

chapter one

Introduction to Language and Deafness

What contribution can the study of language make to our understanding of human nature? . . . [T]he nature of language, the respects in which language mirrors human mental processes or shapes the flow and character of thought—these were topics for study and speculation by scholars and gifted amateurs with a wide variety of interests, points of view, and intellectual backgrounds.

Chomsky (2006, p. 1)

It has often been remarked that we come to appreciate the unique complexity and function of language only when it starts to go wrong. . . . [I]t happens in a dramatic and devastating manner, in the form of language handicap. Those who find it difficult or impossible to communicate, on account of some physical, psychological, or other disability, face a frustrating, isolated, and uncertain future.

Crystal (1997, p. 259)

KEY CONCEPTS

After reading this introductory chapter, you should have a basic understanding of:

- The nature of language
- Perspectives on deafness
- The major topics to be covered in this text
- The framework of the author

As you read this chapter, I think it would be helpful to think of questions that you expect to be answered by the time you reach the summary section.

Reader-generated questions are the mark of a good critical reader. Here is a sample of questions to get you started: What do you expect to be exposed to in an introductory chapter on language and deafness, especially given the four major areas listed above? Do you think it is important to define or describe the terms *language* and *deafness*? Is it critical to understand the manner in which language can be or has been investigated? Are there degrees or levels of deafness? Finally, do you think it is important to know something about the author's approach to presenting information in a book? Now you think of additional questions, especially while you read about each major topic of this chapter.

In a nutshell, the passages at the head of this chapter exemplify two major themes of this text: the nature of language and the development of language in children who are deaf or hard of hearing. It should be exhilarating—and sometimes mind-boggling—to read about the story of language, ranging from the seeming magic of language acquisition by many children to the oft-cited metaphor that language is a mirror of the mind (e.g., Chomsky, 2006; Crystal, 1995, 1997, 2006). Nothing inflames the intellect more than conversing with individuals about the topic of language, specifically the use of words or phrases. It seems like everyone is a linguist or professes to be one. Some people might agree with a quote attributed to John Stuart Mill: “Language is the light of the mind” (Peter, 1977, p. 284). Others might side with George Orwell, who is credited with saying “If thought corrupts language, then language can also corrupt thought” (Peter, 1977, p. 284).

Setting aside the use, misuse, and even abuse of language, let us reflect on what native users of English might know about their language when pressed to examine it. Native users might be amused upon learning, for example, that the word *cleave* seems to have contradictory meanings. On one hand, it means to stick or adhere to, as in the sentence *He cleaved onto his mother*. On the other hand, this same word also means to split or divide, as in *The lightning cleaved the tree in half*. It seems puzzling that *French toast* did not originate in France, or that the word *English* in *English muffin* has nothing to do with England. Some folks find it fascinating to know that instead of always using a word such as *group*, one can say phrases such as *a flock of birds*, *a herd of elephants*, and *a school of fish*.

In English, there are numerous words with multiple meanings (e.g., Crystal, 1995, 2006; Johnson & Pearson, 1984; Paul, 1984). Just think about all the possible meanings for—what used to be—an innocent word like *baby* (*Hey Baby!*; *babyface*; *cute little baby*; *cry baby*; *you're acting like a baby*; *slept like a baby*; *baby fat*; *babying someone*; etc.). It could be tiresome or fun to learn the names of the babies or offspring of animals—*joey*, *lamb*, *gosling*, *kid*, *foal*,

and so on. And then there is *slang*—acceptable and unacceptable. Or, as Carl Sandburg is credited with saying, “Slang is a language that rolls up its sleeve, spits on its hands, and goes to work” (Peter, 1977, p. 283).

Interestingly, if you are a native, proficient user of English, you should have no problem understanding sentences such as the following:

- *The boy who kissed the girl ran away.* (The boy kissed the girl and then the boy ran away.)
- *The light on the blue car turned.* (The light on top of the car did the turning.)
- *That John was sad made Mary happy.* (Mary was happy because or to see that John was sad.)

In fact, native users can understand sentences that they have not heard or read before because of their intuitive knowledge of English syntax, or word order, and other aspects such as the generative (or inventive) properties of English. I bet you understand the following sentence even though you probably have never heard or read it previously: *The ominous-looking screen in front of me seems to possess the power to construct eloquent, meaningful string of letters, running from the left side of the page to the right with spaces in the appropriate places.*

Native users also sense that some words can be words even when they are not real words. These made-up words are acceptable with respect to the grammatical rules of English. Think about words such as *teachability* and *learnability*, which have been constructed and now can be found in academic journals and books (but, perhaps, not in any dictionary). Even young children who are native users of English have fun making up words that could be words (Dale & O’Rourke, 1986) and may be words in the future. As a native speaker, you even seem to know what sequences of letters cannot or can go together—mainly because of the difficulty of pronouncing the words. One will not see words with letter combinations such as *pbat*, *mtzel*, *cfit*, *zmfxtot*, and so on. Of course, there are some real strange words (with an interesting history), such as *knight*, *phone*, and *Xerox*. Perhaps this is not as exasperating as the meaning change associated with the different pronunciation of words such as *the* (definite and indefinite usage), *contract* (noun and verb meanings), and *resume* (meaning to take up again or a summary of one’s work accomplishments).

Without much fanfare, native users of English can demonstrate their extensive understanding in a variety of settings. Yet, all of the previous examples are or might be problematic for most children and adolescents

with language difficulties or disorders, including many children who are deaf or hard of hearing. How is it possible to learn about many of the nuances of words, phrases, and sentences in English in a short period of time—that is, a few short years—as typical children do? Why is it so difficult for many of these children and adolescents with language problems? Is it really possible or realistic for these individuals to achieve a high level of competence or proficiency in the use of English, comparable to native users?

There is no question that it has been a challenge—or a frustrating experience, for many educators and parents—to teach language or to foster its development in children and adolescents with hearing losses ranging from slight to profound. It almost seems as if more is known—a great deal more—about the nature of language than about how to teach or develop it. Is this knowledge-practice gap an illusion or is it real? If it has been difficult to facilitate language development in or to teach language to children who are deaf or hard of hearing; perhaps this means that the nature of language is not really well understood. It might be that there is no one theory that can explain its nature adequately. It is possible that we do not understand how to interpret theory in order to glean implications for practice and assessment (i.e., the teaching or evaluation of language).

Or perhaps language cannot really be taught; it can only be acquired via parent-children interactions in early infancy and early childhood. Or, it might also be that not much is known about the manner in which these children acquire language, especially children who have language delays or language disabilities. Perhaps, as some scholars argue, there is no way to know completely and empirically about language acquisition, especially for the purpose of teaching it to individuals (see discussions in Chomsky, 2006; Crystal, 1995, 1997, 2006).

