called "tests" and "examinations."

In reference to language, competence is one's underlying knowledge of the system of a language—its rules of grammar, its vocabulary, all the pieces of a language and how those pieces fit together. Performance is actual production (speaking, writing) or the comprehension (listening, reading) of linguistic events. Chomsky (1965) likened competence to an "idealized" speaker-hearer who does not display such performance variables as memory limitations, distractions, shifts of attention and interest, errors, and hesitation phenomena, such as repeats, false starts, pauses, omissions, and additions. Chomsky's point was that a theory of language had to be a theory of competence lest the linguist try in vain to categorize an infinite number of performance variables that are not reflective of the underlying linguistic ability of the speaker-hearer.

The distinction is one that linguists and psychologists in the generative/cognitive framework have operated under for some time, a mentalistic construct that structuralists and behaviorists obviously did not deal with: How could one scientifically assess this unobservable, underlying level? Brown and Bellugi (1964) gave us a delightful example of the difficulty of attempting to extract underlying grammatical knowledge from children. Unlike adults, who can be asked, for example, whether it is better to say "two foots" or "two feet," children exhibit what is called the "pop-go-weasel" effect, as witnessed in the following dialogue between an adult and a two-year-old child:

> **Adult:** Now Adam, listen to what I say. Tell me which is better to say:
> *some water* or *a water?*
> **Adam:** Pop go weasel.

The child obviously had no interest in—or cognizance of—the adult's grammatical interrogation and therefore said whatever he wanted to! The researcher is thus forced to devise indirect methods of judging competence. Among those methods are the tape recording and transcription of countless hours of speech followed by rigorous analysis, and/or the direct administration of certain imitation, production, or comprehension tests, all with numerous disadvantages. How is one, for example, to infer some general competence about the linguistic system of a five-year-old, monolingual, English-speaking girl whose recounting of an incident viewed on television is transcribed below:

> they heared 'em underground ca-cause they went through a hoyle—
> a hole—and they pulled a rock from underground and then they saw
> a wave going in—that the hole—and they brought a table and the
> wave brought 'em out the k—tunnel and then the—they went away
> and then—uh—m—ah—back on top and it was—uh—going under a
> bridge and they went—then the braves hit the—the bridge—they—
> all of it—th-then they looked there—then they—then they were safe.

On the surface it might appear that this child is severely impaired in her attempts to communicate. In fact, I once presented this same transcript, without identification of the speaker, to a group of speech therapists and asked them to analyze the various possible "disorders" manifested in the data. After they cited quite a number of technical manifestations of aphasia, I gleefully informed them of the real source! The point is that every day in our processing of linguistic data, we comprehend such strings of speech and comprehend them rather well because we know something about storytelling, about hesitation phenomena, and about the context of the narrative.

If we were to record many more samples of the five-year-old's speech, we would still be faced with the problem of inferring her competence. What is her knowledge of the verb system? Of the concept of a "sentence"? Even if we administer rather carefully designed tests of comprehension or production to a child, we are still left with the problem of inferring, as accurately as possible, the child's underlying competence. Continued research helps us to confirm those inferences through multiple observations.

Adult talk, incidentally, is often no less fraught with monstrosities, as we can see in the following verbatim transcription of comments made on a talk show by a professional golfer discussing tips on how to improve a golf game.

> Concentration is important. But uh—I also—to go with this of course if you're playing well—if you're playing well then you get up-tight about your game. You get keyed up and it's easy to concentrate. You know you're playing well and you know . . . in with a chance than it's easier, much easier to—to you know get in there and—and start to . . . you don't have to think about it. I mean it's got to be automatic.

Perhaps the guest would have been better off if he had simply uttered the very last sentence and omitted all the previous verbiage!

The competence–performance model has not met with universal acceptance. Major criticisms of the model focus on the notion that competence, as defined by Chomsky, consists of the abilities of an "idealized" hearer-speaker, devoid of any so-called performance variables. Stubbs (1996), reviewing the issue, reminded us of the position of British linguists Firth and Halliday: dualisms are unnecessary, and the only option for linguists is to study language in use. Tarone (1988) pointed out that idealizing the language user disclaims responsibility for a number of linguistic goofs and slips of the tongue that may well arise from the context within which a person is communicating. In other words, all of a child's (or adult's) slips and hesitations and self-corrections are potentially connected to what Tarone calls **heterogeneous competence**—abilities that are in the process of being formed. So, while we may be tempted to claim that the five-year-old quoted above knows the difference, say, between a "hole" and a "hoyle," we must not too quickly pass off the latter as an irrelevant slip of the tongue.

