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STUTTERING; ITS CAUSE AND

AGE OF INCIDENCE

by

Sarah Honan Blake

A thesis submitted in partial fulfillment  
of the requirements for the degree  
of Master of Arts in Loyola University

1931

## PREFACE

The practical problem of preventing and correcting stuttering is a threefold one. There is

1. an urgent need for helping stutterers to acquire normal speech;
2. a need for devising means of preventing the disorder and of instructing parents and teachers in the use of these means;
3. a need for conducting further research to ascertain the cause or causes of stuttering in order that means of prevention and correction may be intelligently devised and applied.

The author sincerely believes that a knowledge of the age of incidence of stuttering will throw some light upon the perplexing problem of causation, or at least confine investigation to a very limited period of child life, and has therefore made a study of the age at which stuttering began in the subjects treated in the Chicago Public Schools during the school year of 1929 and 1930.

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CHAPTER I  
THE URGENT NEED FOR HELPING STUTTERERS  
TO ACQUIRE NORMAL SPEECH

The history of civilization records such wonders in the amelioration of human suffering that the world has ceased to be awed by scientific achievement. Yet there is today an affliction, numbering thousands among its victims, the existence of which is cited in the Egyptian hieroglyphics, in the relief of which little progress has been made. Stuttering is still a condition given slight consideration except by the stutterers themselves and by the few specialists engaged in the correction of speech disorders.

In some instances, the attitude toward stuttering does not stop at mere indifference but goes to the extent of brutality. Persons who would consider it barbaric to laugh at the gropings of a blind child or at a crippled child's efforts to walk, will not hesitate to laugh at the efforts of a stutterer in his endeavor to speak, nor refrain from relishing a joke at his expense. Even teachers, because they are not acquainted with the difficulties a stutterer experiences in reciting, often

are brutal in their dealings with stammerers, as the following quotation will evidence:

(10:463) "I know of the pleas made for the nervous, the unsteady, the slow, the stutterer. I know it's a terrible infliction to make stutterers speak, especially terrible to listeners. On the other hand, a great many adolescents can be cured of chronic nervousness by a hard-hearted, strict teacher, who believes no more in coddling some youngsters than truthful physicians believe in pampering over-careful invalids. The few pathological cases need no more be considered by us than are the physically unfit when gymnastic courses are introduced into school."

Dr. Fletcher (19:4) tells the story of an ambitious young man who, against the heavy handicap of stuttering, had reached the sophomore year in a pre-medical course. He had intended to specialize in medicine along lines that would enable him to devote his life to the relief of those afflicted as he was. The professor in charge of a required biology course was snappy, exacting, and critical. He took it for granted that lack of prompt, fluent answers indicated a lack of preparation. This uncompromising authority and the classroom situation were more than the stuttering boy could combat. He was driven from the university a discouraged failure, although he had the mental capacity for professional success and the ambition to be a public benefactor.

If the instructor had adapted his method of teach-

ing to the young man's needs, if he had been more scientific or even more humane, this student might have succeeded in finding the cause and cure for stuttering. At least, he would have been an interested investigator.

About the middle of the nineteenth century the English poet Tupper, who was compelled to abandon his profession of law because he stammered, wrote the following poem which is an eloquent plea for helping the stutterer to acquire the facile speech which will fit him for professional and social equality.

"But nervous dread and sensitive shame freeze  
the current of their speech;  
The mouth is sealed as with lead, a cold  
weight presseth on the heart,  
The mocking promise of power is once more  
broken in perofmrnace,  
And they stand impotent of words, travailing  
with unborn thoughts;  
Courage is cowed at the portal, wisdom is  
widowed of utterance;  
He that went to comfort is pitied, he that  
should rebuke is silent,  
And fools, who might listen and learn, stand  
by to look and laugh;  
While friends, with kinder eyes, wounded  
deeper by compassion;  
And thought, finding not a vent, smoldereth,  
gnawing at the heart,  
And the man sinketh in his sphere for lack  
of empty sounds.  
There may be cares and sorrows thou hast not  
yet considered,  
And well may thy soul rejoice in the fair  
privilege of speech,  
For at every turn to want a word - thou canst  
not guess that want;  
It is lack of breath or bread, life hath no  
grief more galling."



Wendell Johnson's book, "Because I Stutter" (25) gives the story of a stutterer's life from the subjective viewpoint. It is not a sentimental appeal but a truthful, straightforward exposé. This autobiography is the most recent argument for the need of helping stutterers acquire normal speech.

The urgent need for helping stutterers to acquire normal speech need not be pleaded by appealing to the emotions alone. The cause of stutterers makes a strong appeal to reason. Stuttering is expensive of time, money, and leadership. The young medical student and the lawyer Tupper are examples of lost leadership.

Stuttering and Intelligence. If the stutterer were mentally inferior to the non-stutterer, the situation would not so imperatively demand attention, but experiments show that there is no correlation between stuttering and intelligence quotient. Miss Stinchfield (4:604-20) found among the freshmen of Mount Holyoke (an experiment carried through six years) as high a grade of intelligence in the stuttering girls as in the non-stuttering population.