Well, there is some truth to all of the above, as you will find out throughout this book. There seem to be limits to the use of the scientific approach for an ultimate or complete understanding of language—indeed, this is true for any other psychological or physiological endeavor. Of course, scholars should not surrender their pursuit of this lofty goal; we simply need to appreciate the small, incremental steps of progress.

THE NATURE OF LANGUAGE

The phrase *the nature of language* begs the question, What is language? The answer to this *What is* question is not only complex, but also depends on who is answering the question. In fact, there are as many answers as

Table 1-1 Selected Disciplines and the Study of Language

<i>Discipline</i>	<i>Area of Language Study</i>
Education	Teaching and learning aspects of form (phonology, syntax, and morphology), content (semantics), and use (pragmatics); reading and writing skills
Linguistics	Descriptions of the components (phonology, syntax, etc.) of languages; evolutionary development of the components
Psycholinguistics	Language competence and language performance; issues of grammaticality and acquisition; language and the mind
Sociology	Language and its use in society; cultural norms, mores, and expectations
Speech-language pathology	Speech and language disorders; prevention and remediation of problems

there are different types of professionals, scholars, or theorists who have a vested interest in this entity (Lund, 2003; Oates & Grayson, 2004; Owens, 2004; Pence & Justice, 2008). Consider the flood of views that can flow from individuals in academic disciplines such as computer science, education, English, linguistics, psychology, philosophy, sociology, and speech and hearing science—to name a few. Let us not forget the differences among individuals within each scholarly domain. **Table 1-1** illustrates some of the areas of interest or inquiry for several of these academic disciplines.

Approaches to Language

So, how does one go about discussing the nature of language, which is so complex that it seems to defy a simple, straightforward definition? Language can be viewed broadly as a cognitive activity, a social activity, or a form of learned behavior, or as a combination of these areas (e.g., see discussions in Cairns, 1996; Lund, 2003; Pence & Justice, 2008; see also Chapter 3). **Table 1-2** provides a few basic tenets of each broad view.

As can be surmised from Table 1-2, cognitive proponents focus on areas such as individuals' judgments of grammaticality or underlying processes for producing and comprehending spoken (or signed) utterances. For example, native users might be asked to decide whether they accept sentences or phrases as *true* (or grammatical) instances of use. Consider the

Table 1-2 A Few Basic Tenets of Three Broad Models of Language Acquisition

<i>Type</i>	<i>Description</i>
Environmental models	These models are influenced by the concept of behaviorism. Behaviorists are interested in the associations or connections between environmental stimuli (empiricism) and the language behaviors of the child (performance). Strong environmental proponents argue that all behaviors are learned and that there is little or no need for the concept of innate structures. With respect to language, environmental models stress the role of learning words and grammar via processes such as imitation (copying or repeating the information) and reinforcement (e.g., praising the successes). Perhaps the most notable researcher associated with this view is B. F. Skinner.
Cognitive models	Most linguistic theories have been influenced by the views of Noam Chomsky (nativist theories) and by the cognitive framework. Thus, linguistic theories are basically cognitive models of language development. For the most part, these theories attempt to address the internal structure of the human mind. Variations of the theories are based on support for or reactions against Chomsky's major themes involving concepts such as the language acquisition device, universal grammar, competence, and innate structures. Some of the variations result from a shift from syntax to semantics as being paramount for understanding language acquisition. Despite these variations, there seems to be a growing view that any complete model of language acquisition needs to consider both competence and performance.
Social models	Much of the focus in this text is on social models known as interactionist models. Interactionists maintain that there are a number of factors—for example, biological, cognitive, linguistic, environmental, and social—that interact and are critical for the development of an individual. Within the interactionist framework, there are three broad approaches: cognitive-interactionist, information processing, and social-interactionist. Cognitive-interactionists believe that the cognitive processes that underlie children's linguistic performance are also the same processes that account for children's linguistic competence. One of the most common metaphors of the information-processing paradigm is the computer. Much of the focus of research in the information-processing paradigm has been on processes, including memory and attention span. Social-interactionists assert that language has a unique, rule-governed structure; however, these structures develop (i.e., emerge or result) from the social functions of language as evident in human interactions. Language acquisition is said to be a complex, reciprocal, dynamic interplay between the child and the social-linguistic environment. It is argued that both nature and nurture factors contribute to the child's acquisition of language.

following items. Can you accept them as examples of correct (or grammatical) usage in conversations?

- *I ain't gonna do this chore.*
- *My car moved down the street like a coffee percolator.*
- *It is not always obvious that Jerry is neurotic.*

Social proponents focus on the influences of such factors as culture, gender, age, and ethnicity on language acquisition and use, and a number of proponents are interested in power and social justice issues. Today, with respect to language use, some members of the younger generation tend to use the word *like* incessantly, as in the following examples:

- *I was like really happy to see Susan.*
- *Oh my! That was like awesome!*

Proponents who feel that language is a form of learned behavior (often called environmentalists or behaviorists) might emphasize how to break down a complex entity (e.g., a word or sentence) into a series of simple steps for teaching and learning purposes. Consider the sentence *The boy who kissed the girl ran away*. One approach might be to show that this complex sentence consists of two simple sentences, such as *The boy ran away* and *The boy kissed the girl*. Then, another step might be to show how the second sentence is embedded in the first sentence, which is the main sentence or idea. The concept of embeddedness then requires an understanding of the use of the relative pronoun *who*, and so on (based on the work of Quigley and his researchers; see Chapter 7).

It is not always the case that one language model is completely different from or not related to another model. There are some similarities across the three different broad models mentioned in the previous paragraphs. For example, both the environmental and social models extol the influences of the environment or culture; obviously, the explanations for these influences are different. Some scholars feel that the social models, particularly the constructivist versions (see also Chapter 3), are really extensions of the cognitive models—not a radical departure from them.

There are also variations within each global model or framework and combinations across the models. For example, within the cognitive model, one predominant exemplar seems to be Chomsky's perspective, labeled the *nativist theory* (Carruthers, Laurence, & Stich, 2005, 2006; Chomsky, 2006;

Lund, 2003). An example of a combination is the social-cognitive model of language acquisition, which combines pertinent factors from the social and cognitive domains (e.g., see discussions in Oates & Grayson, 2004; Pence & Justice, 2008). Another is the cognitive-behavioral model, which combines cognitive and environmental features (e.g., see discussions in Lund, 2003; Pence & Justice, 2008). In essence, there are three broad models, and their combinations, for discussing and understanding language acquisition: cognitive, social, and environmental. Variations within these broad models also exist (see Chapter 3).

