

CHAPTER 11

Speech Defects *

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SPEECH is considered to be defective when it is conspicuously different from an accepted norm, when it interferes with communication, when it is labored, when it is unpleasant to hear or “see,” when it is inappropriate to age, or when it causes the user to become anxious, or mal-adjusted.¹

Seriously defective speech is easily recognized as such. Speech which is defective in a lesser degree may be recognized by some persons but not by others. For example, defective speech is more readily recognized by teachers who are “speech conscious” than by those who are not. It is often more apparent to persons who are not too closely associated with the child than to those who know him well and take his liabilities and assets for granted. It is often penalized more severely in communities with high cultural standards and among people who use a relatively high standard of speech.

No hard and fast line of demarcation exists between speech that is defective and speech that is merely slovenly or below average standards. Slovenly speech may be considered to be a variation *within* the range of normal; defective speech a variation *outside* the range of normal. A working distinction will become evident, however, as various types of defects are identified and described.

The incidence of speech defects in secondary schools cannot be reported statistically at this time. A number of factors are responsible for this situation. Many school systems that have functioning programs of speech correction only in the grade system have not surveyed the problem at the high-school level. Some systems which have conducted surveys in high schools have reported only on such cases as were observed by teachers unaware of

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¹West, Robert; Kennedy, Lcu; and Carr, Anna. *The Rehabilitation of Speech*. New York: Harper and Brothers. 1937. Van Riper, Charles. *Speech Correction*. New York: Prentice-Hall, Inc., 1939.

many kinds of speech defects; hence, these do not necessarily represent all the cases in those high schools. Furthermore, the surveys in such schools would be expected to show a relatively low incidence of defective speech in high schools because of the availability of speech training in the elementary grades. The Detroit schools, for example, report a known incidence of four per cent of the high-school population. These cases were discovered through the classroom teacher and represent a school system with an active program in all grades. An incidence of four per cent would probably be a conservative estimate.

SPEECH DEFECTS CLASSIFIED

Speech defects may be classified in several different ways, according to one's point of view. The classification used here is chosen because it is already somewhat familiar to the layman. This list is by no means complete, but it represents the types of speech defects which are most commonly encountered in secondary schools.

1. *Stuttering* is a disturbance in the fluency of speech. It is characterized by muscular tensions which appear at the beginning or during the act of speaking. Along with these tensions there may be repetition of sounds or syllables, a slight hesitation, or a complete block in the production of sound. In mild cases of stuttering, the tensions are usually limited to those muscles which are directly concerned with speech; that is, the muscles of the lips, jaw, tongue, and throat. In severe cases of stuttering, however, excessive tension may be seen also in muscles of the face, neck, shoulders, even arms or legs. These are called secondary symptoms and appear as a result of the stut-terer's attempts to cope with the primary symptoms or tension. Symptoms of personal and social maladjustment almost always appear in stutterers of high school age as a result of the stuttering. Stammering is a term sometimes applied to this speech disorder, but stuttering is the more widely accepted term. Stuttering is a disorder of childhood. The age of onset ranges in most cases from two to seven years, with the average probably around three years. The symptoms may be persistent or they may appear intermittently over a period of time. The incidence of stuttering is usually considered to be one per cent of the total population.

2. *Cleft palate speech* is the name commonly applied to denote the distortions in speech which result from the congenital defect called cleft palate. Cleft palate is a failure of prenatal development. Normally, the tissues which form the roof of the mouth and the soft tissues at the rear of the mouth grow from the sides and meet to form a juncture in the middle. In about

one out of every 1200 babies born, these tissues have stopped growing before they have joined in the midline, and so at birth there is a hole in the roof of the mouth, or a cleft in the palate. If this failure of development extends through the upper jaw to the tissue of the lip, then the condition known as cleft lip (harelip) exists. Cleft lip and palate may occur together or they may occur separately. The anatomical deficiency should be repaired by surgery in infancy. Improved surgical techniques are resulting in very much better speech in cleft palate patients. Occasionally such a child will develop normal speech. Usually, however, speech will remain defective even after surgery.