Dr. Elizabeth Dickinson McDowell (4:604-20) used 50 stutterers for an experimental group and the same number

of non-stutterers. The subjects were chosen from the fifth grade in public schools in New York, where fairly representative sampling could be secured. Dr. McDowell use the Stanford Revision of the Simon-Binet test, and the Pitner-Patterson Shorter Performance Scale. The results were as following:

1. Stanford Revision Test
  - a. Experimental group....Mean I.Q. 101 with a standard deviation of 19.87
  - b. Control group....Mean I.Q. 102 with a standard deviation of 20.26
2. Pitner-Patterson Shorter Performance Scale
  - a. Experimental group....Mean I.Q. 104.2 with a standard deviation of 26.73
  - b. Control group....Mean I.Q. 99.8 with a standard deviation of 23.0

These figures show no significant difference in the intelligence quotients of stutterers and non-stutterers.

Scripture and Kittridge found a low mean intelligence among stutterers, but admit that their sampling might very easily give low scores (Several of their subjects were markedly sub-normal) because their work was done in a New York public clinic, and individuals who seek help from charitable institutions tend to have a low mean intelligence quotient.

The above studies as well as studies made in Germany and France are summarized by Raymond H. Barnard of the University of Wisconsin. (4:604-20) Mr. Barnard finds that stutterers have as high a grade of intelligence as non-stutterers, but that stutterers are retarded in school from one to two and one-half years probably because of their inability to take part in classroom activities due to their speech difficulty.

Conradi (13:38) make s the statement "In every grade the age of stutterers is higher than that of normal children, probably not on account of intelligence or mental inferiority but either because they are neglected by their teachers or because they are discouraged on account of sensitiveness with regard to their trouble or on account of the jeering of their classmates."

The Number of Stutterers. In Dr. Kenyon's letter of invitation to the Convention of the American Society for the Study of Disorders of Speech, December 1931, he said that 300,000 or more stammerers in the United States are not receiving the help they have a right to expect.

Mr. Wendell Johnson (25:2) says there are 1,000,000 stutterers in America. Wallin, (47:214) in seven surveys found that .9 per cent of the children in the St. Louis

schools stutter. Conradi has reported an investigation among 87,440 school children in six cities, Albany, New York; Cleveland, Ohio; Kansas City, Missouri; Louisville, Kentucky; Milwaukee, Wisconsin; and Springfield, Massachusetts. He found that 2.14 per cent stuttered. Dr. Smiley Blanton discovered that of 4,682 children in the schools of Madison, Wisconsin, .72 per cent stutter. The finding of Root's survey in the schools of South Dakota is that of 14,072 children examined, 1.2 per cent stuttered. (35: 255-65) Miss McDowell found that .87 per cent of 7,138 children in seven elementary schools of New York City stutter. The average of these percentages is approximately 1.2 per cent. If this percentage holds in other cities of the United States, then 1.2 per cent of the populations of this country stutter.

The Cost of Stuttering. The cost of stuttering has received far too little attention. It naturally divides itself into two considerations: (1) the cost to the individual; (2) the cost to the community. Some of the losses to the stutterer may be tabulated as follows:

1. Time lost through retardation in school.
2. Time wasted through putting off essential jobs because they require talking.

3. Time lost fussing with things someone else should do and could do better if the stutterer could ask for help.
4. Time lost hunting for places and things because of inability to ask questions.
5. Loss of promotion through inability to talk.
6. Loss through lack of knowledge that could be had for the asking; ignorance creating all sorts of complications.
7. Loss through poor judgment due to absence of the clarifying effect in the mind in discussion with others.
8. Loss through not resisting impositions because of inability to talk.
9. Actual loss of time spent trying to talk.
10. Failure to make use of opportunity because of inability to talk.
11. Paying more than is necessary for things, because trading and bargaining are so difficult for one who cannot talk.
12. Loss due to discontent and the tendency to shift from one thing to another as a

result of the maladjustment that stuttering causes.

13. Time lost hunting new jobs after losing jobs through inability to talk.
14. Loss of happiness because of inability to participate in social affairs.

Anything that causes loss to the individual causes loss to the community. Some of the losses to the community are:

1. Loss through lack of ambition and initiative, resulting in less production.
2. Loss through work left undone because it calls for talking.
3. Loss through the stutterer's trying to carry out impractical ideas, because his speech limits analytical discussion and prevents him from understanding the weak points in his plan.
4. Good ideas lost - not carried out through lack of speech ability.
5. Time and temper lost by employers waiting for the stutterer to struggle through something he has to say.

6. Inconvenience to others, both direct and indirect, as a result of the stutterer's procrastination, due to his dread of having to talk.
7. Loss through the stutterer's tendency to shift from one thing to another, not following any logical course or persisting long enough to accomplish any important work.
8. Loss to community through retardation in school.

Dr. Greene (22:181) investigated the earnings of 100 adult patients admitted to his hospital for correction of speech defects. He found that the average wage was \$18.00 per week. One hundred is a fair sampling of stutterers if it is conceded that the percentage of stutterers to non-stutterers is 1.2 per cent.