Another approach to describing the nature of language is to focus on a specific language component such as syntax (word order), semantics (meaning in language), or pragmatics (use). For example, Chomsky is famous for his emphasis on syntax in his theory of language acquisition—mostly within the cognitive model mentioned previously. There are proponents of semantic and pragmatic theories of language acquisition who have rejected the emphasis on syntax as the cornerstone for understanding the language acquisition process (e.g., see discussions in Cairns, 1996; Owens, 2004; Pence & Justice, 2008). Their rejection, in part, is based on the premise that language makes no sense unless one understands the context in which it is being used (e.g., see Colston & Katz, 2005). Pragmatics (and sometimes semantics) is strongly related to a social model known as social-interactionist theory (see also Chapter 3). Social-interactionist theorists of language emphasize that language is primarily acquired and refined via social interactions within specific cultures (see discussions in Lund, 2003; Pence & Justice, 2008).

The type of approach adopted for discussing language acquisition also influences the manner in which language is studied or researched (Cairns, 1996; Lund, 2003; Owens, 2004; Pence & Justice, 2008). For example, proponents of social (or pragmatic) approaches depend on observations of language interactions and analyses of language samples (e.g., samples of children's speech regarding activities such as playing), whereas, as mentioned previously, those who espouse cognitive approaches might employ introspection (i.e., judgments of grammaticality) or use specifically designed tests or tasks (such as those used in psycholinguistic research) for assessing language comprehension or production. A particular type of language approach (or combination of approaches) may also drive the manner in which language is developed (or taught) or assessed. That is, can language be taught or must it be *caught*—that is, through exposure (see also Chapter 10)? Should we use direct (e.g., language sample) or indirect

(e.g., formal test) methods of testing language competency or proficiency (see also Chapter 11)?

Multiple or Dynamic Perspectives

By now, you can surmise that there is, at present, no one best way to understand language, no one best method of developing or teaching language, and no one test that can be used to assess all of language. It is possible to see the influence of the various language models on current practices (e.g., Cairns, 1996; Owens, 2004; Pence & Justice, 2008). In some cases, there seems to be a somewhat direct, linear route from theory to research to practice, as can be seen, in my view, in some applications of the environmental theories. However, as mentioned previously, this direct or linear route may be an illusion or may not account for all or most of language learning. The same is roughly true for all theories of language acquisition. This does not make the task of the teacher or clinician any easier and, as one might guess, can be a source of frustration for parents of children with language disabilities who want immediate solutions.

There is probably some truth in all theories or models of language. Clearly, it is not the case that any particular theory or model is completely right or completely wrong. Some educational practices, based on a theory, might work for some types of learning but not for others. Adopting an all-or-nothing or an either-or mind-set does not seem productive for the teacher or the clinician—even if this seems to be the proclivity of theorists and researchers. Perhaps the teacher or clinician needs to find out what works from each particular theory or model and put this together for a particular child. This is easier said than done. Nevertheless, the major point here is this: a teacher or clinician should make educated decisions on what to do, and each professional needs to be open to refine, continually, whatever she or he is currently doing in practice. Becoming too comfortable with or fixated on an idea or approach can cause hardening of the knowledge arteries and might be unsuccessful for particular groups of children or even for certain individuals.

Language learning—indeed, all types of learning—is too complex to be considered a fixed, static, or unitary commodity. This is true from the simplest use of language by children with a wide range of severe disabilities to the most complex rendition of language use by theorists and researchers. Currently, no theory can explain all of the particulars of language acquisition and use. Nevertheless, the aim is to improve our understanding and, eventually, to end up with the simplest, most beautiful explanation of language acquisition (Carruthers et al., 2005, 2006; Chomsky, 2006).

Political Dimension

Not all investigations into the nature of language focus on noble goals such as the understanding of language and cognition or the improvement of communication and thinking skills. The nature of language is also a political issue (Chomsky, 2000, 2006; Crystal, 1995, 1997), as can be found in the literature on language policy and choice. In the education of deaf or hard of hearing children and adolescents, there are ongoing debates on issues such as the first language that should be developed in these children and the personnel who should make these decisions. Approaches to addressing these issues are not or may not be empirical or scientific (see also Chapter 6). One of the major discussions in this area is the debate on the development and implementation of bilingual-bicultural programs for deaf or hard of hearing students.

Some of these discussions can be confusing or mind-boggling, especially for hearing parents of deaf or hard of hearing children. For example, there have been assertions that parents (or caregivers) should be charged with mental abuse if they refuse to learn and use a natural language, such as a sign language, with their children. There are two broad assumptions here. One is that only a sign language is natural and can be easily acquired by deaf or hard of hearing children. This means, for example, that the use of oral English (e.g., speaking) or a form of signed English (e.g., one of the sign systems) is not natural (see Chapters 4 and 5, respectively, for a discussion of oral and sign systems). Second, if parents do not use a sign language, they would be denying their children a basic right to learn a language for communication and thought. Denying a child his or her rightful exposure to a bona fide, complete, easily learned language is said to cause irreparable damage to other psychological functions. In effect, this is denying the child the right to grow up to become a productive, healthy, contributing member of society.

These assumptions are highly contentious and debatable (see also Chapter 6). On one hand, there is much agreement about the importance of learning a language, *any language*, especially during the early years. On the other hand, there is quite a bit of dissension about what it means to use a natural language or even whether a sign language is the only natural language for all or most deaf or hard of hearing children. This is compounded further by the notion of what is a language in light of the various contrived communication systems that have been developed (see discussions in Chapters 4 and 5).

It seems that everyone agrees that language is paramount and affects all other domains of development, such as cognition and emotion. Furthermore, there is little question that language affects the subsequent development of educational areas such as reading, science, and mathematics. The manner

and extent of the influences of language on these entities are open to debate despite the passionate claims of proponents of the various communication methods (see discussions in Chapters 4 to 6).

PERSPECTIVES ON DEAFNESS

If describing the nature of language is difficult and, perhaps, similar to walking on a slippery slope, then it is no surprise that describing the nature of deafness is equally as difficult or contentious. There is no God's-eye view of deafness either, albeit *the view from nowhere* (i.e., any and all views) can cause innumerable challenges for educators and researchers. The goal here is to describe deafness from two broad perspectives, clinical and cultural, for the purposes of conducting and reporting the findings of research endeavors. The focus is not on which perspective is the best or which one is right/positive or wrong/negative. From a scientific standpoint, the goal is to define the sample (from a population) as adequately as possible so that findings can be generalized (or understood)—assuming that one believes in using the scientific method, despite its flaws—for conducting research.

It is important for the reader to keep in mind that the following descriptions represent extreme bipolar abstract viewpoints. In the so-called real world, there are a number of variations on a continuum between these two extreme views. Combinations from both perspectives have influenced research and program models (e.g., Liedel & Paul, 1991; Paul, 1990, 1991), although some scholars have argued that these two bipolar views are incompatible (Crittenden, 1993; Lane, 1988, 1992; Reagan, 1990).

