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Setting the Stage: Animating Ideas, Ambitious Goals, and Ardent Commitments

Why a Prism?

Every sentence enters our ears as just a stream of sound. Instantly an inner grammar analyzes it—as a prism divides light—and links different strings of information to different domains of mind (or “modules”).¹ Memory, vision, emotions, and intentions are all alerted by the contents of a sentence. The same kind of division happens *inside* grammar: a sound system, a vocabulary, a structure-builder, reference determination, pronoun analysis, and a host of hidden rules are all alerted and galvanized, much as the whole body goes to work to catch a baseball.

The plan here is to take that stream of speech apart, reverse course, and follow the sound back to see how the speaker’s mind puts language meaning together, all in just milliseconds—so quickly, in fact, that a real mechanism must be present. I will do my best to disassemble the deeper structure of grammar with a minimum of technical language. Most of the fine grain of grammar (child and adult) remains largely unseen and uncharted territory. We will get as close as we can to the edge of what linguists currently know about grammar, where you will see tantalizing opportunities to study your own intuitions and explore the grammar of children you know. To do that, I will outline the challenge facing children whose task is learning their first language. This challenge reveals, over and over, the intricacy of adult language. As children progress, adult expressions provide endless puzzles for them to solve. The puzzles lead to “mistakes,” which often elicit smiles or laughs from adults. Looking at those mistakes closely will, I believe, turn casual amusement into profound respect. The image of the child we come to witness reveals free will in thought, good will in conversation, and self-respect—a person whose recognizable dignity we should bear in mind.²

The language crafted by grammar then becomes a laser into life. It gives glimpses of the microscopic structure of human nature amid the great blur

of human affairs. One singular commitment of mine is to confront the great issues of the age, the “good” and the “evil” of linguistics and of life. Most new discoveries have positive or negative social consequences that should not be hidden beneath the mantle of “scientific objectivity.” Scientists must realize and accept that their work—their partial insights—has an instant impact on society. Just like doctors, who need to use the best knowledge available in choosing medicines, citizens need to use whatever knowledge is available to make linguistic decisions in their daily lives. For example, should my child have a reading tutor or will she catch up on her own? Should I correct my four-year-old’s spelling? It is impossible to postpone the social relevance of ideas. As soon as Einstein proposed relativity as a theory of physics, it had social implications. People soon asked, is all morality relative too?

The structure of society is instantly implicated as well. Very often, scientific studies are tinged with social overtones that favor one group of people. A *New York Times* article quoted a geneticist on race: “Scientists got us into this problem in the first place, with its measurements of skulls and emphasis on racial differences. Scientists should now get us out of it.”³ Yet, as the philosopher Simon Blackburn has argued, “Contemporary culture is not very good on responsibility.”⁴ Maybe we can see our way to some improvements. Scientists should acknowledge that abstract ideas have social implications, try to clarify what they are, and lay them out for public debate. My credo is simply that all knowledge entails responsibility.

Here’s one idea that carries responsibility: Knowledge of how language works is part of what we need to eliminate or reduce our quick, prejudicial social judgments about accents and tiny grammatical differences. From my perspective, human society must fight language prejudice as we fight racial prejudice. If we grasp in detail the scientific arguments showing that every language and every dialect, like African-American English (sometimes called Ebonics), is systematic, comprehensible, and legitimate, that knowledge will help achieve an egalitarian society.

This view of the role of knowledge entails the philosophy of democracy: the consequences of science are for society, not just scientists, to determine. Language policy should be consistent with insights from linguistic research, but it must also flow from a society’s values. We must all help to shape social policies that reflect what research reveals.

Not every reader will agree with the views I have derived from my work in language acquisition. I hope to engage your opinions and values. We will often fence with common sense in this book. For instance, common sense

says that pointing to the world around us and fulfilling desires within that world is what prods the child to communicate and thus provides the vehicle of instruction in language. But common sense can err. Science is most profound and successful when it departs from common sense.