Statistics of the National Conference Board regarding wages and employment in 23 industries show that the labor groups to which these stutterers should belong were, during the same period, earning an average of \$28.25 a week. These figures show a loss to the stutterer of \$10.25 per week or approximately 35% which is directly

chargeable to his defective speech.

The stutterer is a part of the community. There are so many stutterers that they are a considerable part of the community. The stutterer is entitled to an opportunity to develop his intellectual, social, and civic possibilities. Speech is the means of communication between man and his environment. It should be fluent and under the speaker's control, otherwise self-confidence is lost and self-expression is impossible. Instead of growing into the extrovert type, "The doer", with poise and confidence in himself, the stutterer becomes introspective, lacking in initiative and avoiding responsibility, and unfit for the battle of life in our modern civilization.

The stutterer is costing himself and the community a considerable sum of money, and is causing himself and the community much unhappiness. From the standpoint of economy, and from the standpoint of humanity, the need for helping stutterers to acquire normal speech is urgent.



## CHAPTER II

### THEORIES ON CAUSES OF STUTTERING

#### Physical and Physiological Theories of Causation.

stuttering was originally assumed to be of physical origin. Celsus, who practiced medicine in Rome during the reigns of Augustus and Tiberius, seems to have believed the tongue to be the organ of speech responsible for stuttering and offered such heroic treatment as:

"Gargle of thyme, hyssup, pennyrod; he (the patient) should drink water and the head, the neck, mouth and other parts below the chin should be well rubbed. The tongue should be rubbed with lazerroot and he should chew pungent substances such as mustard, garlic, onions and make every effort to articulate. He must exercise to retain his breath, wash his head with cold water, eat horse radish, and then vomit." (16:94-95).

In harmony with the organic conception of the nature of the trouble, surgical operations of many sorts were practiced. Galenus, who died in 200 A.D., practiced cauterization. Yearsley and Braid of England as late as 1841 operated on tonsils and the uvula as a means of relief. (18:191-97). The lingual frenum was severed in the belief that it interfered with normal speech and in 1841 Duffenbach told of cutting a transverse slice out of the tongue and sewing it up, thus making the tongue shorter (16:95-96). This contrasts with the practice of

cutting the frenum to make the tongue longer.

Gegoire, in France, recommended smoking as a sedative to the vocal cords. Gerdtz, of Germany administered peppermint, oil, and chloroform in an attempt to allay the spasms of the diaphragm which he conceived to be the cause of stuttering. (16:96-97).

Hunt describes a theory, issued in 1584, that dryness of the tongue caused by a moist and cold intemperament caused stuttering. The author of this theory recommended that the head be dried by cauterization and blisters; that salt, honey, and sage be rubbed on the tongue, and that the diet be regulated by the use of salt, spicy, and heated foods. (16.97).

In the earlier forms of the physiological theory of stuttering, attention seems to have centered upon a particular organ or groups of organs, the inadequate functions of which caused stuttering. In 1825, Mrs. Leigh discovered that one of her clients pressed his tongue against the lower incisor teeth in his efforts to talk. Instantly, she decided that this was the cause of his stuttering and concluded that the remedy would be simply to change the situation of the tongue when speaking. She taught the stutterers to place the tongue against the

roof of the mouth when talking instead of against the teeth. This cure was taken up in France, Prussia, and the Netherlands. (8:183-92).

Dr. Becquerel, in 1843, denounced Colombat, who cured stuttering by applying musical time to ordinary speech, before "The Academy" of Paris. Colombat considered the cause of stuttering to be a lack of rhythm and taught stutterers to speak single syllables, all the while observing a certain rhythm by moving the thumb and forefinger against each other, (Such a principle is still adhered to by illegitimate practitioners). Dr. Becquerel stated that after twelve years' treatment by Colombat without results, he was cured by Jourdan in a short time. Jourdan contended that abnormality of breathing is the sole cause of the trouble. (32:36)

Hunt, Kussmaul, Gutzman, Wyllie, and A. M. Bell are among the number who believed in the physiological conception of the disorder, but they saw in it not the abnormal function, not of a single musculature, but an asynergy of one sort or another between several systems of musculatures involved in speech. (16:100-01).

The conception that an anatomical deformity or an inadequacy of physiological functioning of the speech

organs causes stuttering has been abandoned. Since stutterers can sing without stuttering and can talk when alone, it is surprising that such an idea could ever have been given serious consideration. However, the idea of faulty breath control and the notion of time beating still persists. There is some reason for the persistence because, transferring the attention from speech to either time beating or breathing does give temporary relief, but will never cure the malady for in the subconscious memory there are associations which will return the moment the transfer of attentions (time beating or deep breathing) is forgotten, and when a person is deeply interested in telling something he is very likely to forget about time beating or breathing.

An organic cause that cannot be passed over, in view of the importance now attached to the glands, is the thought expressed by A. A. da Costa Ferreira in the Bengian Archives of Medicine, 1919, that stuttering is of endocrine origin. McDougall agrees that many mental abnormalities may be traced to endocrine origin.

The Theory of Mental Cause. There are others of the physiological school who admit the causal signifi-

cance of mental states but insist upon a remedial program that is based upon the physiological conception.