What can we conclude about language acquisition theory based on a competence-performance model? A cautious approach to inferring someone's competence will allow you to draw some conclusions about overall ability while still leaving the door open for some significance to be attributed to those linguistic tidbits that you might initially be tempted to discount.

Comprehension and Production

Not to be confused with the competence-performance distinction, comprehension and production can be aspects of *both* performance and competence. One of the myths that has crept into some foreign language teaching materials is that **comprehension** (listening, reading) can be equated with competence, while **production** (speaking, writing) is performance. It is important to recognize that this is not the case: production is of course more directly observable, but comprehension is as much performance—a "willful act," to use Saussure's term—as production is.

In child language, most observational and research evidence points to the general superiority of comprehension over production: children seem to understand "more" than they actually produce. For instance, a child may understand a sentence with an embedded relative in it (e.g., "The ball that's in the sandbox is red") but not be able to produce one. W. R. Miller (1963, p. 863) gave us a good example of this phenomenon in phonological development: "Recently a three-year-old child told me her name was Litha. I answered 'Litha?' 'No, Litha.' 'Oh, Lisa.' 'Yes, Litha.'" The child clearly perceived the contrast between English *s* and *th*, even though she could not produce the contrast herself.

How are we to explain this difference, this apparent "lag" between comprehension and production? We know that even adults understand more vocabulary than they ever use in speech, and also perceive more syntactic variation than they actually produce. Could it be that the same competence accounts for both modes of performance? Or can we speak of comprehension competence as something that is identified as separate from production competence? Because comprehension for the most part runs ahead of production, is it more completely indicative of our overall competence? Is production indicative of a smaller portion of competence? Surely not. It is therefore necessary to make a distinction between production competence and comprehension competence. A theory of language must include some accounting of the separation of the two types of competence. In fact, linguistic competence no doubt has several modes or levels, at least as many as four, since speaking, listening, reading, and writing are all separate modes of performance.

Perhaps an even more compelling argument for the separation of competencies comes from research that appears to support the superiority of production over comprehension. Gathercole (1988) reported on a number of studies in which children were able to produce certain aspects of language they could not comprehend. For example, Rice (1980) found that children who did not previously know terms for color were able to respond verbally to such questions as "What color is

CLASSROOM CONNECTIONS

Research Findings: There is wide evidence of children's ability to comprehend quantitatively more language than they can produce. The same is true of adults, in both foreign and native languages. We can take in words, phrases, grammar, styles, and discourse that we never actually produce.

Teaching Implications: James Asher's (1977) "comprehension approach" to learning foreign languages was at the time billed as a revolution in language teaching. It was echoed in Stephen Krashen's model that stressed comprehensible input as crucial in learning a language successfully (see Chapter 10). How much time do you think should be devoted to comprehension (listening, reading) in a foreign language class? What difference might the students' level of proficiency make in determining how much time to spend on comprehension and production?

this?" But they were not able to respond correctly (by giving the correct colored object) to "Give me the [color] one." While lexical and grammatical instances of production before comprehension seem to be few in number, it still behooves us to be wary in concluding that *all* aspects of linguistic comprehension precede, or facilitate, linguistic production.

Nature or Nurture?

Nativists contend that a child is born with an innate knowledge of or predisposition toward language, and that this innate property (the LAD or UG) is universal in all human beings. The innateness hypothesis was a possible resolution of the contradiction between the behavioral notion that language is a set of habits that can be acquired by a process of conditioning and the fact that such conditioning is much too slow and inefficient a process to account for the acquisition of a phenomenon as complex as language.

But the innateness hypothesis presented a number of problems itself. One of the difficulties has already been discussed in this chapter: the LAD proposition simply postpones facing the central issue of the nature of the human being's capacity for language acquisition. Having thus "explained" language acquisition, one must now scientifically explain the genetic transmission of linguistic ability—which we cannot yet do with certainty. And, of course, scholars taking an emergentist perspective continue to challenge the notion that what is innate is grammatical or linguistic at all. On the other hand, while the LAD remains a tentative hypothesis,

I think we can take heart in slowly mounting genetic (scientific) evidence of the transmission of certain abilities, and assume that among those abilities we will one day find hard evidence of "language genes."