Modern linguistics argues that the social and physical environment is necessary to language learning, but it is little more than a crude crutch upon which is perched a wonderful and delicate kind of mental growth, quite free of the physical world. A child's language reveals how much the "real" world is a world of imagination, and how much a child's words are about ideas and not about things. Montesquieu once said that the present is nothing but the past colliding with the future. Language is where the practical needs of communication collide with the philosophical disposition of human beings. Every utterance entails an "attitude" toward the world. Children do not simply refer to things. Indeed, they make their own philosophical observations, like the five-year-old who said, "Everything is like another thing because everything is something," exhibiting a philosophical distance far above the demands of everyday life. Another child was heard to say, "Don't uncomfortable the cat," producing an imaginative imperative from her own perspective by giving a power to English grammar that it does not have, but grammars of other languages do have—that is, making an adjective, *uncomfortable*, work like a verb.⁵

Linguistic theory, for which this book is an advocate, argues that grammar, just like vision, is fundamentally innate. As a wealth of detail will show, there is no real alternative to the assumption that principles of grammar are inborn, especially where grammar *coordinates* information from other parts of mind. That is, guided by genetic structure, a child uses her innate knowledge of what human grammar must be like in the act of identifying the words and the special structures of one *particular* grammar. As the book progresses, I will try to give an intuitive representation of the fundamental formal principles of this innate human grammar.

Ethics

We have much to learn from medical ethics. A few decades ago, all knowledge was kept in the hands of doctors. Patients were not told if they would die, nor did they make decisions about risky operations. Now we see it as a patient's right to know that he will likely die, to know that an operation has a 20 percent failure rate, to try experimental drugs if he wishes to take the chance, and to know their side effects.

The growth of mental ability is no different. Parents have a right to know and participate in how their children gain and use language. And linguists have an obligation to make them as informed as possible. It is important to combat overprofessionalization, the idea that only professionals are competent to explore and judge child language. (A healthy antidote is a paper by the linguist Wayne O'Neil generously titled "Linguistics for Everyone.")⁶ In reality, although they are not completely reliable, parental anecdotes about what children say are a good starting point for research. Likewise, the most statistically sophisticated research in language acquisition can be unreliable if it is based on what turns out to be an erroneous view of grammar. All evidence should be taken seriously and all evidence should be viewed critically, whether it comes from parents or experts.

Public involvement in questions like these helps prevent the spread of misinformation and helps keep important questions alive that researchers may not see. It was the public who revealed that medical research was biased against minorities and women. Research into language disorders needs public involvement as well. Working out the implications of linguistic research for mathematics and literacy, for example, would benefit from the insights of teachers. In that respect, this book belongs in the tradition of the Institute for Science in Society, run by the physicist Herb Bernstein at Hampshire College, which maintains that there should be democratic involvement in both choosing research directions and defining scientific concepts.

Some Unusual Orientations behind This Book

Chapter Design

The part II chapters on acquisition (plus web-based extensions)⁷ share a common design. They take a commonsense look at how linguistic structures work, outline methods acquisition researchers have used to get inside those structures, highlight surprising examples that motivate modern research, and explore the literary and human dimensions of grammar. To remain true to the child's acquisition challenge, it is important to examine the outer reaches of grammar that every competent speaker of a language masters. This approach provides a taste of what each structure is like even if some details seem opaque. Each chapter starts out from a simple perspective, so I encourage you to just move on if you are so inclined.

Part III shifts from universals in grammar to where grammars vary. African-American English is enmeshed in the fabric of American life—it re-

mains both celebrated and reviled. This part examines both what is familiar and what may feel strange about African-American English and explores how it may affect children.

Part IV takes a second look at the image of mind behind grammar, at deeper questions of how creativity in language connects to issues of free will, and finally at the moral implications of how our study of children undermines or enhances their dignity. At bottom lies the question of how intellectuals who study human behavior exercise their responsibilities.

Novel Examples: A Method to Disassemble a Mechanism

Just as having a heart does not mean that one knows how it works, so the fact that we speak English does not mean that we know what it is. Linguists continually discover new facts about grammar that reshape their view of the mechanisms it employs. For instance, this contrast was not appreciated until fairly recently:⁸

John wanted someone to wash the dishes, and *so I did* (= wash the dishes).

does not mean the same as

John wanted someone to wash the dishes and *so did I* (= want someone to wash the dishes).