Clinical Perspective

Within the clinical perspective, we can discuss the dimensions of hearing with respect to audiological variables. Dimensions of hearing entail the concept of hearing acuity with respect to decibels and frequency, age at onset, and the etiology or location of the hearing loss, if applicable. A similar analogy can be made for the dimension of speech (as discussed in Chapter 4). Only degree of impairment (decibel and frequency) and age at onset (age at which the impairment occurs) are considered here in detail.

Degree of Hearing Impairment

Hearing impairment (or *hearing loss*) is a general audiological term that pertains to all degrees of losses, regardless of etiology or location. Hearing acuity is measured in decibels (dB) across a range of frequencies, typically from

125 to 8000 Hertz (or cycles per second). (For a complete description of the measurement and types of losses, see Davis, 1978; Meyerhoff, 1986.) The acuity is reported as the average threshold level of pure audiometric tones (pure tone average, or PTA) in the better unaided ear across the speech frequencies, that is, 500, 1000, and 2000 Hertz (Hz). For example, if a person hears a pure tone, in the better ear, at 50 dB at 500 Hz, at 60 dB at 1000 Hz, and at 70 dB at 2000 Hz, then the PTA is 60 dB (the average of $50 + 60 + 70$).

Consider another example as follows.

Right Ear

Frequency (Hz)	500	1000	2000
Decibels	70	80	90

From the above, the average across the speech frequencies (500, 1000, 2000) is 80 dB for the right ear.

Left Ear

Frequency (Hz)	500	1000	2000
Decibels	40	50	60

From the above, the average across the speech frequencies (500, 1000, 2000) is 50 dB for the left ear. The PTA is the average for the better ear. In this case, the left ear is the better ear; thus, the PTA for this individual is 50 dB. The category (label) for this hearing loss (discussed below) would be based on the PTA for the left ear.

It may not be in vogue to discuss degree of hearing impairment in this day and age (oh, you will be surprised!); however, I think it is important to understand this variable because it does have a pervasive influence on the development of a spoken, verbal language such as English and its written equivalent. Now that I have made my former university speech and audiology professors happy, let us move on.

There are five audiological categories that correspond to degrees of hearing impairment (Acoustical Society of America, 1982). These are, roughly, as follows: slight (27–40 dB), mild (41–55 dB), marked or moderate (56–70 dB), and extreme or profound (91 dB or greater). In the example discussed previously, the individual with a 50-decibel PTA can be categorized as having a mild degree of hearing impairment. (For a detailed description of these issues, see Paul & Quigley, 1990; Schow & Nerbonne, 2007.)

The educational implications for groups of students within these categories have been reported in a number of sources (Moore, 1996; Paul & Quigley, 1990; Quigley & Kretschmer, 1982). These implications should be considered guidelines so as not to stereotype individuals or to undermine the role of individual differences. For example, two individuals with the same degree of hearing impairment (and similar age at onset, discussed later) can turn out to be very different linguistically and psychologically. Albeit controversial, the term *hard of hearing* is also used to represent individuals with degrees of impairment from slight to severe, whereas *deaf* is used for individuals in the severe to profound range (overlap between these two terms seems to occur at the severe level).

With the advancement of amplification, it has been suggested that the term *deaf* should only refer to individuals in the profound range (or to those who sign). There is no general agreement on the use of terms; nevertheless, for research and communication purposes, it is best, whenever possible, to provide a description of the degree of impairment, both unaided and aided (i.e., with and without amplification). This situation becomes even more complicated (and interesting) with respect to the increase in the number of children receiving cochlear implants (see Chapter 4). I do not think it is practical for either educational or research purposes to refer to all children with hearing losses as *deaf*, as in *deaf education* or *deaf studies* or *deaf children*. But, as you might guess, this is highly controversial. I use the phrase *deaf or hard of hearing* in this book, with the word *deaf* referring to children with a degree of hearing impairment in the 90+ or profound range—for the most part.

Age at Onset

Age at onset, which refers to the age at which the impairment occurs, can be considered a linguistic factor. That is, the time of occurrence of the impairment has a pervasive effect on the development of a spoken language. Incurring a hearing loss early in life—say between birth and three years—can have more marked effects than incurring a hearing loss at age 5 or 6. The critical period seems to be between birth and two years, although some researchers have argued that it should be between birth and one year (see also Chapter 4).

Other Factors

Degree of hearing impairment and age at onset are highlighted here because of their combined effects. For research purposes, it is also important to consider factors such as etiology, location, and presence of additional disabilities (e.g., degree of mental retardation, learning disability, or visual impairment).

Even the hearing status of the parents (i.e., the hearing acuity of the parents) is an important research factor for describing the subgroups of children with hearing impairment. It should be emphasized that the hearing status of parents by itself is not the major reason for differences in the achievements of children and adolescents. Other variables associated with this factor—for example, level of acceptance and quality and form of communication—should also be considered and documented, as much as possible (Marschark, 2007; Moores, 2001; Paul & Jackson, 1993).

Cultural Perspective

At the other end of the spectrum is what can be labeled the cultural perspective (Baker & Cokely, 1980; Bauman, 2008; Lane, 1992). Only a few remarks are made here (see also Chapter 6), which focus on the acquisition and use of American Sign Language (ASL), including its use in bilingual-bicultural programs. In-depth discussions of the cultural perspective can be found elsewhere (Bauman, 2008; Ladd, 2003; Lane, 1992; Neisser, 1983; Padden, 1998a, 1998b; Padden & Humphries, 1988).

Within the purview of the cultural perspective, deafness is described as a natural or ethnic condition. Individuals with deafness (no degree of hearing impairment is specified) are said to be members of a cultural group that uses ASL as the major or only means of communication. In considering this perspective, the identity of language comes into the foreground (discussed later in this chapter). There is a strong personal and social identity that emerges with the use of American Sign Language. Indeed, there is what can be called a Deaf identity (e.g., see Bauman, 2008; Ladd, 2003). As a result, it would be inappropriate to describe the speech and hearing acuity of these group members. In fact, it would be inappropriate to discuss Deaf individuals with reference to the norms, values, or beliefs of individuals with typical hearing. The focus should be on the mores and beliefs of individuals who are members of a sociological or cultural group, often called DEAF-WORLD (Lane, Hoffmeister, & Bahan, 1996) or Deaf culture.

As aptly stated by Lane (1992):

To apply a cultural model to a group is to invoke quite a different conceptual framework. Implicit in this posture are issues such as: What are the interdependent values, mores, art forms, traditions, organizations, and language that characterize this culture? How is it influenced by the physical and social environment in which it is embedded? Such questions are, in principle, value neutral, although

of course some people are ill-disposed to cultural diversity, while others prize it. The institutions invoked by a cultural model of a group include the social sciences; professions in a mediating role between cultures, such as simultaneous interpretation; and the schools, an important locus of cultural transmission.