G. Hudson-Makuen, for years the most actively interested medical authority in the United States, says:

"The stammerer's speech is faulty in every particular. His central as well as peripheral mechanisms are out of gear and his mental attitude toward speech is wholly wrong. The instrument is out of tune and the player is unskilled in using it. He cannot retune his instrument and if he could, he would be unable to play upon it. The affliction is therefore a complicated one involving not only all of the various mechanisms of speech but also some of the higher intellectual and emotional centers of the brain. Indeed it involves the whole being, and its scientific treatment therefore, must have for its purpose a thorough re-education of the individual; it must supplant his stuttering speech with normal speech; it must make it easier for him to speak fluently than to speak hesitatingly; it must not only correct his stuttering habit but it must remove the fear of stuttering upon which much of the trouble depends." (19:191-97)

Dr. McCready says: "Among pre-disposing causes are neurotic temperament, naso-pharyngeal irritations, and faulty breathing habits. The exciting causes are acute disease, mental shock, and imitation of other stammerers. A prolific cause is mental shock such as fright. Imitation is an important factor in the cause of this disease." (29:182)

Starr adds an interesting idea. He says: "The Physiological parallels the psychological and is indicated by the chemistry of the individual."

Dr. Starr made a study of the saliva of stutterers with the thought of throwing light upon causation. (39:394-418)

Dr. Kenyon, the Chicago physician, who has contributed years of labor to the behalf of stutterers, adheres to the theory of mental causation, but uses physiological

treatment (26:191-97) Dr. Martin of New York believes in mental causation, but recommends:

"voice drills, syllabication, tongue drill, silent reading, and oral reading before a mirror." (28:287-93)

The Imagery Theory. Bluemel contends that the stut-  
terer's difficulty is transient auditory amnesia.

"The verbal image is paramount in determining the nature of the word expressed; hence if no clear cut verbal image is in the mind, no word can be orally produced. It is no more possible for the speech organs to produce a word that is not clearly expressed in verbal imagery than it is possible for a gramophone to produce words that are not present on the record. The gramophone reproduces words as they are spoken into it; the speech organs reproduce words as they are dictated by the verbal imagery. The verbal imagery is absolute." (7:25-50).

Dr. Swift states: "Psychological analysis shows stuttering is an absent or weak visualization at the time of speech. The new concept of stuttering may be called Visual Central Asthenia. This lack of visualization accounts for all the numerous phenomena of stuttering in severe, medium or mild cases." (43:225-35).

Dr. Swift will say to his patient, "I see a dog crossing the street". If the patient is able to visualize the dog crossing the street, he will be able to say the sentence. If the patient is unable to visualize the dog crossing the street, he will stutter. He claims to have examined several hundred subjects and to have found sufficient evidence to justify his conclusion.

The ideo-motor theory of action held that the image in consciousness tended to inaugurate the movement that

was similar to it, or that it represented. Now, the visual imaginal representation by a stutterer of a dog running across the street obviously neither represents, nor is similar to the motor processes of speech used in describing the event.

Bluemel insists that the verbal image is absolutely necessary in order to produce speech. It would then be impossible to express impressions arriving at the cerebrum through any other centers than the auditory; for instance, feelings, or sympathies.

Swift's theory must assume that there is one path by which the neural processes of speech travel, and that that path is by way of the visual centers, so that when this becomes obstructed the speech is blocked, and when it is open, speech is unhampered.

Both Bluemel and Swift claim the power to visualize is transient in stutterers. Now, if it be granted that one has the capacity for auditory or visual imagery, it seems necessary to explain why this capacity disappears at certain times. It would seem that the cause for the transiency might have something to do with causing the stuttering. There must be a variant factor which will

make intelligible why it is that under certain circumstances a stutterer can experience imagery, and at another time he loses the power to experience imagery and with it the power of speech. This variant element seems to be the thing to locate.

Dr. Travis of the University of Iowa (25:xii) claims that:

"Stuttering is a definite neuro-muscular derangement of the functional type in which there is a general reduction in cortical activity. The reduction in cortical activity is due to transient and mutually inhibitive activities of the associative areas of the right and left cerebral hemispheres. In the stutterer, instead of nervous energy flowing into one center of greatest facility in transmission, it flows into two centers of equal facility in transmission, which function in reaction patterns of opposite orientation and configuration to produce in the peripheral speech organs simultaneous or alternate opposition in muscular movement. The symptoms of stuttering are mainly signs of the rivalry between the two sides of the brain.

The neurological basis for stuttering, which is a lack of a sufficiently dominant center of activity, is a functional variant. We may think of its existence in terms of a margin of dominance which exists in range from zero amount to a very large and safe amount in different individuals. If the margin is small, stimuli of slight emotional value and conditions which bring about small amounts of physical and mental fatigue will produce the stuttering. If there is zero amount of dominance, we have the stutterer who stutters under all conditions--in the quiet of his room as well as in a social situation. If the margin is large, we have the normal speaker under practically all physical and mental conditions..... A certain number of children are born with no potentiality for the development of one center of hyper-excitability and hyper-irritability--the dominant center or with only a slight neuro-physiological bias in favor of a left-



handed development which will be opposed by a right-handed environment. They generally stutter from the beginning. Others possess a natively dominant center which would warrant normal speech development were it not interfered with through both physical disease emotional shock, and educational practices which favor the shifting of left-handed children to the use of the right hand. The dominant center is the most easily affected by such disturbing factors because it is the center of greatest susceptibility to all kinds of environmental stimuli. In the corrective treatment of stuttering, the sole aim is to build up or establish a single dominant center of activity in one or the other of the two cerebral hemispheres.