How does a child learn that a simple difference in inversion leads to a totally different interpretation? Is this remote adult stuff beyond the ken of any schoolchild? Recall from the preface the six-year-old who said, “My mind is very angry and so am I.” Notably, the child did not say, “. . . and so I am”! However much linguists must still ponder how to explain this piece of grammar, the six-year-old has already got it right. In most sciences, it is the extremes that provide the most insight; and so it is in linguistics, where the outer edges of grammar give the sharpest insight into the properties of grammar and mind, and provide the deepest challenges to the child.

Discussions with philosophers, psychologists, teachers, and parents all reveal that we often do not share a common vision of what grammar is. How could we, if current linguistic analyses are constantly deepening—going, so to speak, from linguistic molecules, to atoms, to quarks? Each discovery both affirms and alters our insights. It is easy to misconceive grammar fundamentally, if we do not see the abstract features and the new perspectives just coming into view. For that reason, as the discussion

proceeds I will always try to keep the endpoint in sight: it is the final state of the adult grammar where complexity forces hidden principles out into the open.

Explorations

Unusual Sentences Reveal the Most Sharp contrasts in meaning linked to subtle contrasts in grammar offer the best means to get a real grip on what grammar does. My first goal in writing this book is to bring grammar to life for everyone, by opening a window on what is unusual in grammar and in the language of children. Wherever possible throughout the book, therefore, specific “explorations” are suggested—mixing, I hope, depth and delight—as an informal way to glimpse a child’s grammar. The explorations are often fun for adults as well, whether monolingual, bilingual, or in the process of learning English. (My college students do them with friends.) Equally important is the fact that storylike contexts are clearer for adults than isolated judgments of grammaticality.

The explorations can generally be done with household objects or as part of a dinner conversation. The most important discussion in the book surrounds this simple question, which one can ask any child at dinner:

“Who is eating what?”

Adults know that this question requires *pairs* as answers: “Daddy is eating bread, Mommy is eating salad, and I am eating beans.” More technically, a competent English speaker knows that *who* and *what* call for a potentially infinite list and that the answer must be given pairwise.

This kind of double question plays a crucial role in the communication disorders test, the Diagnostic Evaluation of Language Variation, that Harry Seymour, Jill de Villiers, and I (along with many colleagues) have developed.⁹ It took more than twenty years of research in linguistic theory and language acquisition to discover the centrality of such questions to language competence and language disorders—like discovering a tiny but powerful enzyme.

Issues related to questions pop up everywhere. Plurals, for example, also involve sets. Adult English speakers know that the answer to the question

Do dogs have tails?

should be “Yes,” and that the answer to the question

Does every dog have tails?

should be “No.” Do children understand these two ways that plurals work? Just ask a child, “Does a dog have tails?”—you may well be surprised to find the answer is “Yes.” The explorations in chapter 8 address these questions and discuss where this difference comes from and why it can be a conundrum for a child.

Most of the language acquisition work done at the University of Massachusetts has been built around stories and pictures, as is common in language acquisition studies. As I was writing this book, it became clear to me that in many cases, it is easier to manipulate real objects than to understand stories or pictures. So I believe a number of the explorations outlined here can be turned into experiments that will reveal children’s knowledge of various structures, knowledge that has eluded researchers using standard methods.

Deliberately, I say very little about ages in this book. It is important not to convert the explorations into tests that may give parent and child a sense of failure. They should be closer to informal math games or Piagetian conservation games, which parents and teachers often play with children. Children learn gradually and at different rates. For instance, most children learn to skip rope in elementary school. Parents can enjoy teaching their children how to skip rope. They do not need to know whether the average child learns to skip rope at the age of six or the age of eight. We enjoy playing math games with children, but we do not need to know exactly when a child can first do subtraction. Language games should be the same.

