**Echahid Hamma Lakhdar University, El-Oued**

**Faculty of Arts and Languages**

**Department of English Language**

**Linguistics: Lectures for Third Year – LMD Students**

**Mr. Nacer DEHDA**

What Is Language Acquisition?

Many people believe that language is what sets humans apart from other animals. Languages are highly complex and sophisticated systems. So how do we humans manage to learn such complicated systems? A predominant theory assumes that part of our ability to acquire language is ***innate*** and that children learn language by “inventing” the rules specific to their language.

When acquiring one or more native language(s), all children go through the same stages of language development: they start by babbling, then learn their first words, go through a so-called one-word stage (during which they can utter only one word at a time), enter the two-word stage, and finally learn the more complex structures of their language(s). Language acquisition is not limited to children; many people learn a second language later in life. However, second-language acquisition can differ from first-language acquisition in many respects.

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1. Theories of Language Acquisition

**1.1 About Language Acquisition**

Humans are not born talking. Instead, we typically learn to understand language and to speak during the first few years of our lives, before we even enter kindergarten or grade school. Language is a communication system consisting of sounds, morphemes, words, and rules for combining all of these. The knowledge of these elements enables people to understand and produce sentences they may never have heard or uttered before. So how does a child acquire this knowledge? If knowing a language were simply a matter of knowing a lot of words, language acquisition would just be a process of figuring out what the words were and memorizing them. Instead, children must acquire a grammar with all its components and rules. How do children learn these rules? For instance, how do they learn that the morpheme un- (meaning ‘not’) attaches to adjectives to form other adjectives having the opposite meanings? How do they learn to compose a sentence from a noun phrase and a verb phrase? Rules, unlike words, are never explicitly stated, so the child cannot just memorize them: he must somehow figure the rules out on his own—a remarkable intellectual feat.

Various theories have arisen that attempt to account for how children acquire language. One theory that has found a lot of support throughout the years is that at least part of the human language ability is ***innate***. We will first explore the innateness hypothesis and the evidence for it.

However, innateness alone does not answer all of the questions about how children acquire the specific language that is spoken around them. Again, there are a number of theories that have been proposed for how additional, more specific knowledge is acquired. We will briefly consider two early ones, ***Imitation Theory*** and ***Reinforcement Theory***, which have been refuted but which remain part of popular belief. It is therefore important to point out why these theories are inadequate. We will then consider three more current theories of language acquisition: the most influential of them is the ***Active Construction of a Grammar Theory***. This theory is the one that most linguists believe today. However, there are a number of influential competing theories. Of these, we will introduce ***Connectionist Theories*** and ***Social Interaction Theory.***

**1.2 The Innateness Hypothesis**

A hypothesis underlying many theories of language acquisition asserts that language ability is innate in humans. That is, humans are genetically predisposed to acquire and use language (though not any particular language, of course). This theory claims that babies are born with the knowledge that languages have patterns and with the ability to seek out and identify those patterns. Some theorists have even claimed that humans have innate knowledge of some core characteristics common to all languages, such as the concepts of ‘noun’ and ‘verb.’ These basic features shared by all languages are called linguistic universals, and the theoretically inborn set of structural characteristics shared by all languages is known as universal grammar. No one knows exactly what the contents of universal grammar might be, though this is currently an active area of research in linguistics.

The claim that linguistic ability is innate in humans is supported by, for example, the work of biologist Eric Lenneberg. He studied animal behaviour and developed a list of characteristics that are typical of innately determined behaviours. Innate behaviours are present in all normal individuals of a species, whereas learned behaviours are not. Walking, for instance, is a behaviour for which humans are genetically predisposed (that is, humans learn to walk as a natural part of development, without being explicitly taught), but playing the piano or riding a bicycle must be specifically taught. Is talking like walking, or is it like playing the piano?

To answer this, let’s examine Lenneberg’s characteristics of biologically controlled behaviours. If language acquisition has each of these characteristics, we can safely assume that it is a genetically triggered behaviour.

(1) Lenneberg’s characteristics of biologically controlled behaviours:

1. The behaviour emerges before it is necessary.

2. Its appearance is not the result of a conscious decision.

3. Its emergence is not triggered by external events (though the surrounding environment must be sufficiently “rich” for it to develop adequately).

4. Direct teaching and intensive practice have relatively little effect.

5. There is a regular sequence of “milestones” as the behaviour develops, and these can usually be correlated with age and other aspects of development.

6. There is likely to be a “critical period” for the acquisition of the behaviour.

Lenneberg further proposes that innate behaviours have a critical period associated with their emergence. The term critical period describes a period of time in an individual’s life during which a behaviour—in this case language

—must be acquired; that is, the acquisition will fail if it is attempted either before or after the critical period.

The critical period for language acquisition is assumed to extend from birth to approximately the onset of puberty. During this time, a child needs exposure to language in order to develop the brain structures necessary for language acquisition. If a child is not exposed to language at all during this time, then the child will never acquire normal language skills and, in fact, may not acquire language skills at all. If a child has acquired a native language during the critical period and starts learning a second language before the age of twelve, the child will likely achieve native competence in this second language as well. However, if the second language is learned after about age twelve, the child is likely never to acquire complete native competence in the language.

How can we tell whether there really is a critical period for first- language acquisition? To prove this, we would have to show that language skills could not be acquired normally or even at all if the learning began after the critical period had ended. This could be accomplished by depriving a child of linguistic input for the early years of life, but obviously it would be highly unethical to submit a child to such treatment. However, there are least two sources of information available to linguists that support the claims that there is a critical period for first-language acquisition.

First, evidence for the critical period hypothesis comes from children who, owing to unfortunate circumstances, were exposed to little or no language during their early lives. These children were either neglected by their caretakers (neglected children) or grew up in the wild, often with animals (feral children). When these children were rescued or discovered, researchers attempted to help them acquire language. The success of these attempts depended largely on the age at which the children were discovered. We will consider two such cases, outlined below:

**Genie was found in 1970 when she was nearly fourteen years old. She had been abused and isolated since the age of twenty months. When first discovered, Genie was completely silent. Thereafter, her language acquisition was extremely slow, and although she did learn to speak, her speech was abnormal. She was able to memorize many vocabulary items, but her expressions were formulaic, as in what is X and give me X. She never learned grammar.**

**Isabelle was discovered in 1937 at the age of six and a half. Her mother was deaf and could not speak. Isabelle’s grandfather had kept Isabelle and her mother isolated but had not otherwise mistreated them. Isabelle then began lessons at The Ohio State University, and although her progress was at first slow, it soon accelerated. In two years her intelligence and her language use were completely normal for a child her age.**

At first sight, the cases of Genie and Isabelle seem to provide good evidence for the critical period hypothesis: Genie, discovered after the supposed critical period was over, never learned language; Isabelle, discovered before the end of the period, did. But evidence from feral or neglected children is problematic. Such children are usually traumatized or are not socialized before they are rescued or found. So it is possible that it is not the lack of exposure to language but rather a larger trauma that prevents them from acquiring language properly. For example, Genie had been beaten by her father for making noises, so her difficulty with language could have had multiple causes. The case of Isabelle is problematic for the opposite reason: prior to being found, she was locked in a room with her mother, and although her mother could not speak, they developed a rudimentary personal gesture system to communicate. Thus, Isabelle did have some exposure to a communication system during the early years of her life. It is possible that Isabelle acquired language not because she was discovered at an earlier age than Genie, but because she had access to a rudimentary communication system. Likewise, it is possible that Genie didn’t learn language not because she was discovered at an older age than was Isabelle, but rather because she had been abused.