We must not put all our eggs in the innateness basket. Environmental factors cannot by any means be ignored, as connectionists and emergentists have shown. For years linguists, psychologists, and educators have been embroiled in the "nature-nurture" controversy: What are those behaviors that "nature" provides innately, in some sort of predetermined biological timetable, and what are those behaviors that are, by environmental exposure—by "nurture," by teaching—learned and internalized? We do observe that language acquisition is universal, that every child acquires language. But how are the efficiency and success of that learning determined by the environment the child is in? Or by the child's individual construction of linguistic reality in interaction with others? The waters of the innateness hypothesis are considerably muddied by such questions.

An interesting line of research on innateness was pursued by Derek Bickerton (1981), who found evidence, across a number of languages, of common patterns of linguistic and cognitive development. He proposed that human beings are "bio-programmed" to proceed from stage to stage. Like flowering plants, people are innately programmed to "release" certain properties of language at certain developmental ages. Just as we cannot make a geranium bloom before its "time," so human beings will "bloom" in predetermined, preprogrammed steps.

Universals

Closely related to the innateness controversy is the claim that language is universally acquired in the same manner, and moreover, that the deep structure of language at its deepest level may be common to all languages. Decades ago Werner Leopold (1949), who was far ahead of his time, made an eloquent case for certain phonological and grammatical universals in language. Leopold inspired later work by Greenberg (1963, 1966), Bickerton (1981), Slobin (1986, 1992, 1997), and White (1989, 2003), among others.

Currently, as noted earlier in this chapter, research on Universal Grammar continues this quest. One of the keys to such inquiry lies in research on child language acquisition across many different languages in order to determine the commonalities. Slobin (1986, 1992, 1997) and his colleagues gathered data on language acquisition in, among others, Japanese, French, Spanish, German, Polish, Hebrew, and Turkish. Interesting universals of pivot grammar and other telegraphese emerged. Maratsos (1988) enumerated some of the universal linguistic categories under investigation by a number of different researchers:

Word order
Morphological marking tone
Agreement (e.g., of subject and verb)
Reduced reference (e.g., pronouns, ellipsis) nouns and noun classes

Verbs and verb classes
Predication
Negation
Question formation

Much of current UG research is centered around what have come to be known as principles and parameters. **Principles** are invariable characteristics of human language that appear to apply to all languages universally, such as those listed above. Cook (1997, pp. 250–251) offered a simple analogy: Rules of the road in driving universally require the driver to keep to one side of the road; this is a principle. But in some countries you must keep to the left (e.g., the United Kingdom, Japan) and in others keep to the right (e.g., the United States, Taiwan); the latter is a parameter. So, **parameters** vary across languages. White (2003, p. 9) notes that "UG includes principles with a limited number of built-in options (*settings* or *values*), which allow for cross-linguistic variation. Such principles are known as *parameters*." If, for example, all languages adhere to the principle of assigning meaning to word order, then depending on the specific language in question, variations in word order (e.g., subject-verb-object; subject-object-verb, etc.) will apply.

According to some researchers, the child's initial state is said to "consist of a set of universal principles which specify some limited possibilities of variation, expressible in terms of parameters which need to be fixed in one of a few possible ways" (Saleemi, 1992, p. 58). In simpler terms, this means that the child's task of language learning is manageable because of certain naturally occurring constraints. For example, the principle of **structure dependency** "states that language is organized in such a way that it crucially depends on the structural relationships between elements in a sentence (such as words, morphemes, etc.)" (Holzman, 1998, p. 49). Take, for example, the following sentences:

1. The boy kicked the ball.
2. The boy that's wearing a red shirt and standing next to my brother kicked the ball.
3. She's a great teacher.
4. Is she a great teacher?