A major goal of the explorations is not so much to see what a child has already mastered as it is to make us, as adults, aware of how very much children have to master in order to become mature speakers of a language. We should be careful not to draw conclusions too hastily if a child does not answer an exploration question as we adults would expect. There could be any number of reasons for a “wrong” (nonadult) answer: the exploration is misleading in some way; the child does not want to pay attention; the child’s grammar has not developed to the point the exploration is probing; the child is trying to use a grammar different from English (this claim will become clear later in the book); the child has not mastered all the grammatical features of a particular word (like *who*); the child has not phonologically identified the structure of a word, or has understood the wrong version of a homophone (such as *there/they’re/their*), or has misunderstood a word she doesn’t know (for example, *same*) as a word she does know (*some*). The fact is that when a child gives a nonadult answer, we really do not know why. It is only when the child does give the target answer that

we know something: the child has mastered the relevant grammatical construction.

If a child has difficulty with an exploration, just drop it (say, “That was a silly question”), wait six months, and perhaps try again. Many of the explorations in this book will be possible with two-and-a-half-year-olds, while others might be best suited to seven-year-olds, and most fall in between. Determining exactly where they fall is not a goal of this book.

Common Sense All of the explorations circle around the notion of common sense. It is partly how common sense itself works that we need to decipher in order to build an image of the mind that the child brings not only to language but also to life. But more often the proposals made here treat common sense like the enemy of understanding. Much of science succeeds by making the obvious seem strange (as when it asks about gravity, why do things fall down instead of up?). The diversity of grammars means that what is common sense to adults may not start out as common sense to a child. To grasp the child’s task, we must undo our own common sense.

Topics

In writing this book, I have omitted most of the usual language acquisition topics (such as the role of phonology in acquisition, complex questions, and missing tense). Rather than exploring what has already been done, I seek to develop a new range of questions. One reason for this is that it is important for everyone, especially language professionals, to see the full scope of the acquisition problem, so it is important to bring in as many dimensions as possible. In medicine, similarly, doctors cannot discuss only the diseases they understand well. To have a sense of what “good health” means, it is equally important to keep in mind both the well-understood terrain and the still underexplored aspects of human physiology.

It is also important to expand the acquisition agenda. My colleague Angelika Kratzer notes that philosophy made a serious mistake for half a century in looking primarily at the quantifier *every* and not at other quantifiers like *most*. Roger Brown, a pioneer in the study of child language, points out that linguists also need to guard against that possibility, by not looking at too few structures in acquisition. So I hope to open up new avenues of research by stepping into new domains.¹⁰

The last reason for choosing the particular topics I have included is simply one of personal preference: moving abstract linguistic discussions into

new experimental domains intrigues my imagination more than rethinking old experiments.

Style

Choosing a Human Rhetoric This book is written informally for two reasons. One reason is to have a human rhetoric for a very human domain. We all respond to what children say first as human beings, not grammarians.

The second reason is more serious. Colleagues sometimes urge professionals not to mix morals with intellectual discussion. One should keep the science clean. Others lament the absence of intellectuals who publicly interpret their results in a larger framework. In my view, every scholar should, at least once, discuss what light his or her field sheds on the world at large. I find that an informal style helps me to avoid claiming undue authority for views that are partly personal in origin.

Archeological Style and the Edifice of Ideas A few reflections on the intellectual style of the book. The edifice of ideas depends upon the edifice of evidence. Yet they are quite different in character. The ideas are driven by the goal of finding simple, tightly coherent abstractions. The evidence is culled from everywhere and resembles archeology more than experimentation. Some evidence is minimal and perhaps weak, while other evidence is extremely robust. Seeing the larger edifice is really building a house of hypotheses. First we need to see where the crucial joints in the house lie; then we can go out and devise new experiments to bolster the rickety pieces.

An archeologist studying Rome considers accidental trinkets, the Coliseum, and carbon dating all together. Similarly, the examples given here range from single anecdotes to conclusions based on results from studying more than a thousand children. While some pieces of evidence are much stronger than others, the evolving theory—whether of Roman history or of language acquisition—itself changes the strength of the data.

I downplay the strength and weakness of various pieces of data given in the book, partly to try to show the larger abstract edifice, and partly because much “strong” evidence is in fact misleading. Oceans of data supported the misguided ideas that children “learn by repetition” and that what is measured by an IQ test defines a single concept called “intelligence.”