I maintain that the vocabulary and conceptual framework our society has customarily used with regard to deaf people, based as it is on infirmity, serves us and the members of the deaf community less well than a vocabulary and framework of cultural relativity. I want to replace the normativeness of medicine with the curiosity of ethnography (pp. 18–19).

The cultural perspective provides strong support for the establishment and implementation of ASL-English bilingual-bicultural programs for most or all deaf or hard of hearing children and asserts that Deaf adults should play a predominant role in these programs. The implication is that ASL-English programs should be available or *required* for all or most school-aged deaf or hard of hearing children and adolescents. The reader can also sense the political dimensions of this perspective, especially with respect to the rejection of the use of clinical descriptions such as degree of hearing impairment and age at onset. Cultural proponents reject clinical terms because they argue that deafness is not a disease or disability and should not be described along what is often labeled, pejoratively, a pathological dimension, such as degree of hearing loss, speech intelligibility, and so on. And, oh, there is more to this discussion, as you shall read in Chapter 6. Wait until you encounter an interesting phrase: Deaf epistemologies!

A Few Issues in Language and Deafness

Up to now, in describing the language acquisition of deaf or hard of hearing children and adolescents, it has been critical to be clear on what is meant by *language* and what is meant by *deafness*. This becomes more convoluted in light of what language is to be used and how this language is to be conveyed. For example, in the United States, Quigley and Kretschmer (1982), in their seminal work, asserted that there are two major languages, ASL and English, and two communication modes, manual and oral. ASL and English are two different languages, each with its own grammar and culture. The manner in which ASL is different from English and the English sign systems is discussed later (see Chapters 5 and 6). *Manual communication mode* refers to the use of signs (manual movements) and nonmanual aspects (mostly in ASL),

such as movements of the eyebrows, cheeks, and shoulders. *Oral mode* refers to the use of speech, speech reading (reading the lips of the speaker), and audition (the use of hearing or residual [remaining] hearing).

These languages and modes constitute the foundation of three major educational approaches (also called philosophies): oral education, total communication, and ASL-English bilingual-bicultural education. Oral education employs the oral mode (see Chapter 4), whereas total communication entails both the oral and manual modes simultaneously via the use of sign systems (see Chapter 5). ASL-English bilingual-bicultural education involves the development of both American Sign Language and English (see Chapter 6).

The strong focus on ASL and English in a bilingual-bicultural program seems to overlook the existence of other minority languages and cultures, such as Spanish and German, which are reflective of the home environments of a number of deaf or hard of hearing children. The focus on ASL as the minority language is most likely because it is the most widely used sign language by Deaf individuals in the Northern Hemisphere (i.e., United States and Canada) and one of the most widely studied sign languages in the world (Lane et al., 1996; see also perspectives from Pizzuto, Pietrandrea, & Simone, 2007; Schick, Marschark, & Spencer, 2006).

The critical issue regarding the use of oral education and total communication modes is whether deaf or hard of hearing children are actually exposed to or can perceive (visually and auditorily) a full-blown spoken language such as English. Several questions can be asked with respect to the two critical concepts of *exposure* and *representation*. For example, if children are exposed to the oral mode (speech) or to one of the sign systems (speaking and signing simultaneously), will they learn to speak and/or sign English? Is it possible for practitioners to represent the grammar of English visually and accurately, as is the case in the use of the English sign systems? What does it mean to represent English, grammatically, via the use of signs and speech?

The representation of English, especially with signs, is a contentious, complex issue. Consider the following sentence:

The ominous-looking, black spider ate voraciously the fly that was trapped in its web.

This sentence is a challenge for educators who use any particular form of signing, such as signed English, signing exact English, or seeing essential English (see Chapter 5). Fairly easy decisions (but, maybe not!) can be made for signing words such as *The*, *black*, *spider*, *fly*, and *web*—albeit *fly* and *web*

have multiple meanings (and a case can be made for *the* and *spider* as well). Nevertheless, it is quite a challenge to sign *ominous-looking* and *voraciously*, especially if one wants to convey the specific English words, including their morphological parts such as *-ing* and *-ly*.

It might not be obvious, but even the syntax (word order) of this sentence is difficult to render faithfully and clearly. A number of children who are deaf or hard of hearing have problems with syntactic structures such as relative clauses, as in *the fly that was trapped in its web*. The clause *that was trapped* refers to the fly, and *that* is a demonstrative pronoun that stands for *fly* in the relative clause. Of course, *its* refers to the spider. Thus, this sentence is not only difficult to sign in English, but also is a problem for deaf or hard of hearing children (and some adolescents) to understand.

As is discussed later in this text, many of these children, who are exposed to either the oral, manual, or combined (oral and manual) forms of English in their homes and at school, do not approach mastery or proficiency or even approach the English language ability of their peers, who are typically hearing, on graduation from high school. The task of ensuring adequate exposure leads to subsequent difficulties in the area of use and understanding of English by children and adolescents. In addition, this has an impact on the later development of English literacy skills (see Chapters 7 and 8) and other areas. From one standpoint, if improving the English language acquisition process of deaf or hard of hearing individuals is a realistic goal, then more attention needs to be devoted to the interrelations among exposure to, representation of, and use of English. Even the successful implementation of ASL-English bilingual-bicultural programs (see Chapter 6) is dependent on an understanding of these interrelationships.

The term *exposure* is sometimes confused with *instruction*. To be succinct: exposure to the oral and communication modes in English is not the same as language instruction in English. Just because a parent, caregiver, or teacher is using, for example, signing exact English (see Chapter 5) does not mean that she or he is teaching English. *Language instruction* refers to the specific language teaching methods or approaches that have been attempted in the education of deaf or hard of hearing children (see Chapter 10). What is meant by *exposure* can be difficult to explain or understand, particularly for children who are deaf or hard of hearing. Under reasonable circumstances, most children who are exposed to their native language (or languages) in natural, meaningful situations will acquire or learn that language (or languages) with relative ease within a brief period of time—say two to three years. No one—not even their parents or caregivers—actually teaches

them the language. It almost seems as if children are born with some innate capacity to learn a language and need a reasonable, meaningful linguistic environment, which includes reasonable exposure to that language (or languages). The word *reasonable* is deliberate here because children, in general, do not need to be exposed to all examples of linguistic usage.

This issue of exposure is or may be quite different for many deaf or hard of hearing children. As is shown later in this text, a large number of these children, exposed to oral and total communication systems in infancy and early childhood, do not come to school with a working knowledge of English (or any other spoken language) to be used as a base for communication and learning. This calls into question the nature and extent of the exposure to these systems, and this, as can be imagined, is responsible for subsequent difficulties with the development of reading, mathematics, science, and other content areas. Difficulties with the language of communication and thought cause difficulties with the language of instruction—particularly the language demands of the school via academic English (e.g., Bailey, 2007). I will return to the concepts of exposure, representation, and instruction—most particularly in Chapters 4 through 6, and again in Chapter 10.

