Pediatricians will encounter a number of children in the preschool years who demonstrate varying degrees of hearing loss. Some may evidence conductive losses related to chronic middle ear disease, while others may have mixed losses or more permanent sensorineural impairment.

What is not well known is the fact that many children with apparently normal hearing (or "correctable" conductive losses) demonstrate significant expressive and receptive language delays as they grow older. And, as we¹ and others² have noted, the converse is also true: many children with significant language disorders have histories of chronic middle ear disease.

The relation between middle ear pathology and language disorders should not be oversimplified, for many children with chronic middle ear disease do not demonstrate language disorders, while others without significant otolaryngologic history have severe speech, language, and learning impairments.³ The pediatrician will want to have some standard, therefore, by which he can assess the adequacy of the preschool child's speech and language development. It is important that he do so, since many of these children can be helped significantly if language-intervention services are begun early enough.

The purpose of this article is to attempt to reduce the complexities of the normal language-acquisi-

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to be fascinated by everyone and everything. By this time the infant's cries are well differentiated, and his mother readily recognizes the difference between angry cries, happy cries, fussy cries, fake cries, hunger cries, and pain cries.

It is during this period that the baby begins to play with sounds in earnest. His babbling is highly entertaining to parents and relatives. At this stage, the baby begins to reach and grab for anything of interest, as well as to pull to a standing position. It is also the period at which the infant is first able to imitate noises and sounds in response to other people. These imitations are often only approximations, however, in that the infant typically chooses the form of his imitated response from actions that are familiar to him. Thus, the baby who is asked to imitate the syllable sequence "pa-pa-pa-pa" may simply open or close his mouth or produce small puffs of air; such acts are familiar to the infant and are his best attempt at imitating the stimulus.

Thus the acronym "SPEECH BEGINS" (Figure 1) sums up the activities of the infant between the ages of six and 12 months in which he first begins to experiment with sounds.

Twelve to 18 months. The next stage of development occupies the period from 12 to 18 months. During this time the child begins to utter his first real words. This is also the stage at which the infant's ability to utilize his primitive language system expands to some extent. Thus, the infant begins to greet people, either by waving at them or by uttering simple sound combinations. His labels may perform many functions, such as announcing "mama" or "papa," indicating the fact that his milk exists and is on the table, or simply showing great pleasure at seeing someone or a favorite toy.

It is at this time that he also begins to develop the capacity to indicate that certain things are not pleasing to him; he may use the word "no" to indicate that he does not want something. He may also formulate words that are understood by his parents but by no one else—what Ricks has called "dada words."

"Dada words," Ricks notes, have fairly loose referents. They are often used in babbling, and are the child's attempt to imitate actual words he has heard his parents speak. Thus, one child produced the word "wobuck" whenever he saw any large four-footed animal. As it was later discovered, this word referred to his grandfather's attempts to slow his horse, Buck, by saying "Whoa." This unsystematic use of words like 'wobuck' and other, more recognizable words, such as "dada" and "woof," to label an overly large class of people or things is typical of this stage.

On the other hand, the child at this age will overspecify some of his labels so that they refer only to a particular thing rather than the class they really represent. Thus, one toddler may call his father's car, a "VW," but would label no other Volkswagen as such.

A third characteristic at this stage is that the toddler will often combine a gesture with a label. Thus, rather than saying "This is my chair," the child may instead utter the word "chair" and point to it. The acronym illustrated in Figure 2 indicates how the child of this age characteristically will use his limited language ability to welcome or greet familiar people but tends to either overextend or overspecify word referents and may use special "dada" words whose meanings are clear only to parents or siblings. The infant also expresses such meanings as negation or rejection but focuses predominantly on referential meanings, such as continued
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jests are combined with such all-purpose terms as "more" and "all gone" or other words to form combinations, such as "more cookie," "all gone, chair" and "ball mine."

The acronym for this period is "MESSAGES EVOLVE" (Figure 3), since it is during this time that new single-word meanings involving subject, object, and action are acquired, and these categories are expanded by the use of sequences and groups of single words to formulate "sentences."