The cause of a lack of dominance in one or the other of the two cerebral hemispheres--and consequently of stuttering--may be considered under two heads: heredity and environment. (25:xiii)

Cure. Establish a single dominant center of activity in one or the other of the two cerebral hemispheres. This is accomplished by the development of a dominant motor lead through one side of the body. If careful laboratory examinations reveal that the motor facility is determined by training is out of harmony with the native physiological leads, the attempt is made to re-establish the native physiological leads through training designed for that purpose. In many cases the corrective training consists in having the individual return to the use of the left hand in all major manual functions, especially writing." (25:xiv)

Dr. Travis claims that establishing a dominance of one hemisphere over the other will cure stuttering, but in his treatment he (48:121) includes (besides writing and speaking exercises, and unification of motor leads) physical hygiene, mental hygiene, and general speech exercises. In speaking of physical hygiene he says:(48:122)

"It is important to the speech pathologist because nutrition is fundamental for all lines of child development. The stability of the total bodily structure is de-

pendent upon the materials that make it up. Ill-nourished children are subject to all types of infection. Because malnutrition is two to three times so common among children who are badly retarded mentally is among those of average ability, we may consider that its effect on mental development is probably very great."

Of mental hygiene he says: (48:126)

"It is our opinion that very few stutterers any more than most so-called normal individuals need a searching psychoanalysis. We are not aware of any experimental or clinical evidence that stuttering is a manifestation of an anxiety neurosis or anxiety hysteria. If the stutterer presents a morbid anxiety, it is mainly an effect and not a primary cause. As we have repeatedly maintained, the anxiety and fears of the stutterer are reactions to and are developed after the appearance of his defect."

However, he goes on:

"Every effort should be made to help the stutterer to adjust himself more happily to his difficulty."

He argues (48:127) that a regime of good mental hygiene often helps to destroy the vicious circle--"stuttering, social morbidity, stuttering", and continues:

"The main goal to be achieved in the education of the stutterer's attitude toward his trouble is one of impersonal evaluation of it. He must learn to objectify it, depersonalize it, and even to accept it. The common practice of shielding the stutterer has worked against him instead of for him. Through powerful indirect suggestion it convinces him that he is different, generally in the direction of being inferior and inadequate. He has been taught to keep his trouble to himself and as a consequence many stutterers are markedly introvertive and seclusive. Here we wish to suggest that all of this should be reversed. Let us and the stutterer acknowledge, first of all, that he has a defect and that he and we are going to study it. In this study we shall require that he become acquainted with his stuttering organism. He must know how it looks and feels to stutter. As a begin-

ning we have required stutterers to imitate voluntarily their stuttering movements. Of course it is impossible for any one to stutter voluntarily because this would be voluntarily producing an involuntary act. But in the voluntary attempts he approximates, as far as he can check his movements by visual, auditory, and kinesthetic cues, some of the stuttering spasms. This operates to make his stuttering an object of study."

To require stutterers to imitate their stuttering movements, even if it were possible, seems questionable technique. However, since most stutterers are unaware of their facial expressions while stuttering, naturally, they could not imitate visually what they have never seen. They can hardly get an auditory cue either, because very often stuttering is a complete blockage of speech. Psychologically, the continued repetitions of a reaction fixes that as a permanent habit. The stuttering movements are what the speech pathologist wishes to eliminate. Why, then, attempt to practice them?

Besides helping the stutterer to objectify his difficulty, Dr. Travis admits that mental hygiene has another value:

"Another goal to be attained in the mental hygiene program of the stutterer's life is an even emotional keel. His life should be one of fairly even tenor. Shocks of grief, pain and fright certainly do not start stuttering with every one, but they do in some cases make the occasion for bringing forth what is already latent. Strong emotions suddenly induced are likely to produce injury and should as far as possible be avoided.

Above all the speech pathologist should be a comrade and a leader as well as a teacher. It is reasonable to suppose that a well-adjusted speech specialist with good insight into his own problems and those of others, and who possesses natural mental and physical qualities of leadership, will in associating intimately with stutterers do a great deal of good."

The general speech exercises, ordinary and interpretative reading, reciting poetry and singing, are given by Dr. Travis for the purpose of inspiring confidence and removing fear of speaking, and to establish and sustain a "dominant gradient of excitation".

Now, Dr. Travis uses much the same therapy that is followed by other teachers who correct speech. He adds the shift of handedness or the establishment of cerebral dominance from one hemisphere to the other. How he can base his claim that the establishment of the dominant center of activity in one of the two cerebral hemispheres effects the cure any more than any other part of his therapy, is difficult to understand. Other speech pathologists have effected cures. Consequently, if Dr. Travis follows the general principle, (as he does) of their method, then, it is reasonable to suppose that without the shift of handedness he would effect cures.