Stronger evidence supporting both the innateness of language and the critical period hypothesis for first-language acquisition can be found in instances of deaf children and adults who were initially raised in environments without access to signed language input. One particularly illustrative example is the case of the deaf population of Nicaragua in the late twentieth century. At the end of the 1970s, following Nicaragua’s civil war, the country founded a new state school for the deaf. In the late 1970s and early 1980s, deaf children and adults were able to come together in a way that had not been possible earlier in the country’s history. Most children and adults arrived at the schools with idiosyncratic and rudimentary homesign gesture systems. Homesign gestures are communicative gestures (a form associated with a meaning) that are invented by deaf children and the people with whom they routinely interact in cases where a signed language is not made available. Homesigns may represent the names of individuals such as family members and the names of common activities (‘eat’) or common objects (‘house’) that are often referred to. However, a homesign system is not a language: it is an extremely limited lexicon without a grammar. Thus the students arrived at the school with backgrounds that involved social interactions and communication and that were normal in every way except that they did not include exposure to language.

Soon, combining the homesigns that the students brought with them as well as some newly created signs, the children at the school created a pidgin (a type of simplified language) to communicate with each other. After the pidgin was created by the first students at the school, younger children came and were exposed to the pidgin. Without instruction, and based only on their exposure to the pidgin used by their older peers, these younger children created Idioma de Signos Nicaragense (ISN), which is a full-fledged language with a complex system of grammatical rules.

The creation of ISN has been cited as evidence for the innateness of language, because within two or three generations of students, children created a new and complete language. Because they did not have exposure to any other linguistic system, all of the grammatical principles that were developed in ISN must have arisen through some innate ability in the children to create a complete grammatical system.

However, those students who first came to the school as older children, and who had not acquired any linguistic communication system prior to the time that they enrolled but had otherwise grown up in a caring environment, did not perfectly acquire this new language: in adulthood, their language use still resembles the pidgin, and there are inconsistencies in their use of phonological, morphological, and syntactic principles of the sort that one would not see in a native speaker of the language. This evidence supports the critical period hypothesis because the older children came from backgrounds similar to those of the younger children, yet they were unable to fully acquire language.

Support for a critical period for second-language acquisition involves comparing the acquisition of a second language by children and by teenagers and adults. Teenagers and adults have more difficulty learning languages than do children. People who have learned a language as an adult almost always have a foreign accent, indicating that they have not acquired the phonological rules of the second language perfectly. They may also find syntactic and other rules difficult to master completely. Children, however, can acquire a second (or third) language easily and completely as long as they have sufficient input from those languages. This ability tapers off around the age of puberty. However, the idea of a critical period for second-language acquisition is very controversial. Critics argue that there are (rare) cases of adults learning a second language perfectly. Furthermore, it is possible to learn a second language at any age. Rather than a critical period, there seems to be a steady decline in how well one can learn a second language. Finally, factors such as teaching methods, motivation, identity, dedication, utility, and so on, play a role in how successfully a second language is learned, and these factors may also change with age, confounding studies looking for critical period effects in second-language acquisition.

Another concern related to the critical period hypothesis is that different aspects of language acquisition may behave differently relative to the critical period. For example, many feral or neglected children gain the ability to learn vocabulary and to understand others’ speech, but they are not able to learn to use syntax productively. Second-language learners are able to learn large amounts of vocabulary and frequently master the language’s syntax, but they rarely master the phonological system. This suggests that a critical period may exist for certain aspects of language (syntax in first-language acquisition and phonology in second-language acquisition), but not for others.

Despite our lack of a complete understanding of the acquisition process, we can conclude that language acquisition shows characteristics of being an innate human behaviour.

**1.2 Imitation Theory**

Even if language acquisition is an innate human behaviour, the question still remains of how specifically it is acquired by children. The first two theories we will discuss have generally been refuted, but, as is often the case, there is a grain of truth in both that keeps them part of popular belief, even though there is much about the acquisition process that they are incapable of explaining.

We will first consider ***Imitation Theory***, which claims that children learn language by listening to the speech around them and reproducing what they hear. According to this theory, language acquisition consists of memorizing the words and sentences of some language. The idea that acquiring a language is a process of learning to imitate the speech of others is at least partly true, of course. Since the connection between the way a word sounds and what it means is largely arbitrary, children cannot guess what the words of their target language are. They must hear the words used by other speakers and then reproduce or “imitate” them. This theory also helps explain the fact that children learn the language that is spoken around them by parents, caretakers, and others, regardless of what the language of their ancestors may have been. Thus a Korean child, for instance, will speak Korean if raised in a Korean-speaking environment, but Arabic if raised in an Arabic-speaking environment. In other words, a child’s genetic makeup has nothing to do with which language the child will acquire.

Unfortunately, however, Imitation Theory explains little else of what we know about language acquisition. Children’s speech differs from adult norms: it is full of “errors” of many types. A two-year-old might say nana for adult banana, a three-year-old might say Mommy tie shoe, and a four-year- old might say hitted or goed rather hit or went.

The last example clearly cannot be a case of imitation because children would not have heard an adult say hitted or goed. Rather, it seems that the child who says hitted has a rule in her internal grammar that adds -ed (pronounced as [d], [t], or [əd]) to a verb to make it past tense. The child has not mastered the exceptions to this rule, such as the use of hit rather than hitted in the past tense. However, Imitation Theory fails to acknowledge that a child has any sort of internal mental grammar that includes rules for combining words and other elements in systematic ways, so it would incorrectly predict that a child would not produce words like hitted.

The most serious fault of Imitation Theory is that it cannot account for how children and adults are able to produce and understand new sentences. If children learned only by imitation, the only way they could understand a sentence is if they had heard it before. However, we know that there are an infinite number of possible sentences in any language, and speakers (even children) are able to understand and produce completely novel utterances.

**1.3 Reinforcement Theory**

***Reinforcement Theory*** asserts that children learn to speak like adults because they are praised, rewarded, or otherwise reinforced when they use the right forms and are corrected when they use wrong forms. However, the claim that parents and other caretakers frequently correct their children’s grammatical mistakes and praise their correct forms is unfounded. Such corrections seldom happen, for although parents often do correct their children, their corrections generally have more to do with the accuracy or truth of a statement than with its grammatical form. Thus, The dog wants to eat may receive the response No, the dog doesn’t want to eat if the dog has just finished its dinner, whereas the sentence Robin goed to school today may receive the response Yes, he did if Robin did go to school that day.