The first two sentences rely on a structural grouping, characteristic of all languages, called "phrase," or more specifically, "noun phrase." Without awareness of such a principle, someone would get all tangled up in sentence (2). Likewise, the principle of word order permutation allows one to perceive the difference between (3) and (4). Children, of course, are not born with such sophisticated perceptions of language; in fact, sentences like (2) are incomprehensible to most native English-speaking children until about the age of 4 or 5. Nevertheless, the principle of structure dependency eventually appears in both the comprehension and production of the child.

According to UG, languages cannot vary in an infinite number of ways. Parameters determine ways in which languages can vary. Just one example should suffice to illustrate. One parameter, known as "head parameter," specifies the position of the "head" of a phrase in relation to its complements in the phrase. While these positions vary across languages, their importance is primary in all languages. Languages are either "head first" or "head last." English is a typical head-first language, with phrases like "the boy that's wearing a red shirt" and "kicked the ball." Japanese is a head-last language, with sentences like "wa kabe ni kakkatte imasu" (picture wall on is hanging) (from Cook & Newson, 1996, p. 14).

Systematicity and Variability

One of the assumptions of a good deal of current research on child language is the **systematicity** of the process of acquisition. From pivot grammar to three- and four-word utterances, and to full sentences of almost indeterminate length, children exhibit a remarkable ability to infer the phonological, structural, lexical, and semantic system of language. Ever since Berko's (1958) groundbreaking "wug" study, we have been discovering more and more about the systematicity of the acquisition process.

But in the midst of all this systematicity, there is an equally remarkable amount of **variability** in the process of learning! Researchers do not agree on how to define various "stages" of language acquisition, even in English. Certain "typical" patterns appear in child language. The example, cited earlier, of children's learning of past tense forms of verbs like *go* offers an illustration of the difficulty of defining stages. Young children who have not yet mastered the past tense morpheme tend first to learn past tenses as separate items ("walked," "broke," "drank") without knowledge of the difference between regular and irregular verbs. Then, around the age of 4 or 5, they begin to perceive a system in which the *-ed* morpheme is added to a verb, and at this point all verbs become regularized ("breaked," "drinked," "goed"). Finally, after early school age, children perceive that there are two classes of verbs, regular and irregular, and begin to sort out verbs into the two classes, a process that goes on for many years and in some cases persists into young adulthood.

In both first and second language acquisition, the problem of variability is being carefully addressed by researchers (Gass & Selinker, 2001; Bayley & Preston, 1996; Tarone, 1988). One of the major current research problems is to account for all this variability: to determine if what is now variable in our present point of view can some day be deemed systematic through such careful accounting.

Language and Thought

For years researchers have probed the relationship between language and cognition. The behavioral view that cognition is too mentalistic to be studied by the scientific method is diametrically opposed to such positions as that of Piaget (1972), who

claimed that cognitive development is at the very center of the human organism and that language is dependent upon and springs from cognitive development.

Others emphasized the influence of language on cognitive development. Jerome Bruner (Bruner, Olver, & Greenfield, 1966), for example, singled out sources of language-influenced intellectual development: words shaping concepts, dialogues between parent and child or teacher and child serving to orient and educate, and other sources. Vygotsky (1962, 1978) also differed from Piaget in claiming that social interaction, through language, is a prerequisite to cognitive development. Thought and language were seen as two distinct cognitive operations that grow together (Schinke-Llano, 1993). Moreover, every child reaches his or her potential development, in part, through social interaction with adults and peers, as demonstrated earlier in Vygotsky's (1978) zone of proximal development (ZPD).

One of the champions of the position that language affects thought was Benjamin Whorf, who with Edward Sapir formed the well-known Sapir-Whorf hypothesis of linguistic relativity—namely, that each language imposes on its speaker a particular "worldview." (See Chapter 7 for more discussion of the Sapir-Whorf hypothesis.)

The issue at stake in child language acquisition is to determine how thought affects language, how language affects thought, and how linguists can best describe and account for the interaction of the two. While we do not have complete answers, it is clear that research has pointed to the fact that cognitive and linguistic development are inextricably intertwined with dependencies in both directions. And we do know that language is a way of life, is at the foundation of our being, and interacts simultaneously with thoughts and feelings.