Two years to three and one-half years. The period from two to three and a half years is a highly complex one, with many aspects of the language system undergoing rapid development. It is primarily a stage at which the child begins to utilize what many of us call "helping verbs" and "modal verbs," such as is, are, am, was, were, can, could, shall, must, may, might, and should.

It is by using auxiliary-modal verbs together with other rules of grammar that the child begins to formulate many negative forms, such as "I don't want any," "I can't do that," and "I won't be here." Further, the small endings of words become a focal point for development during this period, and the child learns to use such endings as -ed, -s, and -ing to express past tense, plurality, and ongoing action. Finally, the basic operations of using word endings, helping verbs (auxiliary-modal verbs), and negatives are all combined in the formation of interrogatives and the child can ask endless questions, such as "Why did you do that?" and "What is that for?"

We have not used an acronym to sum up the characteristics of this stage but, rather, a label. The period in the child's development between 24 and 42 months of age is one of "Never-Ending Questions." It is characterized also by the development of many negative forms and the use of a wide range of word endings. During this period the use of "helping" verbs makes its first appearance in combination with questions, negatives, and affirmative statements.

Three-and-one-half to four-and-one-half. In this stage of development the child refines his language system. While the three-year-old can produce some "adultlike" sentences, he still has not yet consolidated his language abilities and thus makes errors. For example, a three-year-old will make mistakes in such things as subject-verb agreement ("Tom and Susie doesn't like me,") or in joining clauses together ("The boy was mad at me because he hit me.").

By the time he is 42 months old the child is consolidating his grammatic system and correcting many of these errors. He is also learning to use language to talk to others in a conversational format. He begins using various conjunctions, and thus is able to combine two sentences, such as "The boy will play" and "The girl will leave," to form one. For example, "The boy will play and the girl will leave," or — to indicate a different nuance — "The boy will play when the girl leaves."

The label we use to describe this period of development is "Talking Over the Details." It is a period of developing ability to hold a conversation, the growing use of conjunctions to increase the complexity and length of his expressions, and increasing ability to correct the grammatical errors he made at an earlier stage.

Five to eight years. This is the age when the child begins to go to school, and a stage when he is learning to use his language in a variety of situations. The five-year-old begins to note the differences in circumstances when he is talking to his teacher, his parents, and to another child, and will modify his language accordingly.

Parents, consequently, will begin noticing that their child is using a jargon with his playmates that is different from what he uses with them.

These are the years when the child learns to understand more subtle distinctions in the language system — for example, he discovers the difference between "Ask him what to do" and "Tell him what to do." He continues to acquire new sound and word patterns that allow him to increase his vocabulary further. He begins to understand vowel and suffix changes between such words as electric and electricity or grateful and gratitude and subtle stress and meaning changes, such as record versus re-cord.

The school-age years, then, show the child demonstrating further facility with all aspects of his language system and becoming more and
more flexible in his ability to formulate complex adult language in a variety of situations.

THE PEDIATRICIAN’S ROLE

The preceding acronyms and stage titles may be useful in assisting the physician in deciding which children should be referred for further evaluation. Thus, a child who at the end of a particular period is not demonstrating most or all of the behaviors suggested as important for that period of language development should be referred for formal screening or further evaluation. Early referral is extremely important because, as can be seen from these guidelines, the course of language development is extremely rapid during the first three years of life, with the child basically able to use complete sentences and the total range of grammatical forms by the age of three to three and one-half. Thus, a child of 12 months who has demonstrated none of the “beginnings of speech” should be referred, as should the child of 18 months who is demonstrating no single-word utterances or the child of two years of age who is demonstrating no use of combined words.

It is only through early referral of children who have potential language disorders that the physician and the language pathologist can work most effectively together. It is not sufficient to correct a child’s medical problems and then hope that his language skills will somehow develop further, since in many cases a child may eventually demonstrate other learning problems that will make it difficult for him to develop adequate communication skills. Since the pediatrician is often the first or only professional to come in contact with many language-disordered children during the important first three years of life, his role in referring children for early assessment of potential language and learning problems is extremely valuable to the language and learning specialist attempting to provide intervention services for young children with communication disorders.

REFERENCES

