



13 First language acquisition

CHILD: Want other one spoon, Daddy.
FATHER: You mean, you want the other spoon.
CHILD: Yes, I want other one spoon, please Daddy.
FATHER: Can you say "the other spoon"?
CHILD: Other ... one ... spoon.
FATHER: Say "other."
CHILD: Other.
FATHER: "Spoon."
CHILD: Spoon.
FATHER: "Other spoon."
CHILD: Other ... spoon. Now give me other one spoon?

Braine (1971)

First language acquisition is remarkable for the speed with which it takes place. Long before a child starts school, he or she has become an extremely sophisticated language-user, operating a system for self-expression and communication that no other creature, or computer, comes close to matching. In addition to the speed of acquisition, the fact that it generally occurs, without overt instruction, for all children, regardless of great differences in their circumstances, provides strong support for the idea that there is an innate predisposition in the human infant to acquire language. We can think of this as a special capacity for language with which each newborn child is endowed. By itself, however, this inborn language capacity is not enough.

Acquisition

The process of language acquisition has some basic requirements. During the first two or three years of development, a child requires interaction with other language-users in order to bring the general language capacity into contact with a particular language such as English. We have already seen, in the case of Genie (Chapter 12), that a child who does not hear or is not allowed to use language will learn no language. We have also identified the importance of cultural transmission (Chapter 2), meaning that the particular language a child learns is not genetically inherited, but is acquired in a particular language-using environment.

The child must also be physically capable of sending and receiving sound signals in a language. All infants make “cooing” and “babbling” noises during their first year, but congenitally deaf infants stop after about six months. So, in order to speak a language, a child must be able to hear that language being used. By itself, however, hearing language sounds is not enough. One case, reported by Moskowitz (1991), demonstrated that, with deaf parents who gave their normal-hearing son ample exposure to television and radio programs, the boy did not acquire an ability to speak or understand English. What he did learn very effectively, by the age of three, was the use of American Sign Language, that is, the language he used to interact with his parents. A crucial requirement appears to be the opportunity to interact with others via language.

Input

Under normal circumstances, human infants are certainly helped in their language acquisition by the typical behavior of older children and adults in the home environment who provide language samples, or **input**, for the child. Adults such as mom, dad and the grandparents tend not to address the little creature before them as if they are involved in normal adult-to-adult conversation. There is not much of this: *Well, John Junior, shall we invest in blue chip industrials, or would grain futures offer better short-term prospects?* However, there does seem to be a lot of this: *Oh, goody, now Daddy push choo-choo?* The characteristically simplified speech style adopted by someone who spends a lot of time interacting with a young child is called **caregiver speech**.

Salient features of this type of speech (also called “motherese” or “child-directed speech”) are the frequent use of questions, often using exaggerated intonation, extra loudness and a slower tempo with longer pauses. In the early stages, this type of speech also incorporates a lot of forms associated with “babytalk.” These are either simplified words (*tummy, nana*) or alternative forms, with repeated simple sounds and syllables, for things in the child’s environment (*choo-choo, poo-poo, pee-pee, wa-wa*).

Built into a lot of caregiver speech is a type of conversational structure that seems to assign an interactive role to the young child even before he or she becomes a speaking participant. If we look at an extract from the speech of a mother to her child (aged 1 year 1 month) as if it were a two-party conversation, then this type of structuring becomes apparent. Notice how the mother reacts to the child's actions and vocalizations as if they were turns in the conversation. (This example is from Brunner, 1983.)

MOTHER: *Look!*

CHILD: (touches pictures)

MOTHER: *What are those?*

CHILD: (vocalizes a babble string and smiles)

MOTHER: *Yes, there are rabbits.*

CHILD: (vocalizes, smiles, looks up at mother)

MOTHER: (laughs) *Yes, rabbit.*

CHILD: (vocalizes, smiles)

MOTHER: *Yes.* (laughs)

Caregiver speech is also characterized by simple sentence structures and a lot of repetition. If the child is indeed in the process of working out a system of putting sounds and words together, then these simplified models produced by the interacting adult may serve as good clues to the basic structural organization involved. Moreover, it has generally been observed that the speech of those regularly interacting with very young children changes and becomes more elaborate as the child begins using more and more language. Several stages in the early acquisition process have been identified.