Imitation

It is a common informal observation that children are good imitators. We think of children typically as imitators and mimics, and then conclude that imitation is one of the important strategies a child uses in the acquisition of language. That conclusion is not inaccurate on a global level. Indeed, research has shown that **echoing** is a particularly salient strategy in early language learning and an important aspect of early phonological acquisition. Moreover, imitation is consonant with behavioral principles of language acquisition—principles relevant, at least, to the earliest **stages**.

But it is important to ask what type of imitation is implied. Behaviorists assume one type of imitation, but a deeper level of imitation is far more important in the process of language acquisition. The first type is surface-structure imitation, where a person repeats or mimics the surface strings, attending to a phonological code rather than a semantic code. It is this level of imitation that enables an adult to repeat random numbers or nonsense syllables, or even to mimic nonsense syllables. The semantic data, if any, underlying the surface output are perhaps only peripherally attended to. In foreign language classes, rote pattern drills often evoke surface imitation: a repetition of sounds by the student without the vaguest understanding of what the sounds might possibly mean.

The earliest stages of child language acquisition may manifest a good deal of surface imitation since the baby may not possess the necessary semantic categories to assign "meaning" to utterances. But as children perceive the importance of the semantic level of language, they attend to a greater extent to that meaningful semantic level—the deep structure of language. They engage in deep-structure imitation. In fact, the imitation of the deep structure of language can literally block their attention to the surface structure so that they become, on the face of it, poor imitators. Look at the following conversation as recorded by McNeill (1966, p. 69):

> **Child:** Nobody don't like me.
> **Mother:** No, say "nobody likes me."
> **Child:** Nobody don't like me. [*eight repetitions of this exchange*]
> **Mother:** No, now listen carefully; say "nobody likes me."
> **Child:** Oh! Nobody don't likes me.

You can imagine the frustration of both mother and child, for the mother was attending to a rather technical, surface grammatical distinction, and yet the child sought to derive some meaning value. The child was expressing a deep feeling, while the mother was concerned about grammar!

Or, consider this adult-child exchange (Cazden, 1972, p. 92):

> **Child:** My teacher holded the baby rabbits and we patted them.
> **Adult:** Did you say your teacher held the baby rabbits?
> **Child:** Yes.
> **Adult:** What did you say she did?
> **Child:** She holded the baby rabbits and we patted them.
> **Adult:** Did you say she held them tightly?
> **Child:** No, she holded them loosely.

No amount of indirect modeling of the correct form of the irregular past tense could persuade this child to alter her production. Her comprehension of the adult's past tense form, of course, was perfect.

Another case in point occurred one day when the teacher of an elementary school class asked her pupils to write a few sentences on a piece of paper, to which one rather shy pupil responded, "Ain't got no pencil." Disturbed at this nonstandard response, the teacher embarked on a barrage of corrective models for the child: "I don't have any pencils, you don't have a pencil, they don't have pencils...." When the teacher finally ended her monologue of patterns, the intimidated and bewildered child said, "Ain't nobody got no pencils?" The teacher's purpose was lost on this child because he too was attending to language as a meaningful and communicative tool, and not to the question of whether certain forms were "correct" and others were not. The child, like the children in the other examples, was attending to the **truth value** of the utterance.

Research has also shown that children, when explicitly asked to repeat a sentence in a test situation, will often repeat the correct underlying deep structure with a change in the surface rendition. For example, sentences such as "The ball that is rolling down the hill is black" and "The boy who's in the sandbox is wearing a red shirt" tend to be repeated back by preschool children as "The black ball is rolling down the hill" and "The red boy is in the sandbox" (Brown, 1970). Children are excellent imitators. It is simply a matter of understanding exactly what it is that they are imitating.

Practice and Frequency

Closely related to the notion of imitation is a somewhat broader question, the nature of **practice** in child language. Do children practice their language? If so, how? What is the role of the **frequency** of hearing and producing items in the acquisition of those items? It is common to observe children and conclude that they "practice" language constantly, especially in the early stages of single-word and two-word utterances. A behavioral model of first language acquisition would claim that practice—repetition and association—is the key to the formation of habits by operant conditioning.

One unique form of practice by a child was recorded by Ruth Weir (1962). She found that her children produced rather long monologues in bed at night before going to sleep. Here is one example: "What color ... What color blanket ... What color mop ... What color glass ... Mommy's home sick ... Mommy's home sick ... Where's Mommy home sick ... Where's Mikey sick ... Mikey sick." Such monologues are not uncommon among children, whose inclination it is to "play" with language just as they do with all objects and events around them. Weir's data show far more structural patterning than has commonly been found in other data. Nevertheless, children's practice seems to be a key to language acquisition.