MAJOR TOPICS OF THE TEXT

The titles of the chapters in this text serve as the major topics and are related to the twofold theme—the nature of language and the manner in which it can or should be taught or developed. Various models (e.g., cognitive, social, environmental) of language development and use have influenced the organization of the text and titles of the chapters, including the contents of each chapter. Of course, the text is also influenced markedly by the synthesis ability and biases of the present author (see the discussion in the next section, “Framework of Author”). The range of topics is clearly not exhaustive; however, it should be reflective of the major areas in language and deafness.

An important initial step is to ensure that readers have a basic understanding of the structure and function of language. This basic understanding provides the framework for the theories of language acquisition, including the relation of language to thought, and other areas such as the development of the communication methods and the implementation of ASL-English bilingual-bicultural programs. The approach here is to describe, briefly, the major aspects of structure and function and to relate this information to specific topics presented in the various chapters in the rest of the text.

Structure

Structure refers to components of a language—any language. Despite differences of scholarly opinions (Crystal, 1995, 1997, 2006), the major components are phonology, morphology, syntax, semantics, and pragmatics. Debates on the components to be used for language instruction (see Chapter 10) and language assessment (see Chapter 11) revolve around the issue of primacy (i.e., which component is most important or basic) or that of approach (e.g., the goal should be a functional approach, not competence in a specific area such as syntax) (Cairns, 1996; Chomsky, 2006; Owens, 2004; Pence & Justice, 2008).

Phonology refers to the sounds (actually *phonemes*) of a language, which can be discussed with respect to both spoken and sign languages. Consider the word *cat*, which has three phonemes, each corresponding to one letter of this word: /c/, /a/, /t/. Phonology is often considered the building blocks of a language and the spark (along with morphology) for developing rapid word identification or recognition skills in the subsequent acquisition of reading ability in English (see Chapter 7). Phonology is also important for understanding the fundamental concept of phonemic awareness and is the foundation for one of the communication systems used with children who are deaf or hard of hearing—cued speech/language—as well as a teaching tool—visual phonics—for phonics and articulation (see relevant discussion in Chapter 4). In discussing phonology, the focus is on *segmentals*, such as vowels and consonants in English, and *suprasegmentals*, which are intonations, pauses, and rhythm (the application of these concepts to American Sign Language is covered in Chapter 6). This background in phonology is also critical for understanding the difficulty of developing and using this component by deaf or hard of hearing children in the areas of speech, speech reading, and the use of residual hearing (see Chapter 4).

Morphology is concerned with the internal structure or parts of words (e.g., Crystal, 1995, 1997, 2006). *Morphemes* are the smallest segments of speech that carry meaning. Readers of this text are exposed to two major types of morphology: inflectional morphology and derivational morphology. *Inflectional morphology* refers to morphemes that do not change the underlying meaning of a word. An example is *-ly* in the word *lovely*. *Derivational morphology* results in the construction of new words—there may be a meaning change, as in *clear* to *unclear*, or there may simply be a change in the part of speech or form class, as in *free* to *freedom*.

In conjunction with phonology, a basic understanding of morphology is critical for the development of conventional spelling skills and for orthography (see Chapter 7). Morphology also builds on or is related to the use of syntax (discussed below). Even more interesting is the fact that morphology—or, rather, an interpretation of it—is the foundation for the development of the English sign systems, including their placement on a continuum of how well each particular system represents English (see Chapter 5). In the area of second language learning (see Chapter 6), research on morphology, and to some extent syntax, has supported the notion that the development of English as a second language is roughly similar to the development of English as a first language. That is, second-language learners of English, including deaf or hard of hearing students, proceed through developmental stages, use strategies, and produce errors that are similar to those of individuals, usually younger in age, who have learned English as a first language (also called the qualitative-similarity hypothesis; see Paul, 1985, 2003, 2008).

Syntax refers to rules that govern the order or arrangement of words (e.g., Crystal, 1995, 1997, 2006). This arrangement assists with understanding the relations of words within sentences as well as the relations between sentences. Consider the following sentence: *The girl hit the ball*. Readers would judge this sentence as grammatical (i.e., having the correct order of words) and would understand the meaning. On the contrary, *girl the ball the hit* is ungrammatical, as well as being difficult for readers to understand the meaning.

One of the concepts discussed in the section on syntax is linear versus hierarchical structures. An example of a linear structure is *The girl hit the ball*, where the reader can apply a subject-verb-object (SVO) or linear (or surface) interpretation to understand the sentence. An example of a hierarchical structure is *The girl was hit by the ball*. In this case, the SVO strategy will not work and will result in a misinterpretation of the sentence. The difficulty of hierarchical structures for children who are deaf or hard of hearing is well documented in reading (see Chapter 7) and may explain one of the major limitations of the use of the sign systems (see Chapter 5), as mentioned previously. Most of the systematic research on English language development has been on the understanding of syntax by deaf or hard of hearing children and adolescents.

The most remarkable aspect of syntax is the manner in which Chomsky's views have revolutionized the landscape of linguistics, especially within the domain of cognitive science (see Chapter 3). Basically, Chomsky believed that studying syntax in English and across other cultures was the most fruitful approach to understanding the structure of the mind and developing theories

about language acquisition. Chomsky's study of syntax has engendered concepts such as innateness, language competence, and language performance, as well as the most controversial notion of all—in my view—the concept of language as a biological object (Carruthers et al., 2005, 2006; Chomsky, 2000, 2006). It is quite amazing to discover that Chomsky's views might have been influenced by those of John Locke, a philosopher who is often associated, erroneously, only with the environmentalists or the behaviorists (Phillips & Soltis, 2004).

Semantics is the study of meaning in language (Crystal, 1995, 1997, 2006; Lyons, 1995; Pence & Justice, 2008). Meaning, of course, can be difficult to define as well as to assess. In any case, strong proponents of semantics believe that syntax cannot be understood independently of semantics (see Chapter 3). Thus, these scholars analyze the manner in which words and sentences are used in specific contexts. In this text, attention is devoted to the acquisition of word or vocabulary knowledge, which is a critical component of the development of literacy (see Chapter 7) and is one of the major areas assessed by the National Reading Panel (2000) for the development of early literacy skills.

Along with pragmatics (discussed below and in Chapter 3) and somewhat with syntax, semantics is said to be important in the use of the sign systems (see Chapter 5). Proponents argue that the major focus of using a system should be to communicate. An understanding of English form (phonology, morphology, and syntax) results from the use of the sign system in communicative interactions. This seems to be a response to the notion of representation, which was mentioned previously. Finally, a good understanding of semantics, especially with respect to vocabulary, provides a strong background for the use of semantic elaboration techniques (e.g., semantic maps, semantic feature analyses) in reading instruction (e.g., see Heimlich & Pittelman, 1986; Pearson & Johnson, 1978).