The acquisition schedule

All normal children develop language at roughly the same time, along much the same schedule. Since we could say the same thing for sitting up, crawling, standing, walking, using the hands and many other physical activities, it would seem that the language acquisition schedule has the same basis as the biologically determined development of motor skills. This biological schedule is tied very much to the maturation of the infant's brain.

We could think of the child as having the biological capacity to cope with distinguishing certain aspects of linguistic input at different stages during the early years of life. Long before children begin to talk, they have been actively processing what they hear. We can identify what very young children are paying attention to by the way they increase or

decrease “sucking behavior” in response to speech sounds or turn their heads in the direction of those sounds. At one month, for example, an infant is capable of distinguishing between sounds such as [ba] and [pa]. During the first three months, the child develops a range of crying styles, with different patterns for different needs, produces big smiles in response to a speaking face, and starts to create distinct vocalizations.

Cooing and babbling

The earliest use of speech-like sounds has been described as **cooing**. During the first few months of life, the child gradually becomes capable of producing sequences of vowel-like sounds, particularly high vowels similar to [i] and [u]. By four months of age, the developing ability to bring the back of the tongue into regular contact with the back of the palate allows the infant to create sounds similar to the velar consonants [k] and [g], hence the common description as “cooing” or “gooing” for this type of production. **Speech perception studies have shown that by the time they are five months old, babies can already hear the difference between the vowels [i] and [a] and discriminate between syllables like [ba] and [ga].**

Between six and eight months, the child is sitting up and producing a number of different vowels and consonants, as well as combinations such as *ba-ba-ba* and *ga-ga-ga*. This type of sound production is described as **babbling. In the later babbling stage, around nine to ten months, there are recognizable intonation patterns to the consonant and vowel combinations being produced, as well as variation in the combinations such as *ba-ba-da-da*.** Nasal sounds also become more common and certain syllable sequences such as *ma-ma-ma* and *da-da-da* are inevitably interpreted by parents as versions of “mama” and “dada” and repeated back to the child.

As children begin to pull themselves into a standing position during the tenth and eleventh months, they become capable of using their vocalizations to express emotions and emphasis. This late babbling stage is characterized by more complex syllable combinations (*ma-da-ga-ba*), a lot of sound-play and attempted imitations. This “pre-language” use of sound provides the child with some experience of the social role of speech because adults tend to react to the babbling, however incoherent, as if it is actually the child’s contribution to social interaction.

One note of caution should be sounded at this point. Child language researchers certainly report very carefully on the age of any child whose language they study. However, they are also very careful to point out that there is substantial variation among children in terms of the age at which particular features of linguistic development occur. So, we should always treat statements concerning development stages such as “by six months” or “by the age of two” as approximate and subject to variation in individual children.

The one-word stage

Between twelve and eighteen months, children begin to produce a variety of recognizable single-unit utterances. This period, traditionally called the **one-word stage**, is characterized by speech in which single terms are uttered for everyday objects such as “milk,” “cookie,” “cat,” “cup” and “spoon” (usually pronounced [pun]). Other forms such as [ʌsæ] may occur in circumstances that suggest the child is producing a version of *What’s that*, so the label “one-word” for this stage may be misleading and a term such as “single-unit” would be more accurate. We sometimes use the term **holophrastic** (meaning a single form functioning as a phrase or sentence) to describe an utterance that could be analyzed as a word, a phrase, or a sentence.

While many of these holophrastic utterances seem to be used to name objects, they may also be produced in circumstances that suggest the child is already extending their use. An empty bed may elicit the name of a sister who normally sleeps in the bed, even in the absence of the person named. During this stage, then, the child may be capable of referring to *Karen* and *bed*, but is not yet ready to put the forms together to produce a more complex phrase. Well, it is a lot to expect from someone who can only walk with a stagger and has to come down stairs backwards.

The two-word stage

Depending on what we count as an occurrence of two distinct words used together, the **two-word stage** can begin around eighteen to twenty months, as the child’s vocabulary moves beyond fifty words. By the time the child is two years old, a variety of combinations, similar to *baby chair*, *mommy eat*, *cat bad*, will usually have appeared. The adult interpretation of such combinations is, of course, very much tied to the context of their utterance. The phrase *baby chair* may be taken as an expression of possession (= this is baby’s chair), or as a request (= put baby in chair), or as a statement (= baby is in the chair), depending on different circumstances.