Reinforcement Theory is also contradicted by the fact that even when adults do try to correct a child’s grammar, the attempts usually fail entirely. Consider the following conversation:

**Child:** Nobody don’t like me.

**Mother:** No, say “nobody likes me.”

**Child:** Nobody don’t like me. (repeated 8 times)

**Mother (now exasperated):** Now listen carefully! Say, “Nobody likes me.”

**Child:** Oh! Nobody don’t likes me.

Notice that although the child does not form negative sentences in the same way the adult does, the child’s utterances follow a pattern just as the adult’s do. The child’s way of forming negative sentences involving nobody is completely regular: every such sentence contains nobody + a negative auxiliary verb, such as Nobody can’t spell that or Nobody won’t listen. If the child produces a variety of such sentences, then he or she must possess a rule that defines this pattern, but the rule is not the same as the one in the adult’s grammar. Reinforcement Theory can explain neither where the child’s rule came from nor why the child seems impervious to correction. (Incidentally, the conversation sample above is a good example of how direct teaching does not help children to acquire language.

The next three theories are ones that are currently held (and debated) among language acquisition researchers.

**1.4 Active Construction of a Grammar Theory**

The Active Construction of a Grammar Theory, the most influential theory of language acquisition, holds that children actually invent the rules of grammar themselves. The theory assumes that the ability to develop rules is innate, but that the actual rules are based on the speech children hear around them; this is their input or data for analysis. Children listen to the language around them and analyse it to determine the patterns that exist. When they think they have discovered a pattern, they hypothesize a rule to account for it. They add this rule to their growing grammar and use it in constructing utterances. For example, a child’s early hypothesis about how to form the past tense of verbs will be to add an allomorph of -ed. All past tense verbs would then be constructed with this rule, producing forms such as holded and eated alongside needed and walked. Notice that at this point the child would have already learned the rules of when the regular past tense ending is pronounced [d], [t], or [əd]. When children discover that there are forms in the language that do not match those produced by this rule, they modify the rule or add another one to produce the additional forms. Eventually, the child has created and edited his or her own grammar to the point where it matches an adult’s grammar. At this point, there are no significant discrepancies between the forms produced by the child and those produced by the adults. Clearly, the child has a complete working grammar all along, even before it is essentially adultlike. The child uses this grammar to produce utterances; when those utterances differ from adult speech, they are reflecting the differences in the two grammars.

Within this framework, children’s mistakes are expected to occur and to follow nonrandom patterns. This is because the child is forming utterances according to grammatical rules even though the rules are often different from those that adults use. It is important to note also that active reinforcement by adults about a child’s mistakes is not enough to help the child “discover” what is wrong with his or her own utterances; the child must make the connection in his or her own time.

**1.5 Connectionist Theories**

Connectionist theories of language acquisition assume that children learn language by creating neural connections in the brain. A child develops such connections through exposure to language and by using language. Through these connections, the child learns associations between words, meanings, sound sequences, and so on. For example, a child may hear the word bottle in different circumstances and establish neural connections every time the word is heard. Such connections can be to the word itself, to the initial sound /b/, to the word milk, to what the bottle looks like, to the activity of drinking, and so on. Eventually, all of these connections become the child’s mental representation of the meaning and the form of the word. Connections can have different strengths, and language acquisition involves adjusting the strengths of the connections appropriately. The strength of a connection is dependent on input frequency. For example, if a child hears the word bottle more frequently in connection with milk than with water, then the connection between bottle and milk will be stronger than that between bottle and water. Thus, instead of developing abstract rules, according to connectionist theories, children exploit statistical information from linguistic input. Such theories assume that the input children receive is indeed rich enough to learn language without an innate mechanism to invent linguistic rules (though note that the ability to make statistical generalizations must be innate).

To get a better feel for how this theory works and how it differs from other theories, let’s look at the acquisition of the past tense of verbs again. The Active Construction of a Grammar Theory assumes that children produce words like goed or growed because they have formed a rule that tells them to add -ed to a verb to form the past tense. Connectionist models assume that the child merely exploits statistical information about forming past tenses. Thus, the child says goed and growed because the existence of forms like showed, mowed, towed, and glowed makes this pattern statistically likely.

Evidence for the exploitation of statistics as opposed to the development of abstract rules comes from experiments in which, for example, children create the past tense of nonsense verbs. For instance, when asked to complete the phrase “This man is fringing; Yesterday, he ,” many children create nonsense irregular forms such as frang or frought instead of the nonsense regular form fringed. Such data pose a problem for the Active Construction of a Grammar Theory, but the data can be explained in terms of a connectionist model. If children invent rules and then learn exceptions to the rules, they should produce fringed as the past tense of fring because it is not one of the learned exceptions. However, if children exploit statistical data, they would be expected to sometimes produce irregular forms because of their exposure to words like sing, ring, or bring.

Of course, it is possible that children both develop rules and also make use of statistical data. That is, it is possible that acquisition of grammatical rules proceeds according to a hybrid model and that children actively construct a grammar by establishing and exploiting neural connections.

**1.6 Social Interaction Theory**

Social Interaction Theory assumes that children acquire language through social interaction, with older children and adults in particular. This approach holds that children prompt their parents to supply them with the appropriate language experience they need. Thus, children and their language environment are seen as a dynamic system: children need their language environment to improve their social and linguistic communication skills, and the appropriate language environment exists because it is cued by the child. Like those who advocate the Active Construction of Grammar Theory, social interactionists believe that children must develop rules and that they have a predisposition to learn language. However, social interaction theorists place a great deal of emphasis on social interaction and the kind of input that children receive, instead of assuming that simply being exposed to language use will suffice. According to this approach, the ways in which older children and adults talk to infants play a crucial role in how a child acquires language. In many Western societies, speech to infants (child-directed speech) is slow and high-pitched and contains many repetitions, simplified syntax, exaggerated intonation, and a simple and concrete vocabulary. Consider the following examples from Berko Gleason and Bernstein Ratner (1998: 385):

(1) See the birdie? Look at the birdie! What a pretty birdie!

(2) Has it come to your attention that one of our better-looking feathered friends is perched upon the windowsill?

When pointing out a bird on the windowsill to an infant, adults and older children are likely to say something like (1) in a slow, high-pitched voice with exaggerated intonation. In addition, they are likely to point at the bird. The social aspect of the interaction involves sharing an observation with the child. All of this helps the child to decode what the speech might mean. No adult would normally point out a bird to an infant by uttering something like (2). Social interactionists believe that the way adults speak to children and interact with children is crucial to acquiring language.

Of course, one of the problems with this theory is that children eventually do acquire the ability to utter and understand sentences like those in (2). While child-directed speech may be crucial early on, it is unclear how long a child must be exposed to it. Furthermore, the characteristics of child- directed speech vary from culture to culture, and we do not at this point know what specific aspects of such speech might, in fact, be crucial.

At the same time, this theory is also not completely incompatible with either of the two previous theories. That is, the types of social interactions that infants have may, in fact, be invaluable to language acquisition, which may develop through neural connections and involve the hypothesizing of particular grammatical rules on the part of the child.