Pragmatics focuses on the use of the language, particularly within a communicative situation or context. Pragmatics guides the use of language during social interactions, specifically the use and selection of words, sentence constructions, and the content of messages. From one perspective, pragmatics is influenced by factors such as the age, sex, geographical location, and education of the user (Crystal, 1995, 1997, 2006).

Pragmatics seems to overlap with other areas such as semantics, discourse analysis (analysis of conversations), and the study of dialects (spoken variations due to geography, etc.) and registers (variations within the speaker due to demands of the social contexts). With respect to language intervention,

instruction, and assessment (see Chapters 10 and 11), pragmatics has been a major influence, especially with the focus on a functional approach to intervention and assessment (e.g., Owens, 2004). The assumption is that children learn about the form (phonology, morphology, syntax) and content (semantics) of language during its use (pragmatics) in meaningful social interaction settings (similar to what was said about the use of the sign systems previously). This notion has been heavily influenced by the work of Vygotsky (1962, 1978) and constructivism within the purview of social models of language acquisition, discussed previously (and in more detail in Chapter 3).

Function

Language can be used to perform a number of functions (see Chapter 2). The most prominent functions are to communicate ideas and to think—that is, the use of language as a tool for thought (Cairns, 1996; Cromer, 1994, Crystal, 1995, 1997, 2006). Obviously, both of these functions permeate the entire text here. However, specific attention is given to the concept of language as a tool for thought in the section on the relation between language and cognition (see Chapter 3) and in the discussion of the concept of literate thought (see Chapter 9).

As defined in this text, *literate thought* is the use of both language and thought in understanding and applying information that has been rendered through the air or captured or preserved in print or electronically (e.g., talking or signing books). The chapter on literate thought is also concerned with the concepts of new literacies and multiple literacies—especially with the notion that literacy (i.e., reading and writing) can not only be an enlightening experience but also can be an act of enslavement. In addition to demystifying print literacy, these controversial concepts should permit a good discussion of whether print literacy is a feasible goal for some deaf or hard of hearing children and adolescents. This seems to call for a broader interpretation of what it means to be literate in light of our growing understanding of the relations among speech/sign, literacy, and cognitive structures.

There is little question that language plays a major role in the development of reading and writing (see Chapters 7 and 8). Thus, it is no surprise that one of the functions of language is the recording of information, as in the use of graphs, visual displays, and printed words. Nevertheless, the most exciting and challenging task is to delineate the role of language in documenting, accessing, and interpreting print or other forms of captured (recorded, preserved, saved) information.

Other functions of language are not as transparent as those discussed previously, but nonetheless are extremely important. For example, language is often used to express emotions, which is related to the function of communication. This can be a challenge for children with language delays or disorders, especially when it leads to aggressive behaviors if emotions cannot be expressed. Another less conspicuous function is the control of reality. This is the use of language to influence or persuade others. Even babies know intuitively how to influence their mothers and fathers (and vice versa)! Another example of controlling reality is the use of language to soothe or calm ourselves in light of traumatic or stressful events. Rehearsing phone numbers to remember them is another example.

Language can also be used to express the identity of the user (Crystal, 1995, 1997, 2006; Goodluck, 1991; Whitehead, 1990). Individuals may have multiple identities, such as personal, social, and political. The use of language might reveal certain attributes of the speaker/signer, such as education level, age, gender, geographic location, and so on. Think about what comes to mind with respect to the following phrases:

- *It's the right thing to do.*
- *I'm feeling groovy.*
- *It's like awesome!*
- *He be bad.*
- *Be cool, man, be cool!*
- *If you do not believe, you will end up in Hell.*
- *People first . . . say People with Disabilities.*

Finally, the expression of identity is important for understanding a movement that can be labeled as the depathologizing of deafness (Bauman, 2008; Ladd, 2003; Lane, 1992; Lane et al., 1996). This movement has been fueled by the establishment of American Sign Language as a bona fide language and the recognition of Deaf culture as a legitimate sociological phenomenon rather than a compensatory reaction to the condition of deafness (see Chapter 6). Consider statements such as the following as exemplars:

- *Deaf is beautiful.*
- *Deaf power.*
- *Deaf identity.*
- *Use of sign language is the native right for all Deaf children.*
- *Deaf children should have Deaf parents.*

FRAMEWORK OF AUTHOR: A PERSONAL PERSPECTIVE

It is possible to glean my framework—the way I approach language study and research—from my discussion of the major points in this chapter (and in the rest of the book). I favor the traditional scientific approach (called the standard epistemology), which should eventually provide the clearest, most complete, empirical picture possible, but maybe not the total picture. There is such an entity as objectivity, albeit it can be muddled by strong social and political biases—even of theorists and researchers. In essence, some understanding of the world is possible via a dispassionate objective synthesis, similar to my attempts with the current text. I recognize that there are problems with the notion of objectivity and have no doubt that there is a bias in my integrative conceptual framework. Most likely, the bias cannot be removed completely, but it clearly can be minimized via the use of the traditional scientific method.

I have no qualms about the application of different research methods (e.g., quantitative, as in the use of statistics, or qualitative, as in the use of case studies, ethnography, or critical analyses) as long as the undertaking of the study is rigorous and systematic—and, I hope, is related to theory-building or theory-proving enterprises. In fact, similar to what has been espoused by Pearson (2004), I value the complementarity approach, which entails a range of inquiries, from quantitative to qualitative to critical to even “just plain messing around” (Pearson, 2004, p. 235). Let the question drive our methodology and epistemology—in essence, let us use a wide array of methodologies and approaches within our research communities. The goal should not be to replace one worldview with another; rather, the aim is to understand and resolve problems using the tools that emanate from different worldviews.

I have no strong biases against the use of either inductive approaches (e.g., the work of Charles Darwin) or deductive approaches (e.g., the work of Albert Einstein), although I am aware that some scientists and researchers do favor one over the other (e.g., see McGuinness, 2005). However, I think both approaches are necessary to advance knowledge (cf., see Popper, 1972). Whatever approach is used to develop theory and conduct research is acceptable as long as there is a reciprocal relation between theory and research. That is, theory building needs to yield to new research findings that either support or refute aspects of the theory, and research thrusts should be guided, eventually, by well-grounded and developed theories—although I am intrigued by the notion of falsification (e.g., Popper, 1972). If all of these activities inform practice, and practice informs theory and research, that is icing on the cake.