Whatever it is that the child actually intends to communicate through such expressions, the significant functional consequences are that the adult behaves as if communication is taking place. That is, the child not only produces speech, but also receives feedback confirming that the utterance worked as a contribution to the interaction. Moreover, by the age of two, whether the child is producing 200 or 300 distinct “words,” he or she will be capable of understanding five times as many, and will typically be treated as an entertaining conversational partner by the principal caregiver.

Telegraphic speech

Between two and two-and-a-half years old, the child begins producing a large number of utterances that could be classified as “multiple-word” speech. The salient feature of these utterances ceases to be the number of words, but the variation in word forms that begins to appear. Before we investigate this development, we should note a stage that is described as **telegraphic speech**. This is characterized by strings of words (lexical morphemes) in phrases or sentences such as *this shoe all wet, cat drink milk* and *daddy go bye-bye*. The child has clearly developed some sentence-building capacity by this stage and can get the word order correct. While this type of telegram-format speech is being produced, a number of grammatical inflections begin to appear in some of the word forms and simple prepositions (*in, on*) are also used.

By the age of two-and-a-half, the child’s vocabulary is expanding rapidly and the child is initiating more talk while increased physical activity includes running and jumping. By three, the vocabulary has grown to hundreds of words and pronunciation has become closer to the form of adult language. At this point, it is worth considering what kind of influence the adults have in the development of the child’s speech.

The acquisition process

As the linguistic repertoire of the child increases, it is often assumed that the child is, in some sense, being “taught” the language. This idea is not really supported by what the child actually does. For the vast majority of children, no one provides any instruction on how to speak the language. Nor should we picture a little empty head gradually being filled with words and phrases. A more accurate view would have the children actively constructing, from what is said to them, possible ways of using the language. The child’s linguistic production appears to be mostly a matter of trying out constructions and testing whether they work or not.

It is simply not possible that the child is acquiring the language principally through a process of imitating adult speech. Certainly, children can be heard to repeat versions of what adults say on occasion and they are clearly in the process of adopting a lot of vocabulary from the speech they hear. However, adults simply do not produce many of the expressions that turn up in children’s speech. Notice how, in the following extract (from Clark, 1993), the child creates a totally new verb (*to Woodstock*) in the context.

NOAH: (*picking up a toy dog*) *This is Woodstock.*

(He bobs the toy in Adam's face)

ADAM: *Hey Woodstock, don't do that.*

(Noah persists)

ADAM: *I'm going home so you won't Woodstock me.*

It is also unlikely that adult “corrections” are a very effective determiner of how the child speaks. A lot of very amusing conversational snippets, involving an adult's attempt to correct a child's speech, seem to demonstrate the hopelessness of the task. One example (*other one spoon*) was quoted at the beginning of the chapter. Even when the correction is attempted in a more subtle manner, the child will continue to use a personally constructed form, despite the adult's repetition of what the correct form should be. Note that in the following dialog (quoted in Cazden, 1972) the child, a four-year-old, is neither imitating the adult's speech nor accepting the adult's correction.

CHILD: *My teacher **holded** the baby rabbits and we patted them.*

MOTHER: *Did you say your teacher **held** the baby rabbits?*

CHILD: *Yes.*

MOTHER: *What did you say she did?*

CHILD: *She **holded** the baby rabbits and we patted them.*

MOTHER: *Did you say she **held** them tightly?*

CHILD: *No, she **holded** them loosely.*

One factor that seems to be important in the child's acquisition process is the actual use of sound and word combinations, either in interaction with others or in wordplay, alone. One two-year-old, described in Weir (1966), was tape-recorded as he lay in bed alone and could be heard playing with words and phrases, *I go dis way ... way bay ... baby do dis bib ... all bib ... bib ... dere*. Word play of this type seems to be an important element in the development of the child's linguistic repertoire. The details of this development beyond the telegraphic stage have been traced through the linguistic features that begin to turn up on a regular basis in the steady stream of speech emerging from the little chatterbox.

Developing morphology

By the time a child is two-and-a-half years old, he or she is going beyond telegraphic speech forms and incorporating some of the inflectional morphemes that indicate the grammatical function of the nouns and verbs used. The first to appear is usually the *-ing* form in expressions such as *cat sitting* and *mommy reading book*.