2. The Acquisition of Speech Sounds and Phonology

**2.1 Physiological Prerequisites of Sound Perception and Production**

Before children can begin to speak a language, they must first master several tasks related to the form of language: they must be able to identify the sounds (phonemes) of the language they hear; they must learn how to produce each allophone of these phonemes—the variants of the phoneme that depend on the context in which it occurs; they must decode the larger strings of sounds that they hear into syllables and words; and they must learn to combine the sounds into larger strings themselves. Below, we discuss the basics of how children learn to perceive and produce speech sounds, as well as some of the experimental techniques that researchers use to study child language acquisition.

1. **Identifying Sounds. In order to produce spoken language, infants first need to be able to perceive it. In fact, they are able to perceive many distinctions in language much earlier than they are able to produce them. Since we cannot just ask babies about their perception and receive an answer, special methodologies are needed to determine what they can and cannot perceive. One of the most successful techniques used for studying the abilities of infants up to the age of six months is called High Amplitude Sucking (HAS). In this technique, infants are given a special pacifier that is connected to a sound-generating system. Each suck on the pacifier generates a noise, and infants learn quickly that their sucking produces the noise. At first, babies suck often because they are interested in hearing the noise. They lose interest, however, in hearing the same noise over again, and their sucking rate slows down. When this happens, the experimenter changes the sound that the pacifier generates. If the infant sucks faster after the change, we infer that he has recognized the change in sound and is sucking faster to hear the interesting new sound. If the infant does not suck faster, we infer that he could not discriminate between the two sounds.**

Another important technique is the Conditioned Head-Turn Procedure (HT), usually used with infants between five and eighteen months. This procedure has two phases: conditioning and testing. The infant sits on a parent’s lap, watching a display and listening to sounds. During the conditioning phase, the infant learns to associate a change in sound with the activation of visual reinforcers. At first, the visual reinforcers are presented at the same time as the change in sound. Then the visual reinforcers are presented shortly after the change. The infant will begin to anticipate the appearance of the visual reinforcers and look for them before they are activated. During the testing phase, if the infant looks to the visual reinforcers immediately after a change in sound, we infer that the infant has perceived the change in sound and can thus discriminate between the two sounds involved. If the infant does not look to the visual reinforcers, we infer that he did not perceive the change and thus cannot discriminate between the two sounds.

HAS and HT have been used in many studies on infants to determine what they can hear and how they process what they hear. DeCasper and Spence (1986), for example, used HAS to show that babies can hear speech in the womb. The researchers wanted to see whether infants whose mothers had read a Dr. Seuss story aloud during the final six weeks of pregnancy would recognize the story after they were born. They therefore tested a group of infants whose mothers had read them the story, along with a control group of infants whose mothers had not. Within a week of birth, the infants were played recordings of a couple of stories, including the Dr. Seuss one. When the infants who had heard the Dr. Seuss story in the womb were played the recording of that particular story, they modified their sucking rate, but the control group showed no such change. DeCasper and Spence concluded that the infants who modified their sucking rate recognized the story as a new stimulus—that is, they heard it as familiar sounds after hearing the unfamiliar sounds of the other stories. The babies who did not change their sucking rate heard unfamiliar sounds throughout the experiment.

Perception studies have also shown that by the age of four months infants can already distinguish between the production of the vowels [ɑ] and [i]. In one experimental paradigm, infants are shown the mouths of two adult faces, one saying [ɑ], the other one saying [i]. Simultaneously, a tape plays one of the two sounds. When the infants hear an [ɑ], they show a preference by looking at the face saying [ɑ]; when they hear an [i], they show a preference by looking at the face producing the [i]. These findings suggest that infants of about four months of age are able not only to distinguish different vowel qualities but also to use visual cues to determine the kind of articulation involved in producing the sounds. In fact, the infants’ own coos differ in these two contexts: they are more [ɑ]-like (or [i]-like, respectively), to match the sound heard and the mouth watched.

**2.2 Babbling**

At the age of four to six months or so, children in all cultures begin to babble, producing sequences of vowels and consonants if they are acquiring spoken language, or producing hand movements if they are acquiring signed language. Children acquiring signed languages babble by moving their fingers in repetitive rhythmic ways that are very similar to the hand motions that will be needed for making actual signs. Some linguists assume that babies babble to practice the muscle coordination needed to produce language. In the case of spoken languages, this involves the opening and closing movement of the jaw and manipulating other articulators; in the case of signed languages, it involves hand and finger coordination. The following discussion focuses on babbling by children acquiring spoken language. However, apart from the modality, there seems to be no cognitive difference between the babbling of children learning spoken and signed languages.

As mentioned above, a baby’s tongue is relatively large compared to the size of its oral cavity. Since the tongue is attached to the lower jaw, as the lower jaw moves up, the tongue moves up with it. For this reason, it is very likely that the infant will produce vaguely palatal sounds like [ɲ] or [j] as the tongue moves up near the hard palate. Since the lower lip is also attached to the jaw, labials such as [b] and [m] occur frequently, too. When the jaw goes down and the tongue lies on the jaw, the infant is very likely to produce the vowel sound [ɑ]. These are, of course, not the only sounds that an infant produces, but they are likely sounds in the very beginning. Also, keep in mind that babbling a certain sequence of sounds is not a conscious process. It is probably accidental if the infant produces a syllable like [ti], since the tongue tip has to contact the alveolar ridge while the mouth is open.

Repeated or canonical babbling starts around the age of seven to ten months. The continual repetition of syllables helps the infant practice a sequence of consonant and vowel sounds. For example, a common canonical babble like [mɑmɑmɑmɑ] involves the sequence of a bilabial nasal consonant followed by a low vowel. Since babies breathe mostly through their noses, the velum is open already, and producing an [m] “just” involves closing the lips. However, practicing a sequence consisting of a nasal consonant and a non-nasal vowel also helps practice working on when the velum has to lower and open relative to when the mouth opens for the production of the vowel. Between about ten and twelve months of age, infants begin to produce a variety of speech sounds, even sounds that are not part of the language the child is acquiring natively. At this age, babbling is no longer canonical. Instead of repeating the same syllables as in [mɑmɑmɑmɑ], the infant strings together different syllables as in [buɡɑbimo]. This is called variegated babbling.

Though babbling is far from being language, it resembles adult language in a number of important respects. For one thing, babbled sequences are not linked to immediate biological needs like food or physical comfort and are thus frequently uttered in isolation for sheer pleasure. Moreover, babbled sequences have many physical characteristics of adult speech. For example, syllables can be identified in a sequence like [ɡɔŋɡɔŋ], and often there is a clear alternation between consonants and vowels. In longer sequences, intonation patterns that might be interpreted in some languages as questions can be discerned. However, the resemblance to adult speech stops here, since there is no evidence for the existence of more abstract structures like sentences or even single words. Only later does the child come to associate word meanings with vocal noises.