I am most interested in building on previous studies and in research that can be generalized, despite individual differences or other confounding factors. I do not deny the existence or denigrate the importance of individual differences or variations. These human nuances should contribute to the development or refinement of a theory or model, not cause educators or clinicians to believe that theorizing or modeling is not practical or useful. In fact, we need the particular and the individual via qualitative analyses to truly understand our quantitative results.

In my view, the description above reflects the nature of traditional science and the use of the scientific method. In any case, science is one method for making progress in our understanding of language acquisition and what to do with respect to teaching and developing it. It might not be clear that there is a best method or a best theory for understanding language—nor whether there will ever be. This does not diminish the use of the scientific method—it only highlights its limitations. Or, from another perspective, it might highlight the shortcomings of individuals who conduct research (e.g., see McGuinness, 2004, 2005) or who synthesize research—similar to what I am attempting here.

With respect to language and literacy development, I have been strongly influenced by the cognitive perspective, especially the work of Noam Chomsky (e.g., 2006). Although I am a staunch supporter of Chomsky, this does not mean that I do not value the contributions of social and cultural factors (e.g., Colston & Katz, 2005). In any case, Chomsky's views have shaped my thinking, and these views have been integrated with my understanding of cognitive-interactive theories of reading and writing. These influences, and others, can be seen in the rendition of my concept of literate thought (see Chapter 9) as a major goal in the development of language and thought in children who are deaf or hard of hearing—indeed, in all children.

My intent is to use the framework described here to guide my discussion of language theories, research, and issues, and of the development of English via the language/communication systems (signed and oral English) as well as through the use of American Sign Language. I also cover the development of English reading and writing and the instruction and assessment of language. If I can render the concepts of language and its development in deaf and hard of hearing children instructive, informative, and enticing (i.e., to encourage individuals to do further study and research), then I have done my job. If what I have to offer actually results in an improvement of instruction, research, or theory, that is even better.

Nevertheless, the real crux of my integrative conceptual framework (i.e., the use of synthesis) is that it should be subjected to intensive challenges and questioning. Bring on the vituperative remarks concerning objectivity and biases! Surely, there is room for improvement in my conceptual engineering process. However, to clear the confusion, there needs to be an agreement on the rules of logic and science in the arguments. Also, constructing an integrative conceptual framework can result in original, productive ideas and approaches similar to the outcomes of empirical explorations (e.g., Ritzer, 2001).

In my view, the real danger is to conclude that there is only one paradigm (or perspective) for understanding language or even for the pursuit of knowledge in other academic areas. There seems to be a great need for certainty when it comes to knowledge, and the total acceptance (worship?) of one position or ideology often leads to the suppression and neglect of others. Of course, the need for certainty is even more pressing in the case of parents or caretakers, who want *answers* for developing language in their deaf or hard of hearing children. Who can blame them? Unfortunately, this demand for certainty can cause problems for professionals, and it often leads to unrealistic or false promises for developing language in children and adolescents with language delays or disorders. I do not envy the tasks of educators and other professionals such as speech and language clinicians, albeit I am wary of narrow perspectives and simple solutions. Scholars, including educators and clinicians, need to proceed at a cautious, reflective pace in proffering understandings or knowledge about the development of language.

In attempting to understand language and other entities, the liberating influence of doubt should be highly valued. We need to oscillate prudently between complete acceptance and complete skepticism. A good analogy has been made by Bertrand Russell, who wrote on the value of philosophy, words that can be extended to the value of science, especially to the study of language:

Philosophy is to be studied, not for the sake of any definite answers to its questions, since no definite answers can, as a rule, be known to be true, but rather for the sake of the questions themselves; because these questions enlarge our conception of what is possible, enrich our intellectual imagination and diminish the dogmatic assurance which closes the mind against speculation; but above all because, through the greatness of the universe which philosophy contemplates, the mind also is rendered great, and becomes capable of that union with the universe which constitutes its highest good. (Perry & Bratman, 1993, p. 5)

SUMMARY OF MAJOR POINTS

I hope that, by now, you have found some possible answers to your questions during the reading of this introductory chapter. It is likely that a few of your questions will be answered in the subsequent chapters of this book. If not, I encourage you to do additional reading. I have no doubt that you will encounter a few perspectives that are different from those presented in this chapter and in the remainder of the text. This is a healthy situation, and one that should encourage debate and intellectual growth.

The major objective of this chapter was to provide a brief introduction to two major themes—the nature of language and the development of language in children who are deaf or hard of hearing. For most children, the learning of a language is fairly routine—almost magical; however, such is not the case for children with language delays or disorders. A synopsis of the major ideas in this chapter follows.

With Respect to the Nature of Language, It Was Remarked That

- Defining language is complex; often, it depends on the nature (background, education, etc.) of the person who is attempting to define the concept of language.
- There are three general models, and combinations thereof, for studying language: cognitive, social, and environmental.
- It is not always the case that one model or approach is completely right or wrong; there is an interrelationship among the various models and approaches.
- Language has political dimensions, which are often influenced by the identity of language.

Regarding Perspectives on Deafness, The Major Highlights Were

- Deafness is difficult to define; there is no God's-eye view of deafness.
- Clinical descriptions employ the use of audiological and linguistic dimensions such as degree of hearing impairment, age of onset, etiology, location, presence of additional disabilities, and hearing status of parents or caretakers.
- Within the cultural perspective, deafness is defined as a natural or cultural condition. The use of clinical descriptors is inappropriate and rejected.
- In the field of language and deafness, there are, for the most part, two languages, American Sign Language and English, and two forms, oral and manual, which are used in combinations to provide the foundation for the three major communication approaches—oral education, total communication, and American Sign Language.

- A better understanding of the communication approaches requires a better understanding of the concepts of exposure, representation, use, and instruction.

With Respect to Major Topics, The Following Points were Made

- To understand the treatment of topics in this text, it is important to possess a working knowledge of the structure and function of language.
- Structure of language refers to components such as phonology, morphology, syntax, semantics, and pragmatics.
- Function refers to the use of language, such as communication, thought, representation of information, expression of emotions, control of reality, and identity.
- Identity refers to entities such as personal, social, and political identity.

In the Personal Section on the Author's Framework, It was Remarked that the Author

- Favors the use of the traditional scientific method, particularly for building on previous research and for offering generalizations.
- Has been predominantly influenced by the work of Noam Chomsky and cognitive models of reading.
- Believes in the concept of objectivity, especially via the use of an integrative conceptual framework (i.e., synthesis), as in this text. Such scholarly endeavors—indeed, all scholarly endeavors—should continually be debated and tested in a scientific or logical manner.

Now that you have finished the first chapter, I bet (and hope!) that you are ready for more. All of the major topics and themes introduced here are elaborated upon in the rest of the book to assist you with the development of your integrative conceptual framework. Get ready for further discussion of the structure and function of language—the topics of the next chapter.

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