Two properties of the data presented here lend cogency to the arguments in this book. First, it is *depth of detail in explanation*, not huge numbers, that is persuasive. To take an example from chapter 8 on plurals, it is the phonological impact of the “outside plural” (as when we say not **lowlives* but *lowlives*, where the plural attaches outside the compound *lowlife*) that is probably the strongest “proof” that a whole phrase is present in the formation of the plural, not just the word *life*.

Second, *diversity of evidence* adds considerable weight. Four quite independent pillars will jointly support the theory of plurals constructed in chapter 8: naturalistic anecdotes, experimental evidence, independent facts from phonology, and theoretical necessity. Again, the fact that numbers are strong in one domain and scanty in another is of little significance. The method I adopt here is just the method of linguistic theory, where the overall logic is more important than the strength of individual judgments.

A mechanical model means that we really believe that a particular feature—like a screw (or an O-ring on a spaceship)—could be missing. If our logic leads to that insight, however evanescent the evidence, we take it seriously. In fact, we do not have a scientific description of what any single thought is. We cannot actually say how our minds add $2 + 2$. Should we not be wary of tests that claim to know what IQ is? The best assumption is that all data should be treated with both respect and suspicion, whether they are anecdotal or statistically robust. A truly explanatory theory will be inherently convincing. The data which showed Galileo that the earth circles the sun were unusually fragmentary.¹¹ Yet when he imagined the missing links, the conclusion was compelling.

The same archeological perspective on data is true for the study of grammar itself. Some intuitive judgments are rock solid and others are very flimsy. So far, no construction has bottomed out. New subtleties of meaning keep emerging. We cannot be sure what the bedrock features are—as if we look through ever more powerful microscopes. We are well advised to take data and ideas from all quarters seriously. That includes not only grammatical intuitions, acquisition, and disorders, but also neurology, logic, epistemology, anthropology, and computer science.

“Axioms” of How Acquisition Happens

Universal Grammar

Modern linguistics is based upon the great philosophical shift initiated by Noam Chomsky, who has used language to argue that minds are real and

cannot be reduced to purely physical concepts (a sophisticated topic to which we return).

Within this general view of mind and language, Universal Grammar is a hypothesis about innate mental structure—accepted by the vast majority of linguists—that makes grammar akin to vision. Universal Grammar defines an infinite but still very narrow range of options for grammar. Some properties (such as the notion of hierarchical structure) are very general and partake of broader cognitive ability, while others (such as the notions “noun” and “verb”) are astonishingly precise. The abstract and the specific intermingle in strange ways that hide deep principles. Here is an example. Sometimes words can *move* inside sentences (*I will* can turn into *will I*), but sometimes they cannot. For instance, in English *Here is a hat* is grammatical, but *Is here a hat?* is ungrammatical—yet *There is a hat* can become *Is there a hat?* Why should there be a difference between *here* and *there*? No child is taught that *Is here a hat?* is not all right, and that only *Is a hat here?* is acceptable. What deep principle dictates this difference? Such grammatical subtleties may seem a bit obscure now. The ensuing chapters will, I hope, shed light that makes them obvious.

What Drives the Child to Make Grammatical Distinctions?

As you begin to glimpse the vast array of subtle distinctions that children must master, you may feel like asking, Why should they bother? Why do children pursue them all, and indeed, why have we adults not chosen simpler modes of communication? What *drives* acquisition? Linguists have by no means all the answers to this deep question, much as scientists cannot explain the dazzling variation in species—or even among human faces. But some things are fairly clear.

Much of first language learning proceeds without any motivation. The prism metaphor applies just as well to sound as it does to sight. We need no motivation to discern color, angle, or objects when we open our eyes. Our biology does this for us. Likewise, when sound streams into our ears, the inner analyzer goes to work without the bidding of any communicative goal, picking out sounds, syllables, and words.

