huge bowl of oatmeal. It can also occur because children do not yet have the vocabulary for certain subtleties of expression. But the way that children fill these “lexical gaps” uses the same principles as adults who do the same thing. For example, an adult might use an “innovative verb” such as “I weekended in New York,” and a child might similarly say, “I broomed her!” after pursuing a sibling with a broom. However, a child who said “You have to scale it first” as she put a bag on a scale was creating an innovation for which there is already an existing word—namely, weigh. The creativity of children’s linguistic innovations has been emphasized because it demonstrates that children do not just imitate what they hear, but extract general rules and principles that allow them to form new expressions.

Later preschool years

Joining sentences

Once the child has mastered the fundamentals of sentence construction, what is left to learn? Actually, language would be very dull to listen to or read if we could just produce simple sentences with one verb at a time. Perhaps the first response of a novice to the field of child language is that the sentences children speak are short and not very complicated for a long period. Certainly when one measures the mean length of utterance of children younger than age four, it tends not to be very impressive, ranging from 1.0 to 4.0 morphemes per utterance. Yet by age four, the MLU (mean length of utterance) loses much of its usefulness as a measure, because children’s utterances, like those of an adult, fluctuate in length dramatically depending on the circumstances of the conversation. Even before age four, there are rare, but significant, occurrences of surprising complexity, showing that the child is in command of a considerable amount of grammar when needed. The first sentences involving more than one “proposition” are simple coordinations, for instance two sentences joined by and. Later other conjunctions come in, such as so, but, after, or because. But embeddings are not much later: there is evidence of embedded structures even in the primitive talk of two-year-olds.

There are different kinds of embedded structures. One kind are relative clauses, clauses that are used to further specify a noun phrase:

The man who took the job is coming to dinner.

Here is a sample sentence from a child at 2;10 (2 years, 10 months), said in reference to playground equipment:

I’m going on the one that you’re sitting on.

or the slightly aberrant:

Where’s a hammer we nailed those nails in?

On the other hand are complement constructions, which can be considered the equivalent further specification of the verb phrase:

The doctor decided to perform the operation.

Again, a child at age 2;11 was observed to say:

I don’t like Nicky share a banana.

I’m going downstairs to see what Nicky’s watching.

Both kinds of embedding are means of packing information into a single sentence that would require multiple sentences (probably with lots of pointing) to convey the equivalent ideas. When children reach the stage at which they can control these and similar structures, they become capable of expressing a much wider variety of ideas and thoughts not dependent on the immediate environment for support, and an important further step is taken in being ready for literacy.

Researchers have used innovative procedures to elicit relative clause structures from children as young as two by arranging the situation to call for specification of a referent. In one procedure, for example, the child, the experimenter, and a confederate are playing with two identical toy bears. The experimenter makes one bear ride a bike. Then the confederate is blindfolded, and the child alone watches the experimenter make that same bear do another action, say jump. Then the blindfold is removed from the confederate and the child has to help him guess which bear did something. Children of two and three can say:

Pick the one that rode the bike.

If the literature on comprehension of relative clauses is considered, it appears that children below age five are in very poor control of relative clause sentences. The typical comprehension task uses an “act-out” procedure in which several small animals are provided to the child and he is asked to act out whatever the experimenter says. After a couple of simple warm-ups, e.g.,

Show me:

The lion hit the kangaroo.

The dog jumped.

the child would be asked to act out relative clause structures in which there are no clues to meaning from the words alone, i.e., the syntax carries all the meaning:

The lion that hit the dog bit the turtle.

The cat that the dog pushed licked the mouse.

When preschoolers are given such a task, their performance is usually fairly poor, suggesting that they con-
tinue to have difficulty reconstructing the speaker’s meaning from complex structures: a problem perhaps in processing rather than grammar per se.

Similarly, even five- and six-year-olds continue to have trouble figuring out who did what to whom for sentences containing various kinds of complements:

Fred told Harry to wash the car.
Fred promised Harry to wash the car.
Fred told Harry that he washed the car.
Fred told Harry after he washed the car.

The various “complement-taking” verbs in English fall into several distinct patterns, as do the complements themselves, so there is room for lots of confusion.

Finally, there are aspects of the pronoun system that may take several years to get straight. Pronouns in English have to have an “antecedent” (noun which is referred to by the pronoun) outside the sentence in which the pronoun occurs: you can’t say, for example:

John hit him.

and mean John hit himself. Reflexives like “himself,” on the other hand, have to be in the same clause as their antecedent; you can’t say:

John was wondering why Fred hit himself.

and have it mean that Fred hit John. Children’s control over antecedents, particularly of pronouns, is still being acquired after age four or five when complex sentences are involved.

Later word learning

The child’s vocabulary grows enormously in the age period two to five years, and vocabulary size is frequently used by researchers as an index of the child’s development. In addition to learning many new nouns and verbs, the child must organize vocabulary, for example, into hierarchies: that Rover is also a dog, a corgi, an animal, a living thing and so on. The child also learns about opposites and relatedness—all necessary forms of connection among words in the “inner lexicon.” The child also becomes better able to learn words from linguistic context alone, rapidly homing in on the meaning after only a few scattered exposures. This is a surprisingly effective process, though hardly fail-safe: after being told that screens were to stop flies from bringing germs into the house, one child concluded that germs were “things flies play with.”

Discourse and reference

Researchers have been acutely aware that the child’s language learning does not take place in a vacuum or a laboratory—it is enmeshed in the social relationships and circumstances of the child. The child uses language for communication with peers, siblings, parents, and increasingly, relative strangers. All of these individuals make special demands on the child in terms of their different status, knowledge, requirements of politeness, clarity or formality, to which the child must adjust and adapt, and the preschool child is only beginning this process of language socialization. Even four-year-olds adjust their style, pitch and sentence length when talking to younger children or infants rather than peers or older people, and in other cultures they master formal devices that acknowledge the status or group membership of different people. However, it is recognized that the three-year-old is rather poor at predicting what others know or think, and therefore will be rather egocentric in expressing himself. Especially when communicating across a barrier or over a telephone, the child of this age might be unable to supply the right kind of information to a listener. However, other researchers show that children become increasingly adept at “repairing” their own communicative breakdowns as they get older.

Narrative and literacy

The difficulty that children have with predicting what others already know or believe shows itself also in their attempts to produce narratives, that is, extended sentences that convey a story. Retelling a story is considerably easier than constructing one about witnessed events, but may need considerable “scaffolding” by a patient listener who structures it by asking leading questions. Skill in producing a coherent narrative is one of the culminating achievements of language acquisition, but it is acquired late and varies widely according to opportunity for practice and experience with stories. In part, this is because creating a narrative is a cultural event: different cultures have different rules for how stories are structured, which must be learned. At first, children tend to focus just on the actions, with little attention to the motives, or reasons, or consequences of those actions, and little overarching structure that might explain the events. Young children also fail to use the linguistic devices that maintain cohesion among referents, so they may switch from talking about one character to another and call them all “he,” to the bewilderment of the listener. Reading and writing in the grade school years depend on this ability and nurture it further, and one of the best predictors of reading readiness is how much children were read to in the first few years. As children begin to read and write, there are further gains in their vocabulary (and new ways to acquire it) and new syntactic forms emerge that are relatively rare in speaking but play important roles in text, such as stage-setting and maintain-