Although precisely how babbling relates to language development is not yet clearly understood, psychologists and linguists have suggested that babbling serves at least two functions: as practice for later speech and as a social reward. The first function is intuitively plausible, because the fine motor movements necessary for accurate articulation are exercised extensively during babbling. Indeed, babbling children of about one year of age produce a great variety of sounds, mainly practicing sequences of consonants and vowels.

The second possible function, that children babble for social reward, also seems plausible. Parents often encourage their babies to continue babbling by responding with smiles or speech or nonsense “babbling” of their own, giving the child important experience with the social aspects and rewards of speech. Evidence for the importance of the social factor in babbling comes from the study of severely neglected children, who may begin to babble at approximately the same age as children reared in normal settings but will stop if not encouraged by their parents or caretakers.

It remains to be explained why babbling occurs at more or less the same time in all children, since children receive encouragement for their efforts in unequal doses. According to one hypothesis, children babble because language development involves a process of biological maturation. Thus babbling occurs automatically when the relevant structures in the brain reach a critical level of development. If all children have brains that develop at comparable rates, the universality of babbling is no longer surprising.

Dramatic evidence for this hypothesis comes from some of the children studied by biologist Eric Lenneberg. These children had vocal passages that had become so narrow because of swelling caused by various diseases that they were in danger of choking to death. Breathing could be restored only by constructing an alternative route that bypassed the mouth; this was accomplished by inserting tubes in the trachea (air pipe) through an opening in the neck. Under such conditions, babbling and any other vocalizations are prevented, since air never reaches the vocal cords. Yet Lenneberg observed that when children of babbling age underwent this operation, they produced the babbling sounds typical of their age as soon as the tubing was removed. The behaviour of these children demonstrates that babbling is possible when the brain is ready, even if physical limitations prevent any real practice.

**2.3 Phonological Acquisition**

When an eighteen-month-old child attempts to pronounce the word water, he or she might say [wɑwɑ], a pronunciation that is quite different from the adult’s model. A child’s pronunciation of the word that may sound like [dæt]. Differences in pronunciations like these may persist for some time, despite drilling by the child’s parents or caretakers and even despite the child’s own realization that his or her pronunciation does not quite match the adults’ pronunciation. All children, regardless of what language they are acquiring natively, make mistakes like these before they have mastered the phonological system of their native language. Yet such errors reveal that they have already learned a great deal, because the errors are systematic, that is, rule-governed, rather than random. In roughly two and a half more years, their speech will resemble that of their parents in all important respects.

It is important to keep in mind that adults analyse the speech of children with reference to their own adult system. Child speech is therefore analysed as imperfect and full of errors according to the adult’s model of grammar. If you listen to young children speak, you will notice that although they try to approximate the forms and pronunciations that they hear around them, many of the sounds they produce do not quite match the adult form. It takes a long time for a child to gain absolute control over the individual movements of the articulators and the timing of these gestures. For example, it is difficult for a young child to produce a consonant sequence like [dɹ] as it occurs in the word drum. The child may say something like [dwᴧm], which sounds close enough to make an adult understand what is meant, especially if the child is pointing to a drum at the same time.

A major task in the acquisition of phonology involves understanding the word as a link between sound and meaning. Around the age of eighteen months, children learn and ask for the names of objects in their environment. When children first acquire the concept of a word, their first attempts at production show tremendous variability in pronunciation. Some may be perfect productions; others may be so distorted that they are comprehensible only to the child’s closest companions. Some children vary considerably in their pronunciations from one occasion to the next, while others consistently use a “wrong” sound relative to the adult speech model, saying, for example, [wɑɪt] for right, [wɛd] for red, or [əwɑʊnd] for around.

Children initially appear to regard an entire word as if it were a single sound (a sound that can vary somewhat). However, as their vocabulary expands between fifteen and twenty-one months of age, keeping track of a large store of independent sounds becomes very difficult for them to manage. So in order to learn more words, children must begin to break words into a smaller number of simpler units, which are sounds that can be used in different combinations to make up many other words. That is, they arrive at the idea of a word as a sequence of phonemes whose pronunciation is systematic and predictable. In the course of learning a language natively, children must acquire the complete set of phonemes as well as the set of phonological processes found in the language of the adults in their surroundings.

When children learn the phonemes of their native language, they first master sounds that differ maximally from one another. Thus it is no accident

that the first meaningful word learned in many languages is often [mɑ] or [pɑ]. When a bilabial stop or nasal is pronounced, the passage of air in the mouth is completely blocked, but the vocal tract is wide open in the low back vowel [ɑ]. Thus, these two sounds are maximally different because one is a consonant (C) and one is a vowel (V). This kind of CV-syllable structure or template appears to be the preferred structure in young children’s productions. Only later will they produce consonant clusters, such as [sp] in words like spill or [tɹ] as in tree, and syllable-final consonants, such as [t] in cat. Final consonants are often omitted in children’s productions. It is even later before a child will learn to produce longer words or utterances that consist of more than one syllable. Very often, consonants like [l] and [ɹ], which share many properties of vowels and are thus difficult to distinguish from vowels, are mastered last.

Even though children master CV sequences early on, we often find that in longer words, some CV syllables are deleted. In the speech sample in (1), at least one syllable is omitted from every word.

(1) banana [ nænə] granola [ owə] potato [ deɪdoʊ]

We might wonder why children leave out the first syllable in these examples and whether this first syllable is in any way different from the other syllables in the word. An answer to this question is that since all of these first syllables are unstressed, they are not very perceptually prominent. In English there is usually one syllable (or vowel) within a word that is somewhat louder and more prominent in relation to the other vowels in that word. This is the vowel with primary stress.