Practice is usually thought of as referring to speaking only. But one can also think in terms of comprehension practice, which is often considered under the rubric of the frequency of linguistic input to the child. Is the acquisition of particular words or structures directly attributable to their frequency in the child's linguistic environment? There is evidence that certain very frequent forms are acquired **first:** *what* questions, irregular past tense forms, certain common household items and persons. Brown and Hanlon (1970), for example, found that the frequency of occurrence of a linguistic item in the speech of mothers was an overwhelmingly strong predictor of the order of emergence of those items in their children's speech.

There are some conflicting data, however. Telegraphic speech is one case in point. Some of the most frequently occurring words in the language are omitted in such two- and three-word utterances. And McNeill (1968, p. 416) found that a Japanese child produced the Japanese postposition *ga* far more frequently and more correctly than another contrasting postposition *wa*, even though her mother was recorded as using *wa* twice as often as *ga*. McNeill attributed this finding to the fact

that *ga* as a subject marker is of more importance, grammatically, to the child, and she therefore acquired the use of that item since it was more meaningful on a deep-structure level. Another feasible explanation for that finding might lie in the easier pronunciation of *ga*.

The frequency issue may be summed up by noting that nativists who claim that "the relative frequency of stimuli is of little importance in language acquisition" (Wardhaugh, 1971, p. 12) might, in the face of evidence now available (Ellis, 2002), be more cautious in their claims. It would appear that frequency of *meaningful* occurrence may well be a more precise refinement of the notion of frequency.

CLASSROOM CONNECTIONS

Research Findings: While some recent research (Nick Ellis, 2002) now suggests a return to assigning prominence to the frequency of input for language acquisition, for decades the accepted norm was to consider meaningfulness as the key to learning, with secondary emphasis on frequency.

Teaching Implications: The Audiolingual Method, popular in the mid-twentieth century, placed almost exclusive value on frequency of input *and output* in eventual success in learning a language. The ALM was, of course, primarily influenced by a behavioral paradigm, in which conditioning was the key. Current language teaching methods—with their focus on meaning, interaction, and communication—operate on the assumption that frequency takes a backseat to meaningfulness. Do you think we should return to an ALM-like model? In what ways has your learning and teaching distributed frequency and meaningfulness in classroom activity?

Input

The role of input in the child's acquisition of language is undeniably crucial. Whatever one's position is on the innateness of language, the speech that young children hear is primarily the speech heard in the home, and much of that speech is parental speech or the speech of older siblings. Linguists once claimed that most adult speech is basically semigrammatical (full of performance variables), that children are exposed to a chaotic sample of language, and only their innate capacities can account for their successful acquisition of language. McNeill, for example,

wrote: "The speech of adults from which a child discovers the locally appropriate manifestation of the linguistic universals is a completely random, haphazard sample, in no way contrived to instruct the child on grammar" (1966, p. 73). However, Labov's (1970) studies showed that the presumed ungrammaticality of everyday speech appears to be a myth. Bellugi and Brown (1964) and Drach (1969) found that the speech addressed to children was carefully grammatical and lacked the usual hesitations and false starts common in adult-to-adult speech. Landes's (1975) summary of a wide range of research on parental input supported their conclusions. Later studies of parents' speech in the home (Hladik & Edwards, 1984; Moerk, 1985) confirmed earlier evidence demonstrating the selectivity of parental linguistic input to their children.

At the same time, it will be remembered that children react very consistently to the deep structure and the communicative function of language, and they do not react overtly to expansions and grammatical corrections as in the "nobody likes me" dialogue quoted above. Such input is largely ignored unless there is some truth or falsity that the child can attend to. Thus, if a child says "Dat Harry" and the parent says "No, that's *John*," the child might readily self-correct and say "Oh, dat *John*." But what Landes and others showed is that in the long run, children will, after consistent, repeated models in meaningful contexts, eventually transfer correct forms to their own speech and thus correct "dat" to "that's."