In most cases, normal speech can be acquired through adequate clinical training. In cases of cleft lip only, speech is usually normal. In cases of cleft palate, speech is distorted because too much of the air stream escapes through the nose. This produces marked nasality on all vowels and a type of nasal emission called a "nasal snort" on many consonants. The explosive sounds "p," "b," "t," "d," "k," and "g" are defective because the patient has not learned how to build up pressure and release it in the mouth cavity. Many or all of the fricatives ("f" and "v," the two "th" sounds, "s" and "z," and "sh" and its voiced equivalent) are defective because the air is emitted through the nose instead of through the mouth. The glides "r" and "l" are frequently distorted or absent. The cleft palate patient usually shows also a distorted pattern of force. Symptoms of personal and social maladjustment are usually present, both because of defective speech and real or fancied facial deformity.

3. *Hearing loss* is very prevalent among school children and commonly results in defective speech. Unfortunately, the condition is too often not recognized by teachers, and, if recognized, is still more frequently not understood. Children with a total loss of hearing are readily identified and sent to schools for the deaf or to special classes for the deaf in public schools. It is the vast number of hard of hearing children in school whose handicaps are not identified so readily.

If a child has had hearing loss from early childhood, his speech articulation will be defective to some degree, particularly in the production of the consonant sounds. The fricatives "s" and "z" are especially affected and will be distorted or omitted. All final consonants are generally omitted. Voice quality, pitch, melody, and loudness are usually not affected in the moderately hard of hearing, but are distorted in varying degrees in profoundly hard of hearing children.

It is important for teachers to recognize that a child may show considerable evidence of hearing and yet have enough hearing loss to have produced defective speech and impaired ability in understanding conversation. What such a person hears may be compared roughly to what the average person may have heard over a telephone on a country line when the connection was poor. Speech is audible but blurred and not readily intelligible.

The group audiometer tests now given with increasing frequency in many school systems are useful in detecting hearing loss. Children suspected of this handicap on the group test should have individual tests by a pure tone audiometer in order to confirm the diagnosis. Where audiometer testing is not easily available, the teacher should be alert for signs of hearing loss, *e.g.*, failure to understand speech when the subject of conversation is changed or when the speaker's face is turned from view, defective speech, poor attention, or close observation of the speaker's face.

The incidence of hearing loss ranges from five to seven per cent of the population. In schools with an active program of hearing conservation, however, the incidence has dropped very markedly.

4. *Cerebral palsy* is a condition which may or may not affect speech. It is caused by injury to the motor nerve tracts in the brain, usually at birth. This injury seriously impairs the patient's ability to control finely co-ordinated muscular movements. The patient may have great difficulty in walking, in using the arms, in speaking without severe facial grimaces, and so on. The speech when affected is labored and difficult; inflection of melody and force are severely distorted; voice quality may be husky; and articulation so defective as to render the speech nearly unintelligible. These cases are not common in the school population, but, when they do exist, they should be properly understood. Persons suffering from cerebral palsy are commonly considered to be mentally retarded because of their atypical motor behavior. Mental retardation may exist in cases of cerebral palsy, but it does not necessarily have to be present. If a child with this handicap has succeeded in getting to high school, it may be assumed that his mentality is at least average. Teachers should realize that the standard psychological tests measuring intelligence do not give a true measure of the intelligence of persons with cerebral palsy because of the severe handicap in muscular co-ordination. Each case must be judged upon long and close association and must be evaluated by a specialist who understands the disorder.

5. *Disorders of vocal pitch*. It is not uncommon to find among high-school boys some whose voices do not change in pitch at the time of ado-

lence. In some, such a failure of the voice to become lower in pitch is caused by a disorder involving the endocrine glands. In others, it may well be a variation in endocrine activity though not severe enough to be medically pathological. In these cases the voice will be atypical not only in respect to pitch but also in respect to quality because of the influence which pitch has upon vocal quality. Girls' voices, too, become somewhat lower in pitch at adolescence and sometimes one hears voices in girls which need to be lowered. Occasionally voices in both boys and girls are too low in pitch, in which event the quality is apt to be husky.