R. H. Ojemann (34:121) of the University of Iowa, reports a study in handedness which would tend to dis-

prove the theory that the cause of stuttering is hooked up with handedness. Five hundred eighteen (518) subjects were used in the study. Twenty-three were found to be left-handed but had been taught to write with their right hand. These twenty-three subjects were given tests for speech. There was no case of stuttering that could be traced to reversal of manual habit. (16:30)

In 1922 there was an intensive campaign to cure left handedness among the pupils of the public schools in Elizabeth, New Jersey. Persons tested 877 children and found 32 to be left handed. No case of stuttering could be traced to left-handedness.

Mr. Leo Bernard Fagan of the University of Iowa reported a case study of thirteen subjects. He divides them into two groups:

1. Left handed and dextral training--9 cases.
2. Amphi-dexterity and dextral training--4 cases.

He decides because stuttering occurred in these subjects either simultaneously or shortly after compelling the subject to change to right-handedness, that the change caused the stuttering. That might be conceded in the case of the definitely left-handed, but why changing an amphi-dextrous person to right-handedness should make

him stutter more readily than changing to left-handedness would, is a little hard for at least one teacher of speech to understand.

Mr. Fagan's conclusions follow: (16:75-76)

"1. Right-handedness should not be imposed on left-handed individuals.

2. The amphi dextrous should be taught to use the left hand especially for writing and to avoid the acquisition of dextral skills.

The inferences from the few cases cited cannot be said to have statistical validity but in the above cases it is evident that the acquisition of skills by the right hand in the left-handed and amphi-dextrous reduced and disturbed the functional integrity of the speech mechanism.

Amphi-dexterity may be thought of as an expression of native left-handedness maintained by the organism despite and together with the dextral skills imposed by the right-handed environment.

Articulate speech is a product of bi-lateral neuro-muscular groups under the functional dominance of the left cerebral cortex in normal right-handed individuals and vice-versa for left-handers. Whereas, writing or graphic speech is a product of uni-lateral neuro-muscular groups under the same functional dominance of the left cortex in right-handers as is articulate speech. Clinical neurology supplies verifiable data that in cortical aphasia in right-handed patients in which there is not only a deterioration of articulate speech but also of writing or graphic speech as well, the lesions are located in the left cortex and vice-versa for the left-handed. When graphic speech is imposed on the right hand, so to speak, in the left-handed and amphi-dextrous the corresponding cerebral cortex acquires by training a function that places it in active opposition to its homologue in speech production, be it graphic or articulate, making for the peripheral disturbance known as stuttering."

Mr. Ojemann's study and the experiment in Elizabeth,

New Jersey, gives as valid a reason for believing that change of handedness of individuals is not a condition of sufficient importance to create stuttering, as Mr. Fagan's study gives valid reason for believing that the change in handedness is a condition of sufficient importance to create stuttering.

Mr. Johnson, in his "Because I<sup>3</sup> stutter", says he is not completely cured, but that he shall be when he is completely left-handed. Johnson's is the outstanding cure of the Travis method. Now, is it not possible that the determination of Mr. Johnson to be cured, his willingness to co-operate, the psychoanalytic treatment, as well as, or instead of, the training in handedness are responsible for his improvement to date, and that the gradual reintegration of his personality and his readjustment to society resulting from his belief that he is being cured, be held responsible for future improvement in his speech?

In fact, throughout his book Mr. Johnson shows that the continually reiterated positive suggestions of his instructor, the teacher-pupil relationship, the physician-patient relationship and the restoration of his self-confidence are responsible to a large degree for his improvement.

McDougall says: (31:427)

"It is impossible, it may be urged, for a patient to spend many hours, day after day through many months, an intimate discussion of his personal problems with his physician, without his discovering much of the latter's opinion and attitude toward his symptoms and problems; and being so, it is equally inevitable that, unless the physician (who by the very nature of the case occupies an initial position of great advantage, as well as having the advantage of being a healthy man over a sick man) is a very poor creature, the patient will become in some degree suggestible to him, and be influenced in corresponding degree by suggestion."

Advocates of the theory that change in handedness causes stuttering, speak pathetically of the defenseless child being born into a right-handed world and being compelled to use his right hand when he, according to his native capacity, should use his left hand. Just why is this a right-handed world? It seems reasonable to suppose that the environment was made to fit man's needs, and also that man was made after a definite pattern. Men's hearts are on the left side--why is it not possible that the Power that placed them so did not also make men definitely right-handed and that those men who are not right-handed are as definitely off pattern as those whose hearts are not on the left side? Might it not also be possible that that same Power made the nervous system sufficiently flexible to allow an individual having a



strong left-handed tendency to be trained to develop the complex co-ordinations required for writing with the right hand without bringing about a disturbance in a closely related series of fine co-ordinations such as are involved in speech?

Psychoanalysis Applied to Stuttering. As soon as psychoanalysis of Freud became known, many psychiatrists felt that it could be counted on to succeed in determining the cause of stuttering and in furnishing the remedy. Appelt, in 1911, published his book (now in its third edition) in which he promulgates the thesis that all stuttering is due to conflicts involving the love life of the individual (3:103-106).