The next morphological development is typically the marking of regular plurals with the *-s* form, as in *boys* and *cats*. The acquisition of the plural marker is often accompanied by a process of **overgeneralization**. The child overgeneralizes the apparent rule of adding *-s* to form plurals and will talk about *foots* and *mans*. When the alternative pronunciation of the plural morpheme used in *houses* (i.e. ending in [-əz]) comes into use, it too is given an overgeneralized application and forms such as *boyses* or *footses* can be heard. At the same time as this overgeneralization is taking place, some children also begin using irregular plurals such as *men* quite appropriately for a while, but then try out the general rule on the forms, producing expressions like *some mens* and *two feets*, or even *two feetses*. Not long after, the use of the possessive inflection *'s* occurs in expressions such as *girl's dog* and *Mummy's book*.

At about the same time, different forms of the verb “to be,” such as *are* and *was*, begin to be used. The appearance of forms such as *was* and, at about the same time, *went* and *came* should be noted. These are irregular past-tense forms that we would not expect to hear before the more regular forms. However, they do typically precede the appearance of the *-ed* inflection. Once the regular past-tense forms (*walked*, *played*) begin appearing in the child's speech, the irregular forms may disappear for a while, replaced by overgeneralized versions such as *goed* and *comed*. For a period, the *-ed* inflection may be added to everything, producing such oddities as *walkeded* and *wented*. As with the plural forms, the child works out (usually after the age of four) which forms are regular and which are not.

Finally, the regular *-s* marker on third person singular present-tense verbs appears. It occurs first with full verbs (*comes*, *looks*) and then with auxiliaries (*does*, *has*).

Throughout this sequence there is a great deal of variability. Individual children may produce “good” forms one day and “odd” forms the next. The evidence suggests that the child is working out how to use the linguistic system while focused on communication and interaction rather than correctness. For the child, the use of forms such as *goed* and *foots* is simply a means of trying to say what he or she means during a particular stage of development. Those embarrassed parents who insist that the child didn't hear such things at home are implicitly recognizing that “imitation” is not the primary force in first language acquisition.

Developing syntax

Similar evidence against “imitation” as the basis of the child's speech production has been found in studies of the syntactic structures used by young children. One child, specifically asked to repeat what she heard, would listen to an adult say forms such as *the owl who eats candy runs fast* and then repeat them in the form *owl eat candy and he run fast*. It is clear that the child understands what the adult is saying. She just has her own way of expressing it.

There have been numerous studies of the development of syntax in children's speech. We will look at the development of two structures that seem to be acquired in a regular way by most English-speaking children. In the formation of questions and the use of negatives, there appear to be three identifiable stages. The ages at which children go through these stages can vary quite a bit, but the general pattern seems to be that Stage 1 occurs between 18 and 26 months, Stage 2 between 22 and 30 months, and Stage 3 between 24 and 40 months. (The overlap in the periods during which children go through these stages is a natural effect of the different rates at which different children normally develop these and other structures.)

Forming questions

In forming questions, the child's first stage has two procedures. Simply add a Wh-form (*Where*, *Who*) to the beginning of the expression or utter the expression with a rise in intonation towards the end, as in these examples:

Where kitty? Doggie?
Where horse go? Sit chair?

In the second stage, more complex expressions can be formed, but the rising intonation strategy continues to be used. It is noticeable that more Wh-forms come into use, as in these examples:

What book name? You want eat?
Why you smiling? See my doggie?

In the third stage, the required movement of the auxiliary in English questions (*I can have ...* ⇒ *Can I have ...?*) becomes evident in the child's speech, but doesn't automatically spread to all Wh-question types. In fact, some children beginning school in their fifth or sixth year may still prefer to form Wh-questions (especially with negatives) without the type of inversion found in adult speech (e.g. *Why kitty can't ...?* instead of *Why can't kitty ...?*). Apart from these problems with Wh-questions and continuing trouble with the morphology of verbs (e.g. *Did I caught ...?* instead of *Did I catch ... ?*), Stage 3 questions are generally quite close to the adult model, as in these examples:

Can I have a piece? Did I caught it?
Will you help me? How that opened?
What did you do? Why kitty can't stand up?

Forming negatives

In the case of negatives, Stage 1 seems to involve a simple strategy of putting *No* or *Not* at the beginning, as in these examples:

no mitten not a teddy bear no fall no sit there

In the second stage, the additional negative forms *don't* and *can't* appear, and with *no* and *not*, are increasingly used in front of the verb rather than at the beginning of the sentence, as in these examples:

He no bite you I don't want it
That not touch You can't dance

The third stage sees the incorporation of other auxiliary forms such as *didn't* and *won't* while the typical Stage 1 forms disappear. A very late acquisition is the negative form *isn't*, with the result that some Stage 2 forms (with *not* instead of *isn't*) continue to be used for quite a long time, as in the examples:

I didn't caught it He not taking it
She won't let go This not ice cream

The study of the developing use of negative forms has produced some delightful examples of children operating their own rules for negative sentences. One famous example (from McNeill, 1966) also shows the futility of overt adult “correction” of children’s speech.