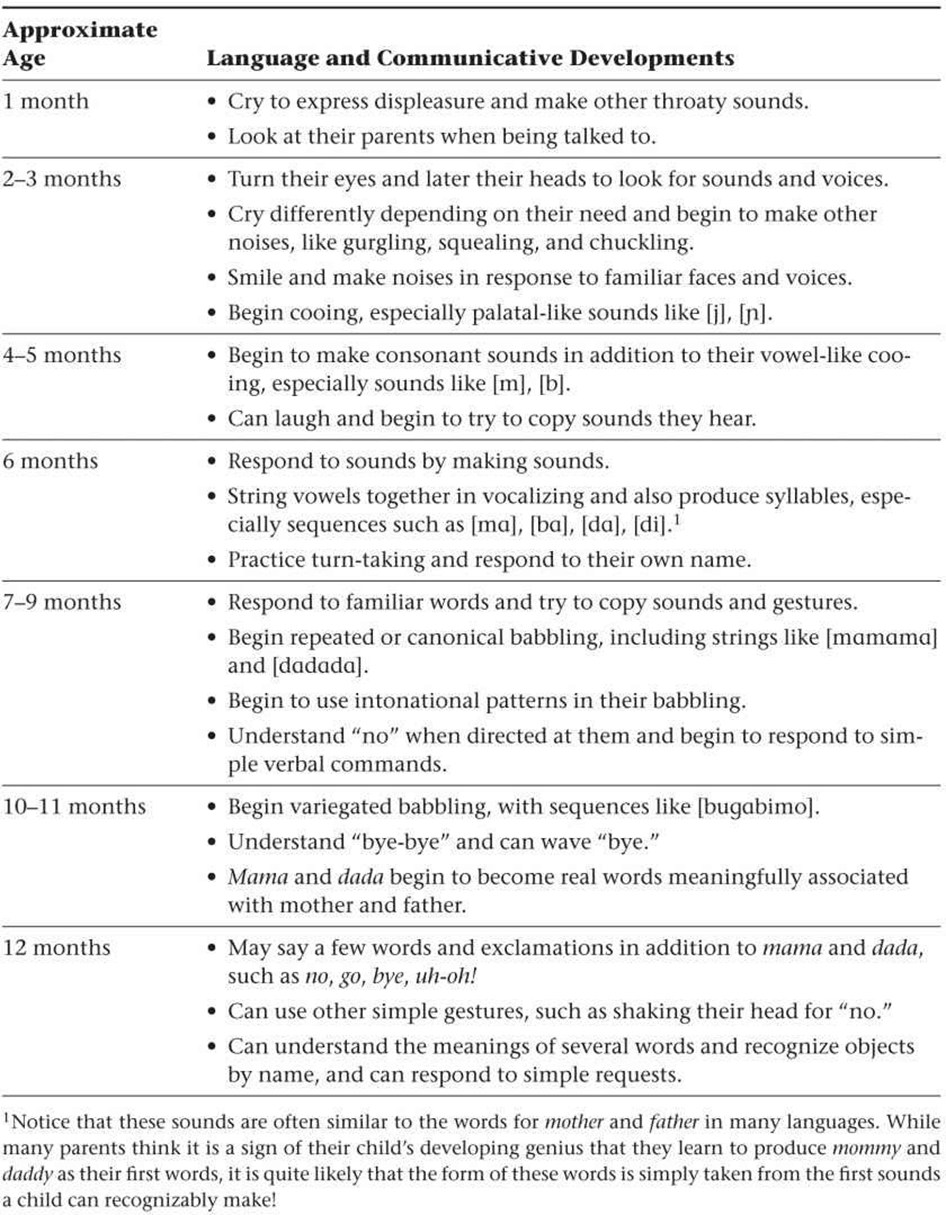
However, infants may also make use of the stress pattern of a stream of speech to determine where a word ends and the next one begins. This is a big problem for the infant to solve because the baby has only a very limited knowledge of the structure of the language’s vocabulary. Babies and young children might begin to master the difficult task of finding the boundaries between words by looking for the most stressed syllable or the most prominent part of the word, since in English the first syllable of a word is often stressed. Such a strategy allows the infant to correctly determine word boundaries more often than not. However, this strategy does not always guarantee the correct result or the correct analysis of where one word begins and where it ends. Consider the word banana. This word consists of three syllables: [bə.næ.nə]. The first and the third syllables are not stressed, but the second one is. In this case, a child might unconsciously look for the most stressed syllable and believe it to be the beginning of a word. If the child has already learned that a word can consist of more than one syllable and generalizes that the most stressed syllable is the beginning of the word banana, then it makes sense that he or she will incorrectly think that the word is actually [næ.nə].

To summarize, when children acquire the phonological system of their native language, they must master the fine-muscle coordination necessary for producing a rich variety of sounds, learn that combinations of sounds are associated with particular meanings, and eventually realize that their pronunciations of words must consistently match those of adults. Learning a language natively does not result from a conscious learning strategy spontaneously invented by children or from a teaching method devised by adults. Instead, it is a consequence of the human brain’s innate capacity for learning language. Children of all backgrounds, provided they have enough input, will learn a language and master the phonological system of their native language. The acquisition of phonology appears to involve a process of biological maturation and is in many aspects like motor development: first the child babbles to practice for later speech, then the articulatory sequences become longer and more complex, and the child is able to pronounce “difficult” consonant clusters. Nevertheless, the adult phonological system is learned only when the child is given models to imitate as well as encouragement.

**2.4 Language Development from Birth to Twelve Months**

The table provides an overview of infants’ language abilities from birth to twelve months of age.

1. **Infants’ language abilities, birth to twelve months**



3. The Acquisition of Morphology and Syntax

It is not until about the age of twelve months that a child will begin to consistently produce words of the language he or she is learning. It is at this stage that we can begin to examine the development of syntax and morphology in children’s speech.

It is important to note, however, that there is much variation in the age range during which children acquire words, fundamental cognitive concepts, and so on. The fact that a child reaches certain stages more quickly or more slowly than average does not mean that the child is necessarily more or less intelligent or well-developed: it is normal for children to vary in this regard. The ages associated with the different “stages” of language acquisition are only averages. There is also variability in terms of children’s behaviour. While the term “stage” seems to imply that a child abruptly changes his or her behaviour when moving from one stage to the next, this is not actually the case. A child can have behaviours associated with different stages at the same time. Finally, it’s important to keep in mind that stages are not specific to children acquiring English: all children tend to go through the same stages no matter what language they are acquiring.

**3.1 The One-Word Stage**

The first stage of morphological acquisition usually involves the child’s producing single words in isolation. These first words uttered by a one-year- old child typically name people, objects, pets, and other familiar and important parts of his or her environment. The child’s vocabulary soon comes to include verbs and other useful words (including no, gimme, and mine). Often a phrase used by adults will become a single word in the speech of a child, such as all-gone and whasat? (‘what’s that?’). The single words produced at this stage are used as more than just labels for objects or events; they may be used for naming, commenting, requesting, inquiring, and so on. This level of development has been called the holophrastic stage (a holophrase being a one-word sentence). Children at this phase of linguistic development are limited to one word at a time in their production, but they understand and probably intend the meaning of more than a single word. Furthermore, the intonation children use on their one-word utterances may be that of a question, an ordinary or emphatic statement, or demand. If children do consistently use these adultlike sentence intonation patterns (and researchers disagree about whether they do or not), holophrastic would seem an especially appropriate name for this phase.

**3.2 The Two-Word Stage**

Between approximately eighteen and twenty-four months of age, children begin to use two-word utterances. At first the utterances may seem to be simply two one-word sentences produced one right after the other. There may be a pause between them, and each word may bear a separate intonation contour. Before long, however, the two words are produced without pausing and with a single intonational pattern.

Children at this stage do not just produce any two words in any order; rather, they adopt a consistent set of word orders that convey an important part of the meaning of their utterances. At this level of development, the structure of utterances is determined by semantic relationships, rather than adult syntactic ones. Word order is used to express these semantic relations; it is not until later that additional syntactic devices are added to the basic word- order rules. Most of the utterances produced by a child at this stage will express a semantic relation like one of the following:

(1) **agent + action** baby sleep

**action + object** kick ball

**action + location** sit chair

**entity + location** teddy be

**possessor + possession** Mommy book

**entity + attribute** block red

**demonstrative + entity**  this shoe

Words such as more and ’nother may be used as modifiers of nouns (more juice, ’nother cup) to indicate or request recurrence. Here and there may be used as deictic terms. Some children at this stage of development also use pronouns. For the most part, however, their speech lacks function morphemes and function words, that is, prepositions, auxiliary verbs, determiners, and inflectional affixes.