Dunlap claims that:

"Boys stutter on words that begin with a certain small group of sounds--the sounds with which certain obscene words much favored by small boys also begin. It would never do to have mother, father, or sister hear these words although they are employed with satisfaction among his companions. These words are usually obscene but may be 'damn' and the like. The boy carefully brought up but handicapped by a weak constitution or predisposed by tendency (heredity) to erratic muscular activity (such as may be expressed by continued twitches of the face, nervous movements of the hands or feet, etc.) is very apt to become a stutterer." (13:44-48).

Coriat (14:417-28) claims that the stammerer's neurosis is built out of an inadequate function of speech,

because the mechanism of speech cannot completely conceal the repressed secret and thus there arises a constant fear of betrayal through words. The attempt to repress from the conscious into the unconscious certain trends of thought or emotions, usually of a sexual nature, is the chief mechanism in stammering.<sup>1</sup>

That children from two years old to seven should experience a serious conflict because of gross sexual desires is so absurd that it is surprising that intelligent people will give serious consideration to such a thesis. Coriat says (14:417-28) that stutterers have more difficulty when talking with close relatives and friends than they have when talking to strangers. He says they fear that their unconscious sexual wishes will be discovered by the relatives and friends. If this were true, the stutterer's trouble could be eliminated by the simple expedient of staying away from home. But the writer's experience does not show that stutterers speak more freely with strangers than with their own relatives. In fact, the number of children who stutter while in school prove the absurdity of Coriat's statement.

1. Stuttering, stammering and dysphemia are used synonymously in this thesis.

Coriat is quite determined to make every characteristic of stuttering justify his theory. At the Conference of "American Society for the study of Speech Disorders" he explained "stammering demonstrates that the individual in the course of his development has remained fixed or anchored to the infantile stage of the oral libido". He accounts for the difficulty of overcoming stuttering thus :

"Stammering is consequently a gratification of the infantile oral tendencies. The great difficulty in the treatment of stammerers and the stubbornness with which they resist treatment is due to two factors, first, an unwillingness to abandon the pleasure function of nursing activities in speech, and secondly the marked resistances arising from the anal-sadistic level of development, which is so closely identified with the oral level."

The gentleman goes on to say that the oral reactions of nursing presents a rhythmical character, and that this explains the fluctuations in the speech of stammerers as shown by the frequently observed variation of great difficulty of enunciation which often almost parallels perfect vocalization. Now it is known by observation that the stutterer's lips and jaw are extremely tense during attempted speech and that he is pitifully lacking in rhythm. The nursing baby's lips and jaw are entirely free from tension and his movements, even according to

our psychiatrist, are rhythmic. Just why he has not accounted for the rigidity and tension in stammerers is worthy of speculation. Dr. Coriat (48:152) opines that stammering does not originate with the beginnings of speech. If this oral libido is so thoroughly satisfied why is there a recess from this satisfaction from the beginning of speech to a future date?

The Freudians go to great length to prove the world a thoroughly sexual one. According to McDougall (31:426):

"Freud goes so far as to claim that all respect and friendship and sympathy are phenomena of transference of libido", and on page 427: "A respect for a distinguished man or a strong character, in high or lowly walks of life, may grow up in entire independence of sexual instinct.... .If one found himself in the presence of Lincoln or Washington, my attitude would be one of profound respect--but the notion of my being sexually attracted is fantastic."

Aiken's (1:137-52) theory of stuttering accords with Freudian doctrines. His opinion is quoted:

"Stutterers are the victims of emotional habits, which can be corrected like any other habits if one can only trace them to their source and break them up from within. If a child has rushed through a dark lane, scared out of its wits, two things will happen in the future; he will shy away from the lane, especially in the dark; and if something starts him into it he will rush through it in the same headlong way as he did before. A horse would do the same. It is a simple matter of emotional habit which is at the root of all the phenomena that Freudians describe in terms of "unconscious ideas," "buried emotions," and "complexes." And the way to break up the habit is to gain the child's confidence and go

through the lane a few times with him, encouraging him to stop and examine each spooky object, until nameless fear gives way to confident knowledge and "the place of dragons, where each lay" has become such a familiar and commonplace lane that it is quite impossible to rush blindly through it again. This is breaking up the habit from within,--a very different matter from sitting somewhere in the light and telling the child that it is absurd to be afraid. He knows that already."

Aiken tells of an interesting case. Jake, a fourteen year old Jewish boy who having stood highest in his classes in the grades, went to high school and there became ambitious to be the valedictorian of his class. He was compelled while in school to work very hard selling papers under trying circumstances in order to support himself. He began to stutter soon after entering high school, so the teacher called in the psychoanalyst to see what could be done.

Jake, after considerable prodding, was induced to reminisce about his stuttering and to relate other disagreeable experiences of his life. He recalled the first day he stuttered, mentioning that his mother upbraided him for it, and that he became excited and nervous. Everything in Jake's life seemed to make him excited and nervous, and many things seemed to have kept his family excited also.