CHILD: *Nobody don't like me.*

MOTHER: *No, say “nobody likes me.”*

CHILD: *Nobody don't like me.*

(Eight repetitions of this dialog)

MOTHER: *No, now listen carefully; say “nobody likes me.”*

CHILD: *Oh! Nobody don't likes me.*

Developing semantics

The anecdotes that parents retell about their child’s early speech (to the intense embarrassment of the grown-up child) usually involve examples of the strange use

of words. Having been warned that flies bring germs into the house, one child was asked what “germs” were and the answer was “something the flies play with.” It is not always possible to determine so precisely the meanings that children attach to the words they use.

It seems that during the holophrastic stage many children use their limited vocabulary to refer to a large number of unrelated objects. One child first used *bow-wow* to refer to a dog and then to a fur piece with glass eyes, a set of cufflinks and even a bath thermometer. The word *bow-wow* seemed to have a meaning like “object with shiny bits.” Other children often extend *bow-wow* to refer to cats, cows and horses.

This process is called **overextension** and the most common pattern is for the child to overextend the meaning of a word on the basis of similarities of shape, sound and size, and, to a lesser extent, movement and texture. Thus the word *ball* is extended to all kinds of round objects, including a lampshade, a doorknob and the moon. Or, a *tick-tock* is initially used for a watch, but can also be used for a bathroom scale with a round dial. On the basis of size, presumably, the word *fly* was first used for the insect and then came to be used for specks of dirt and even crumbs of bread. Apparently due to similarities of texture, the expression *sizo* was first used by one child for scissors, and then extended to all metal objects. The semantic development in a child’s use of words is usually a process of overextension initially, followed by a gradual process of narrowing down the application of each term as more words are learned.

Although overextension has been well-documented in children’s speech production, it isn’t necessarily used in speech comprehension. One two-year-old used *apple*, in speaking, to refer to a number of other round objects like a tomato and a ball, but had no difficulty picking out *the apple*, when asked, from a set of round objects including a ball and a tomato.

One interesting feature of the young child’s semantics is the way certain lexical relations are treated. In terms of hyponymy, the child will almost always use the “middle”-level term in a hyponymous set such as *animal* – *dog* – *poodle*. It would seem more logical to learn the most general term (*animal*), but all evidence indicates that children first use *dog* with an overextended meaning close to the meaning of “animal.” This may be connected to a similar tendency in adults, when talking to young children, to refer to *flowers* (not the more general *plants*, or the more specific *tulips*).

It also seems that antonymous relations are acquired fairly late (after the age of five). In one study, a large number of kindergarten children pointed to the same heavily laden apple tree when asked *Which tree has more apples?* and also when asked *Which tree has less apples?* They just seem to think the correct response will be the larger one, disregarding the difference between *more* and *less*. The distinctions between a number of other pairs such as *before/after* and *buy/sell* also seem to be later acquisitions.

Despite the fact that the child is still to acquire a large number of other aspects of his or her first language through the later years of childhood, it is normally assumed that, by the age of five, the child has completed the greater part of the basic language acquisition process. According to some, the child is then in a good position to start learning a second (or foreign) language. However, most people don't start trying to learn another language until much later. The question that always arises is: if first language acquisition was so straightforward and largely automatic, why is learning a second language so difficult? We will try to answer that question in the [next chapter](#).

Study questions

- 1 Can you describe four typical features of caregiver speech?
- 2 Why are some of the infant's first sounds described as "cooing"?
- 3 During which stage do children typically first produce syllable sequences similar to "mama" and "dada" and how old are they?
- 4 At about what age do children typically begin producing varied syllable combinations such as *ma-da-ga-ba*?
- 5 Which of these two utterances was produced by the older child and why?
 - (a) *I not hurt him*
 - (b) *No the sun shining*
- 6 What is the term used to describe the process involved when a child uses one word like *ball* to refer to an apple, an egg, a grape and a ball?