Each new sentence we hear is a new invention, an original application of rules. It disappears from consciousness within 500 milliseconds or so. That is, we lose the verbatim version immediately. So syntax must rapidly decode each utterance and deliver a meaning, which is then what we remember. We have a memory for words but not for sentences and their syntax.¹² That makes success in acquiring syntax even more puzzling than success in

deciphering words. A child learns grammar even with no time to think about it: human minds keep meaning and drop syntax within seconds, even though holding onto syntax might help learning.

The absence of time to ruminate on syntax is a strong clue from the outset that we are dealing with an innate biological program, a set of grammatical formulas that are there already, whose details can be instantly filled in during the fleeting moment the child holds onto the syntax of an incoming sentence.

Basically, the same claim holds for both syntactic and semantic subtlety—we humans are just built to break down everything that Universal Grammar can absorb. If we hear both *a hat* and *the hat*, our inner analyzer just wants to attach a difference. Furthermore, Universal Grammar says that grammars *must* have a way to distinguish something nonspecific (*a*) from something unique (*the*) (though the story of *the* is far more complex, as chapter 5 reveals). So the inner analyzer automatically tries out the idea that one of those bits of sound, *a* or *the*, could be a specific marker and one could be nonspecific. What type of situation might point out the difference to a child? Well, suppose the child hears someone say, “John and Mary both have a book,” and observes that John and Mary each have a different book. That is a clue that *a* is nonspecific. If the child hears someone say, “John and Mary both have the book,” and observes that, lo and behold, they are both reading the very same book, then he has a clue that *the* is linked to something definite and unique. It is important to see that context is often needed to confirm a hypothesis that Universal Grammar automatically delivers.

Why, then, does it not happen in an instant? Partly it is because a lot more options are open than the speaker of any given language realizes. For instance, it could be that uniqueness is linked to intonation, or a suffix, or indeed an infix. Faroese puts an article *inside* a word—the equivalent of saying *ele-the-phant* in English. I will argue, in fact, that the child tries out many hidden hypotheses, quickly rejecting some and silently considering others for a while. Here is one that may not last more than an hour. In many languages, articles carry gender. So when an English-learning child hears *the man*, she might decide that *the* means “the-masculine.” It is good to make the richest guess first, because it will be right sometimes. In German, for example, the article *der* in the phrase *der Mann* is in fact masculine, so a child making the “*article* means ‘article-plus-gender’” guess would be right. Of course, within an hour our English-learning child might hear *the girl*, which would knock out the idea that *the* carries masculine gender. Other possibilities could last longer. Suppose a child decides that

-er freely adds an agent to any noun or verb and makes up a word like *storier*, as children do. Learning that *-er* only attaches regularly to verbs that have an agent, so that *seemer* isn't possible, is harder and does not happen at once. Moreover, there are many idiomatic counterexamples like *New Yorker* and *Detroiter*. So the surface of grammar offers many false leads about where the universals are hiding. In addition, the surface of language is laden with ambiguous phonological and lexical variation that children must disentangle to see where the universals are. So the child must be on the lookout at many levels. English has *to*, *too*, and *two*—and *too* itself has two meanings, “very” as in *too big* and “also” as in *me too*. Why does English have five kinds of *there* and three forms of *that*? Every language marks propositionality somehow, but is it marked by the equivalent of the word *that*, *so*, *and*, *then*, by an intonation pattern, or what? The child knows he must look for a proposition marker, but there are many options across languages. Universal Grammar is very tight in its underlying principles, but broad in their varied expression. It is the surface ambiguities that can obstruct the child and make the process slower. Indeed, it seems that acquisition would be simpler if nature spared us some of these puzzles. Perhaps, as some linguists suspect, there are helpful connections we have not seen, a hidden ladder children can climb easily once they find the first rung. Why do so many grammars (English, German, French, Hebrew, Russian, to name a few) have a directional preposition that seems to be the same as the infinitive marker (in English, *to* as in *to Bill* and *to run*)? Is it a confusing ambiguity that slows down acquisition, or does understanding directional *to* somehow help the child in understanding future or intentional *to*? There might be a connection, but we need to formulate what it is before we can say that the child uses it.