Because of the omission of function words (which continues even after the child begins to produce more than two words at a time), the speech of young children is often called telegraphic. When you send a telegram or run a classified ad, every word you include costs you money. Therefore, you put in only the words you really need, and not the ones that carry no new information. Children follow the same principle of economy. The words they use and the order in which they use them convey the relevant information; function morphemes are not, strictly speaking, necessary for the child to effectively communicate ideas. Eventually, children do acquire the full set of function morphemes of their language.

**3.3 Later Stages of Development**

Three-word utterances are initially formed by combining or expanding two- word utterances. Two two-word strings with a common element may be combined; for example, Daddy cookie and eat cookie may be combined to form Daddy eat cookie. A two-word utterance may also be expanded from within, when, for example, throw ball becomes throw red ball. That is, one of the elements of a two-term relation itself becomes a two-term relation.

There is no clear-cut three-word stage of language acquisition, however. Once children are capable of combining more than two words into an utterance, they may use three, four, five, or even more words at a time. These longer utterances are syntactically organized, rather than being just semantically organized sequences of words like those produced in the two- word stage.

Children’s speech at this stage is still telegraphic, including only content

morphemes and words. Gradually a child will begin to include function morphemes in his or her utterances, but these function morphemes are not acquired randomly. Instead, children acquire them in a remarkably consistent order. For example, in English, the present progressive verbal suffix -ing (she walking) appears in children’s speech well before the past tense marker -ed (she walked), which in turn is acquired a little before the third-person present tense marker -s (she walks). Around the time -ing appears, so do the prepositions in and on. Three homophonous morphemes, all phonologically /- z/, are acquired at different times. First, children use the plural morpheme -s (e.g., shoes); later they acquire the possessive -’s (Mommy’s); and finally the third-person present tense morpheme mentioned above is added to verbs. Articles (a and the) are acquired fairly early, but forms of the (highly irregular) verb be appear only at a relatively late stage.

1. **Plurals. Recall that the plural morpheme -s is acquired quite early by children—in fact, it is usually one of the very first function morphemes to appear, along with in, on, and -ing. That does not mean, however, that very young children have complete mastery over the plural system of English.**

At first, no plural marker is used at all. Nouns appear only in their singular forms (e.g., man). Next, irregular plural forms may appear for a while—that is, a child may say men instead of man, using the same form adults do. Then the child discovers the morpheme -s and suddenly applies it uniformly to all nouns. In some cases this involves overgeneralization of the rule of plural formation; for example, the plural of man becomes mans. During this stage the child often leaves nouns ending in sibilants (e.g., nose, house, church, etc.) in their singular forms. Once children discover the generalization about how the plurals of these nouns are formed, they may go through a brief period during which [-əz] is added to all nouns, giving not only houses but also man-es or even mans-es. This soon passes, however, and the child produces all plurals correctly, except for the irregular ones they haven’t encountered yet, of course (such as oxen or sheep or cacti). These are learned gradually and may not be fully acquired by the time the child is five years old. When irregular plurals first appear in a young child’s speech, they are simply isolated forms that fit into no pattern. Once they are learned, however, they are exceptions to the child’s regular process of plural formation, just as they are for an adult.

1. **Negatives. Children also go through a series of stages in learning to produce negative sentences. At first they simply put the word no in front of a sentence to negate its meaning, for example, no baby sleep or no I drink milk. As a matter of fact, this word shows a fairly high occurrence in children’s speech, even if children might not initially understand what the word means. Next, they insert a negative word, most often a word like no, not, can’t, or don’t, between the subject and the verb of a sentence, resulting in baby no sleep or I no drink milk. (It is interesting to note that at this stage, can’t, won’t, and don’t are unanalysed negative words; that is, the child doesn’t parse them as containing two morphemes: an auxiliary verb and a consistent negative marker. The auxiliaries can, will, and do are not acquired until later; even three-year-olds still tend to have trouble with them.)**

The child continues to develop a more adult system of negation, but for a while he or she will use words such as something and somebody in negated sentences, producing results such as I don’t see something. Later these words are replaced by nothing and nobody. Finally, if the child’s adult models use the forms anything and anybody, the child eventually acquires these words.

1. **Interrogatives. Very young children can produce questions only by using a rising intonation, rather than by using a particular syntactic structure. The meaning of Mommy cup? or more ride? would be quite clear when produced with the same question intonation that adults use. Later, at around three years, children begin to use can, will, and other auxiliary verbs in yes/no questions, using the appropriate word order. That is, the auxiliary precedes the subject in these questions, as in, for example, Are you sad? At this point, however, children still fail to use adult word order in questions that use a wh- word (such as what, who, or why). They follow instead the question word with a sentence in normal declarative word order: Why you are sad? Eventually, of course, they learn to invert the subject and the verb in these constructions, as adult speakers do.**

The fact that children produce words and sentences like foots or I don’t want something or Where he is going? provides clear evidence that they are not merely imitating the adult speakers around them. What we as adults perceive and interpret as “mistakes” are not random but reflect the system of grammar that children are in the process of constructing for themselves.

**3.4 The Acquisition of Word Meaning**

When children hear a word for the first time, they don’t know what makes the use of the word appropriate. Consider a pre-schooler whose teacher chose teams by dividing the class in half and asked each team to sit on a blanket. At home later that day, the student got annoyed because her younger brother kept crawling onto her blanket while she was watching television. “He won’t stay way from my team,” she complained. With a single exposure to the word team, this child formed a definition something like ‘a group of people on a blanket’—a reasonable, but incorrect, guess.

Though this trial-and-error process may seem laborious from an adult perspective, consider what every normal child is able to accomplish by using it: children produce their first words at age one, and by age six they have a vocabulary approaching 14,000 words. Simple arithmetic will reveal that children master an average of ten words a day starting from their first birthday. This feat might suggest that children learn the vocabulary of their native language in a more systematic fashion than is apparent from the above example. While it is not possible to speak of particular stages in the acquisition of word meaning like those identified in the acquisition of phonology, morphology, and syntax, linguists have determined that the acquisition of word meaning does follow certain patterns. First of all, the order in which words are learned reflects the intrinsic complexity of the concepts involved. Second, children’s initial meanings of words do not deviate randomly from those of adults, but rather they are usually related to and progress toward adult meanings in systematic ways. For example, many nouns are used to refer to sets of objects with something in common (e.g., the adult word chair is used appropriately with desk chairs, rocking chairs, easy chairs, and so on, because all of these things can be sat on), but sometimes children may select the wrong unifying characteristic(s), as happens in complexive concepts, overextensions, and underextensions.

a. Complexive Concepts. Sometimes, not only will a child associate a wrong or incomplete set of unifying characteristics with a word, but she will also seem to try out different characteristics each time she uses the word. For example, a child might learn that the word doggie refers to dogs and then use it to name other furry things, like soft slippers, and on later occasions, she may use doggie to refer to things that move by themselves, like birds, toads, and small toy cars. When a child associates different characteristics with the meaning of a word on successive uses, thereby creating a set of objects that do not have any particular unifying characteristic, we say that she has produced a complexive concept. The linguist William Labov reports another example of a complexive concept. His one-year-old son used oo to refer to the music produced by his brother’s rock and roll band; on later occasions oo was applied to the group’s jackets, their musical instruments, their cigarettes, and then other people’s cigarettes. Note that successive uses of the word tend to pick out objects with similar properties, but the class of objects as a whole has little in common. Complexive concepts serve to form a loose bond between items associated in the child’s experience and represent a primitive conception of word meaning.

b. Overextensions. When a child extends the range of a word’s meaning beyond that typically used by adults, we say that he has produced an overextension. For example, one American-English-speaking child called specks of dirt, dust, small insects, and bread crumbs fly; another gave moon as the name for cakes, round marks, postmarks, and the letter <O>. A third child overextended the word ticktock, using it to refer to clocks, watches, parking meters, and a dial on a set of scales.