Tasks

- A The "sucking behavior" of infants was mentioned in this chapter in connection with early speech perception. How can it be measured and what can we learn from these measurements?
- B There is a typical sequence in the acquisition of some functional and inflectional morphemes by English-speaking children. This sequence was documented in Brown (1973) and is summarized in O'Grady (2005: 94).

Try to create a chart, with stages 1–10, showing the typical sequence of acquisition of English morphemes (*-ing*), alongside appropriate examples (*cat sitting*), using the following examples from children's speech:

a cat, boys, cats, cat sitting, he came, he walked, in bag, it comes, it opened, it went away, Karen's bed, mommy reading book, mommy's book, not in that, on bed, she knows, that on top, the dog, this is no, you are look

- C What is meant by MLU ("Mean Length of Utterance") in child language studies? Can you work out the MLU of this small sample of utterances: *no big box, daddy eat red apple, daddy eats apples, no eating that, that mommy's book*.
- D The following examples are from the speech of three children. Identify which child is at the earliest stage, which is next in order, and which is at the most advanced stage. Describe those features in the examples from each child's speech that support your ordering.

CHILD X: *You want eat?*

I can't see my book.

Why you waking me up?

CHILD Y: *Where those dogs goed?*

You didn't eat supper.

Does lions walk?

CHILD Z: *No picture in there.*

Where momma boot?

Have some?

- E Do boys and girls develop language differently in the early stages? Have any differences been documented in how they speak and how they are spoken to?
- F There are two distinct theoretical perspectives on how first language acquisition takes place, generally labeled the “rational” perspective and the “empirical” perspective. We can characterize each perspective with a number of tenets or principles, as illustrated in the following statements. Divide these statements into two sets, one representing the rational perspective and the other representing the empirical perspective. Which perspective do you prefer?
- (a) Acquisition proceeds in a piecemeal fashion, building on what is already acquired.
 - (b) Acquisition takes places along a predetermined path.
 - (c) Children begin life with some knowledge of the possible units of language.
 - (d) Children learn to say things unrelated to input.
 - (e) General learning mechanisms account for language learning.
 - (f) It takes time to integrate new linguistic information with existing knowledge.
 - (g) Language learning is independent of other kinds of learning.
 - (h) New linguistic knowledge is acquired very quickly.
 - (i) Speech is perceived from the start as distinct from any other physical stimuli.
 - (j) There are only a few fixed possibilities of language structures to learn.
 - (k) There are many possible language structures to be learned.
 - (l) There is no initial distinction between speech and any other physical stimuli.
 - (m) There is no pre-programmed knowledge of language.
 - (n) What children learn to say is directly related to input.

Discussion topics/projects

- I In our discussion of developing semantics, we focused mainly on the use of nouns. In the following examples, a young child (age shown as year; month) seems to be using verbs in a way that is not based on typical adult uses and hence unlikely to be “imitations.” Is there any consistent pattern in these examples? Can you suggest an explanation for this child’s choice of words for the kinds of actions being described?

- (2;3) *I come it closer so it won't fall* (= bring it closer)
 (2;6) *Mommy, can you stay this open?* (= keep this open)
 (2;8) *Daddy, go me round* (= make me go round)
 (2;9) *I'm gonna fall this on her* (= drop this on her)
 (2;11) *How would you flat it?* (= flatten it)
 (3;1) *I'm singing him* (= making him sing)
 (For background reading, see chapter 6 of Clark, 2009.)

II Which of these three metaphors of first language acquisition (from Valian, 1999) would you agree with and why?

- (i) According to the copy metaphor, “the child gradually aligns her speech with that of her language community” and “the focus is on an active role for input.”
- (ii) According to the hypothesis testing metaphor, “the child forms and tests hypotheses about what structures exist in the language” and “the child is not copying the input.”
- (iii) According to the trigger metaphor, “the child neither copies the input nor evaluates it” and “a given piece of input triggers the correct parametric value,” assuming the child has innate knowledge of a small set of possible parametric values.

(For background reading, see Valian, 1999.)

Further reading

Basic treatments

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More detailed treatments

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Speech perception in infants

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Babbling

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Morphological development

Moskowitz, B. (1991) “The acquisition of language” In W. Wang (ed.) *The Emergence of Language* (131–149) W. H. Freeman

Syntactic development

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Semantic development

Bloom, P. (2002) *How Children Learn the Meanings of Words* MIT Press

Rational and empirical perspectives (in that order)

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