The importance of the issue lies in the fact that it is clear from more recent research that adult and peer input to the child is far more important than nativists earlier believed. Adult input seems to shape the child's acquisition, and the interaction patterns between child and parent change according to the increasing language skill of the child. Nurture and environment in this case are tremendously important, although it remains to be seen just how important parental input is as a proportion of total input.

Discourse

A subfield of research that is occupying the attention of an increasing number of child language researchers, especially in an era of social constructivist research, is the area of **conversational** or **discourse** analysis. While parental input is a significant part of the child's development of conversational rules, it is only one aspect, as the child also interacts with peers and, of course, with other adults. Berko-Gleason (1982, p. 20) described the perspective:

> While it used to be generally held that mere *exposure* to language is sufficient to set the child's language generating machinery in motion, it is now clear that, in order for successful first language acquisition to take place, *interaction*, rather than exposure, is required; children do not learn language from overhearing the conversations of others or from listening to the radio, and must, instead, acquire it in the context of being spoken to.

While conversation is a universal human activity performed routinely in the course of daily living, the means by which children learn to take part in conversation appear to be very complex. Sinclair and Coulthard (1975) proposed that conversations be examined in terms of **initiations** and **responses**. What might in a grammatical sentence-based model of language be described as sentences, clauses, words, and morphemes are viewed as transactions, exchanges, moves, and acts. The child learns not only how to initiate a conversation but also how to respond to another's initiating utterance. Questions are not simply questions, but are recognized functionally as requests for information, for action, or for help. At a relatively young age, children learn subtle differences between, say, assertions and challenges. They learn that utterances have both a literal and an intended or functional meaning. Thus, in the case of the question "Can you go to the movies tonight?" the response "I'm busy" is understood correctly as a negative response ("I can't go to the movies"). How do children learn discourse rules? What are the key features children attend to? How do they detect pragmatic or intended meaning? How are gender roles acquired? These and other questions about the acquisition of discourse ability are slowly being answered in the research (see Holmes, 1995, and Tannen, 1996).

Much remains to be studied in the area of the child's development of conversational knowledge (see Shatz & McCloskey, 1984, and McTear, 1984, for a good summary). Nevertheless, such development is perhaps the next frontier to be mastered in the quest for answers to the mystery of language acquisition. Clearly there are important implications here, as we shall see in Chapter 3, for second language learners. The barrier of discourse is one of the most difficult for second language learners to break through.

FIRST LANGUAGE ACQUISITION INSIGHTS APPLIED TO LANGUAGE TEACHING

In the previous chapter, it was noted that language pedagogy did not receive much attention from systematic research until about the beginning of the twentieth century. Interestingly, the first instances in this "modern" era of research on language teaching drew their insights from *children* learning first and second languages! If you turn your clock back about a hundred years, you will happen upon two revolutionaries in language pedagogy, François Gouin and Maximilian Berlitz. Their perceptive observations about language teaching helped set the stage for the development of language teaching methodologies for the century following.

In his *The Art of Learning and Studying Foreign Languages*, François Gouin (1880), described a painful set of experiences that finally led to his insights about language teaching. Having decided in midlife to learn German, he took up residency in Hamburg for one year. But rather than attempting to converse with the natives, he engaged in a rather bizarre sequence of attempts to "master" the language. Upon arrival in Hamburg he felt he should memorize a German grammar

book and a table of the 248 irregular German verbs! He did this in a matter of only 10 days and then hurried to "the academy" (the university) to test his new knowledge. "But alas!" he wrote, "I could not understand a single word, not a single word!" Gouin was undaunted. He returned to the isolation of his room, this time to memorize the German roots and to rememorize the grammar book and irregular verbs. Again he emerged with expectations of success. "But alas!"—the result was the same as before. In the course of the year in Germany, Gouin memorized books, translated Goethe and Schiller, and even memorized 30,000 words in a German dictionary, all in the isolation of his room, only to be crushed by his failure to understand German afterward. Only once did he try to "make conversation" as a method, but because this caused people to laugh at him, he was too embarrassed to continue. At the end of the year, having reduced the Classical Method to absurdity, Gouin was forced to return home, a failure.