Does motivation to communicate play at least a small role here? It probably does, but the process is very obscure. I might listen hard if I know that someone is saying something important—like why I cannot have any more chocolate. But let us pursue the visual metaphor again. Looking hard, even squinting, may help us isolate a detail, but it does not change the process of vision much: color, angles, distance are all computed without special effort. Motivation probably applies only at a very broad level in language too; the details all come automatically.

Could some features of first language learning be slowed down by maturational processes? This feels like an attractive option because the meaning of so many words requires maturity. The concepts designated by the words *maturity*, *puberty*, or *flirtation*, for example, do not seem to be what children are thinking about. This does not mean that the grammar

itself matures, though logically it could. I expect that very little of language is subject to maturation, just as with other organs. When a baby is born, little is incomplete in hearing, seeing, and digesting, for example; and accomplishments like physical coordination mostly involve fine-tuning processes that are already in place.

Nonetheless, in chapter 8 I will suggest, very cautiously, that the notion of variable hidden in quantifier words like *every* may involve maturation or be implicated in disorders. Others have made different but possible claims about maturation.¹³ At bottom, it is extremely difficult to know whether it is surface ambiguity or true immaturity that blocks recognition of a grammatical distinction.

What Nudges the Child Along?

What nudges the child along is really the unanswered question that lies behind all of linguistic research. Linguists do not know the answer.

Sometimes, however, we can locate sharp triggers that lead to grasping a distinction. For instance, how does a child know that *there* in *There is a bear* is a statement about existence and not location? Universal Grammar dictates that children are looking for existence markers. A sentence like *There is a bear here* would be a contradiction if it involved two locations. If a child hears this sentence in a situation where a bear is clearly *here*, not over there, then he has a strong clue that *there* is an expletive, a marker denoting existence.

As mentioned earlier, the explorations suggested in this book often put children in a similar contextually sharp situation that may indeed help them along even if they initially give the wrong (nonadult) answer. Even if the child is initially confused by the instruction “Put the chair here there and the one there here,” she has heard a clue that she has to sort out how *here* and *there* operate in different parts of a sentence. (Despite the complexity of that instruction, informal experiments by my undergraduate students indicate that three-year-olds have no trouble computing it.) So when a visitor then asks, “When I am here, should I put my shoes there?,” she can begin to realize that a “large” *here* (meaning, in this case, “in this house”) is involved. As parents and teachers, we do not really know how reading ability is achieved either, so we give children lots of stimuli and lots of support (pictures and repeated use of certain words). The explorations in this book are a bit like reading readiness games that are played in kindergarten—and I propose that in fact, grammar readiness should be promoted the same way as reading readiness.

What Should We Conclude from a Child's Mistakes?

As when a child falls short of the adult target in answering an exploration question, we should not draw hasty conclusions about any of a child's apparent errors. Like the failures of a child who falls off a bike a number of times before getting his balance, the failures of a child attempting a particular grammatical construction may contain the seeds of success. Knowing that the body learns about balance with each fall, parents are not too disturbed by this type of failure. After a few falls, a parent notices some wobbly successes—the child balances a little longer before a fall. This kind of minute improvement is probably happening in grammar in an equally invisible way.

Children's errors can be a source of great insight for researchers. Often we can see that the child is trying out a grammar that is the grammar of some language other than English. Here is just one example; we will look at others later on. The child who said,

"Only I want milk,"

to mean

"I want only milk"

apparently assumed that *only* is a movable adverb, found in the grammars of many of the world's languages. In English, for example,

I always play baseball.

and

I play baseball always.

mean the same thing, so the child's grammar analyzer reasons, "Why should *only* not move around the same way?" (see chapter 8). The best assumption is that mistakes are growing mistakes, from which the child takes away some clue we cannot see.

In sum, we have peeked at a few upcoming puzzles of grammar and squared away a few background assumptions about acquisition. Now we will examine the larger gestalt of the human mind that emerges when we treat all action as if it flowed from a "grammar"—a viewpoint that contrasts sharply with traditional psychological methods and ideas about early cognition. Then we will be ready to look at a child's very first steps in acquisition. What assumptions does a child bring to his very first word? It looks like the simplest moment in acquisition, but actually remains enigmatic to this day.