At first glance, the set of objects named in overextensions may look as varied and random as those in complexive concepts. In fact, children of age two or so frequently have overextensions and complexive concepts in their speech at the same time. But closer inspection reveals that the concept defined in an overextension does not shift from one occasion to the next. In the above examples, the child’s definition of moon is applied consistently to pick out any round thing. Likewise, fly referred to any small, possibly mobile object. The concept underlying the use of ticktock was perhaps more complex, but all of the objects in the child’s list contained a dial with small marks.

Usually, the common properties of objects included in the overextension of a word are perceptual features like shape, size, colour, or taste. In this respect, the child’s strategy for defining a word resembles that of adults, since adults also define words in terms of perceptual features. But if the child’s strategy of defining words now resembles that of adults, what misunderstanding is responsible for the overextensions?

Linguist Eve Clark offers one plausible explanation. In her view, the child who uses overgeneralizations has only an incomplete definition of the adult word. The child who calls dogs, cats, slippers, fur coats, and rugs doggie has recognized the significance of being furry, but the adult definition mentions more properties; for example, dogs are four-legged. Once the child grasps this property as part of the definition of dog, she will no longer overextend the word doggie to slippers, rugs, and fur coats. Eventually the child becomes aware of all properties in a definition, which enables her to narrow down the class of objects named by doggie to just those observed in adult usage.

c. Underextensions. An underextension is the application of a word to a smaller set of objects than is appropriate for mature adult speech. Careful study reveals that, although less commonly noticed than overextensions, underextensions are at least equally frequent in the language of children.

Underextensions also occur among older, school-aged children when they encounter category names like fruit or mammal. Since most people are unsure of the properties that constitute the definitions of these words, they prefer to think of them in terms of their most ordinary members; thus for many Americans, dogs are the most ordinary mammals and apples are the most ordinary fruits. Children are surprised to learn that whales are mammals, or that olives are fruits, because these deviate so profoundly from the ordinary members of their categories. As a result, children underextend the words mammal and fruit, failing to apply these labels to the unusual members.

Why do children’s first definitions fall into the three classes that we have discussed? Each class represents a different strategy for seeking out the adult definition of a word. Complexive concepts are the most basic and are present in a child’s speech for only a short period of time before being replaced by overextensions and underextensions. Psychologists have determined that a child who overgeneralizes a word tries to make the most out of a limited vocabulary. Accordingly, overgeneralizations decrease dramatically after age two, when children experience a rapid vocabulary expansion. The opposite strategy underlies the formation of underextensions: children attempt to be as conservative as possible in their use of language, with the result that they perceive restrictions on the use of words not imposed by adults. By systematically over- and underextending the range of a concept, the child eventually arrives at the adult meaning.

The words discussed so far have been limited to those that denote the members of a set of objects. For example, the word chair is used correctly when it is applied to the set that includes objects as different as straight chairs, folding chairs, and rocking chairs. The same skill, identifying members of a set, is required for understanding some types of verbs. For example, all people walk differently, but native speakers of English use the word walk correctly when they realize that these minor differences are irrelevant.

But not all words in a language involve the identification of sets. In fact, the mastery of a working vocabulary in any human language requires a wide range of intellectual skills, some easier and some more difficult than those required for grasping the meaning of common nouns and verbs. As an example of a relatively easy concept, consider what is required for understanding proper names: one must simply point out a single individual and attach a label, like John or Daddy. Because it is easier to associate a label with a single individual than to name a set with common properties, children master the comprehension of proper nouns first, sometimes when they are as young as six to nine months old.

In contrast, a relational term like large or small constitutes a relatively complex concept. The correct use of words like these requires that two things be kept in mind: the absolute size of the object in question and its position on a scale of similar objects. For example, an elephant that is six feet tall at the shoulders may be small as far as elephants go, but a dog of the same height would be huge. Five- and six-year-old children are often unable to make the shift in perspective necessary for using relational words appropriately. In one well-known experiment documenting this conclusion, children were engaged in a pretend tea party with dolls and an adult observer. The adult gave the child an ordinary juice glass and asked the child if it was large or small. Though all of the children in the study agreed that the glass was small from their own perspective, it appeared ridiculously large when placed on the toy table around which the dolls were seated. Nevertheless, the youngest children were still inclined to say that the glass was small when asked about its size with respect to its new context.

Another difficult concept underlies deictic expressions, which are words referring to personal, temporal, or spatial aspects of an utterance and whose meaning depends on the context in which the word is used. For example, a speaker may use here or this to point out objects that may be close to him, while there and that are appropriate only when the objects are relatively far away. But since there are no absolute distances involved in the correct use of these deictic expressions, children have difficulty determining when the ‘close’ terms are to be preferred over the ‘far’ terms. As with relational terms, it is necessary to take into account the size of the object pointed to. Thus a thirty-story building six feet in front of us is close enough to be called this building, but an ant removed from us by the same distance is far enough away to be called that ant.

Many verbs are conceptually more complex than most nouns. For example, every time someone gives something, someone else takes it; and every time someone buys an item, somebody else sells that item. Thus, every event of giving or buying is also an event of taking or selling, respectively. However, speakers usually don’t talk about such events using both verbs. For example, people will probably say a sentence such as Peter bought the car from Mike or Mike sold the car to Peter, but not both sentences. So children need to figure out that both sentences refer to the same event without ever hearing both sentences describing the event. Furthermore, many common verbs like think or believe are abstract, referring to events that cannot be observed. Some researchers believe that verbs’ greater conceptual complexity is one of the reasons why verbs are learned later than nouns.

Common and proper nouns, relational terms, deictic expressions and verbs do not exhaust the range of concepts mastered by children, but they do illustrate the variety of tasks involved in acquiring the vocabulary of a first language. Linguists can examine the evidence from the acquisition of word meaning and find support for two fundamental hypotheses: that some concepts are more complex than others and that the acquisition of language requires a considerable exercise of intelligence.

**3.6 Overview: Language Abilities from Twelve Months to Four Years**

The table in (2) provides an overview of children’s language abilities from twelve months to four years of age.

(2) Children’s language abilities, twelve months to four years