But there was a happy ending. Upon returning home Gouin discovered that his three-year-old nephew had, during that year, gone through that wonderful stage of *first* language acquisition in which he went from saying virtually nothing to becoming a veritable chatterbox of French. How was it that this little child succeeded so easily in a task, mastering a first language, that Gouin, in a second language, had found impossible? The child must hold the secret to learning a language! Gouin decided to spend a great deal of time observing his nephew and other children and came to the following conclusions: Language learning is primarily a matter of transforming perceptions into conceptions. Children use language to represent their conceptions. Language is a means of thinking, of representing the world to oneself. (These insights, remember, were formed by a language teacher more than a century ago!)

So Gouin set about devising a teaching method that would follow from these insights. And thus the **Series Method** was created, a method that taught learners directly (without translation) and conceptually (without grammatical rules and explanations) a "series" of connected sentences that are easy to perceive. The first lesson of a foreign language would thus teach the following series of 15 sentences:

> I walk toward the door. I draw near to the door. I draw nearer to the door. I get to the door. I stop at the door.
> I stretch out my arm. I take hold of the handle. I turn the handle.
> I open the door. I pull the door.
> The door moves. The door turns on its hinges. The door turns and turns. I open the door wide. I let go of the handle.

The 15 sentences have an unconventionally large number of grammatical properties, vocabulary items, word orders, and complexity. This is no simple *Voici la table* lesson! Yet Gouin was successful with such lessons because the language was so easily understood, stored, recalled, and related to reality.

The "naturalistic"—simulating the "natural" way in which children learn first languages—approaches of Gouin and a few of his contemporaries did not take hold

immediately. A generation later, partly through the efforts of visionaries like Maximilian Berlitz, applied linguists finally established the credibility of such approaches in what became known as the Direct Method.

The basic premise of Berlitz's method was that second language learning should be more like first language learning: lots of active oral interaction, spontaneous use of the language, no translation between first and second languages, and little or no analysis of grammatical rules. Richards and Rodgers (2001, p. 12) summarized the principles of the Direct Method:

1. Classroom instruction was conducted exclusively in the target language.
2. Only everyday vocabulary and sentences were taught.
3. Oral communication skills were built up in a carefully graded progression organized around question-and-answer exchanges between teachers and students in small, intensive classes.
4. Grammar was taught inductively.
5. New teaching points were introduced orally.
6. Concrete vocabulary was taught through demonstration, objects, and pictures; abstract vocabulary was taught by association of ideas.
7. Both speech and listening comprehension were taught.
8. Correct pronunciation and grammar were emphasized.

The Direct Method enjoyed considerable popularity through the end of the nineteenth century and well into the twentieth. It was most widely accepted in private language schools where students were highly motivated and where native-speaking teachers could be employed. To this day, "Berlitz" is a household word; Berlitz language schools are thriving in every country of the world. But almost any "method" can succeed when clients are willing to pay high prices for small classes, individual attention, and intensive study. The Direct Method did not take well in public education, where the constraints of budget, classroom size, time, and teacher background made the method difficult to use. Moreover, the Direct Method was criticized for its weak theoretical foundations. The methodology was not so much to be credited for its success as the general skill and personality of the teacher.

By the end of the first quarter of the twentieth century, the use of the Direct Method had declined both in Europe and in the United States. Most language curricula returned to the Grammar Translation Method or to a "reading approach" that emphasized reading skills in foreign languages. But it is interesting that in the middle of the twentieth century, the Direct Method was revived and redirected into what was probably the most visible of all language teaching "revolutions" in the modern era, the Audiolingual Method (to be summarized in Chapter 4). So even this somewhat short-lived movement in language teaching would reappear in the changing winds and shifting sands of history.

☆   ☆   ☆   ☆   ☆

A number of theories and issues in child language have been explored in this chapter with the purpose of both briefly characterizing the current state of child language research and of highlighting a few of the key concepts that emerge in the formation of an understanding of how babies learn to talk and eventually become sophisticated linguistic beings. There is much to be learned in such an understanding. Every human being who attempts to learn a second language has already learned a first language. It is said that the second time around on something is always easier. In the case of language, this is not necessarily true. But in order to understand why it is not, and to apply such insights to the second language classroom, you need to understand the nature of that initial acquisition process, for it may be that some of the keys to the mystery are found therein. That search is continued in Chapter 3 as we examine how children acquire a second language and compare those processes to those of an adult.