6. *Disorders of vocal quality.* Disorders of vocal quality are those in which the tone or timbre of the voice is not clear or pleasing. A husky or hoarse voice may be due to organic factors such as paralysis of one vocal cord, nodes or growths on the vocal cords, chronic inflection or inflammation of the larynx caused by catarrhal conditions or allergy; or it may be caused by a functional disturbance such as general muscular tension or misuse of the vocal mechanism. The voice may be breathy, that is, have too much unvocalized air. It may be nasal or it may be lacking in a normal amount of nasal resonance. Diagnosis should be made by a speech clinic, in consultation, where needed, with a nose and throat specialist.

Insufficient volume in the speaking voice is a persistent problem recognized by teachers, but it is ordinarily not to be considered a speech disorder. While it may arise because of general health factors, it is more usually a psychological problem involving confidence and motivation to improve.

7. *Disorders of articulation,* not due to organic pathology, are by far the most common speech defects encountered in public schools. In institutions which have speech correction in the lower grades, these should all have been cleared up before pupils reach high school. However, in schools without speech correction, such cases will be quite commonly found in high school. Disorders of articulation are errors in the production of consonant sounds or errors in joining the speech sounds into speech patterns.

The most common articulatory defects involve the production of "s" and "z" sounds. Errors on "s" and "z" constitute what is known as lisp-ing. The most common type of lisp is the substitution of "th" for "s" and "z". (I *thee* instead of I *see*). This is also known by the term lingual protrusion lisp. It may vary from case to case all the way from an outright substitution of "th" for "s" to a slight distortion of "s" in the direction of a "th" sound. Another variety of lisp is produced by a curling of the tongue, or motion off-side. Sometimes "t" and "d" are substituted for "s"

and "z". This is commonly found in cases of hearing loss. Sometimes the "s" sound will be omitted entirely.

Another common variety of lipping is known as the lateral lisp. In this condition the tongue is humped up and touches the top of the mouth with the air stream coming over the sides of the tongue. A lateral lisp may affect only the "s" and "z" sounds, only the "sh" sound and its voiced equivalent (as in the word *measure*), or a combination of all four sounds. When the "sh" sound is involved, then the "ch" and its voiced equivalent will be defective too because this pair of sounds contains the "sh." (In the word *chin* the first sound is "t," then "sh;" in the word *jump* the first sound is "d.")

Other consonant sounds which are commonly defective are "r," "l," "k," and "g." Teachers frequently report that a pupil, who does not make the "r" sound, talks "like a southerner." The differentiation can be made easily between southern dialect and an "r" defect by asking the pupil to say a word beginning with "r." If he says *wed* for *red* or makes a sound more like "w" than "r," then he has a defective "r" sound. In cases of "l" defects, the most common substitution is "w" for "l" in the beginning of a word: *wight* for *light*; "o" for "l" at the end of words: (*beo* for *bell*). Sometimes a glide made with the back of the tongue instead of the tip is used in place of "l" and the sound is somewhat similar to the explosive consonant "ga." When "k" and "g" are defective, the explosive sounds "t" and "d" are usually substituted; that is, the tip of the tongue instead of the back is used.

Articulatory defects involving the blending of the sounds together to form a pattern of speech are not as commonly encountered, except of course, in cases of hearing loss and cerebral palsy. Some cases present this type of defect, however, probably because of an early brain injury.

8. *Foreign dialect* is another type of defective speech which is a persistent problem in many schools. Fortunately, in most first-generation Americans, the deviations in speech are very slight in comparison to what one might expect. Ordinarily the two "th" sounds, as in *think* and *then*, are the only consonant sounds which are defective. In some nationality groups the "ng" click is also a problem; that is, the person adds a hard "g" sound at the end of an "ng" sound as in *going gout*. Some deviation may also be noted in the inflection of melody and force and in rate. In cases of more severe distortion of speech pattern because of foreign dialect, the teacher should consult a more complete description of foreign dialect problems.