"There were lots of troubles in our family when I

was young", he said. His imagination was quite active during his interviews. Once he told that he had been chased about a half mile by a snake. When five years old he was chased around the house by a mad dog. His father came to the rescue and killed the dog. He dreamed about this episode for one or two nights and then forgot about it. In answer to the psychoanalyst's questions as to whether he was yelling when the dog chased him, he said that he was. At this point of the analysis Jake reported "a kind of agitated, blank feeling". The questioner asked him if he felt alone in these states of mind or as if "some one were with him". Jake, after having the examiner's watch held to his ear "to help overcome the influence of ordinary present-day interests and make it easier for old, dissociated thoughts and feelings to return", discovered the villain in the case--the "Stuttering Devil". Jake's mother, it seems, used to tell him stories about Russia. Among these were stories of the devil. "I have heard stories", said Jake, "about the devil in the same place where I was chased by the dog". This probably accounts for the association.

Jake was soon able to close his eyes and visualize the devil, and himself engaged in a bout with him.

Dr. Aiken reports the bout in which Jake shot the devil through the heart and knew that he "had got him killed".

Aiken thinks that the devil symbolized in Jake's mind, carried the essence of all the emotional shocks from which he had suffered, so that for him to conquer this devil in an imaginary bout was the way to secure relief from the accumulated effects of the various nerve shocks he had suffered since childhood. Aiken does not seem to suspect that Jake may have been affected by his (Aiken's) suggestions even though Jake makes, at this point in the treatment, the significant statement, "I never thought of these things much until you just reminded me of them." This case, it seems to the writer, indicates how much care must be exercised in attempting to arrive at a knowledge of the true content of the stutterer's mind and still more particularly in attempting to decide whether an emotional state is a cause, an effect, or a mere concomitant.

Dr. Smiley Blanton believes that:

"Stuttering is due to psychological causes. The fundamental cause is an emotional conflict which interferes with the proper coordination of the scores of muscles that are used in speech. The nervous system is the hierarchy. The lowest motor function of the nervous system (reflexes) are governed by the higher levels of the nervous system until we finally come to the highest

level of all, which is the cortex of the great brain itself. The primary cause of the physical symptoms of stuttering is overaction of the lower levels of the nervous system which are not properly controlled by the higher levels of the nervous system." (5:37-41).

Dr. Scripture agrees that stuttering has an emotional cause. (38:749-50). Miss Cotrel of San Francisco says: "We consider it purely an emotional disease and handle it from that point of view." (19:284-85). Dr. A. A. Brill says:

"Stuttering is the most difficult neurosis that one has to manage. Main reliance should be in prophylaxis. Suggestion does not work with chronic cases who have been promised cures over and over again. They must be impressed that they have a long road to travel in order to become cured." (9:129-35).

The opinion of the majority of those present at the meeting of the "American Society for the Study of Speech Disorders" seems to be that stuttering is caused by emotional conflicts. The new thought in regard to stuttering is summarized by Dr. Elizabeth McDowell (32:2):

"Recently, emotional phases have received particular stress especially observations that often stuttering is present most frequently and severely in social conversation rather than talking to oneself, and that it seems to become increasingly troublesome in times of emotional stress and social pressure. Methods of cure based upon emotional "reeducation" or "mental reeducation" in contrast with the former practices established on the hypothesis that stuttering is due to permanent anatomical anomalies which were amenable to surgical treatment."



## CHAPTER III

### A STUDY OF THE AGE OF INCIDENCE OF STUTTERING

This study was first considered in the fall of 1929. So far as the writer knows, no one had made a study of this kind prior to that date. In 1928 Dr. Fletcher (19:59) wrote:

"Unfortunately there are no available studies, so far as the writer has been able to ascertain, to determine the average age at which stuttering begins. Many authorities have been found, however, who say that more than 80% begins prior to entering school. This is, according to the author's experience, a conservative estimate."

The Symposium On Stuttering (48) is the most recent and a very valuable contribution on the subject of stuttering. It is a compilation of the papers read at the convention of the American Society for the Study of Disorders of Speech held at the Stevens Hotel, Chicago, Illinois, December 30 and 31, 1930, and January 1, 1931. A study, "The Phenomenology Of Stuttering" by Dr. West, (48:2-3) reported in this symposium, is a survey of stutterers in Madison, Wisconsin, schools. This survey must have been made almost simultaneously with the writer's study.

Dr. West's findings are as follows:

Grade	Boys	Girls	Total
1	629	203	832
2	840	244	1084
3	966	267	1233
4	1052	252	1304
5	1141	269	1410
6	1091	271	1363
7	853	179	1032
8	660	180	840
9-10	611	166	777
11-12	333	61	394
Totals	8176	2092	10268

## Male Stutterers

Grade	Total number in grade	Increase over next lower grade
1	629	211
2	840	126
3	966	126
4	1052	86
5	1141	89

From these data Dr. West concludes that stuttering begins in the majority of cases beyond the age of six, and that twice as many boys begin to stutter during their first five years of school life than begin to stutter before school life.

Although appreciating the splendid work of Dr. West in the interest of stutterers and his high standing in the school of speech, the writer speculates as to the soundness of the reasoning which draws such conclusions from the foregoing statistics. Dr. West (48:2) reasons:

"We note that 832 stutterers were found in the first grade in our schools." (See table, page 33) "We might easily assume that a goodly proportion of these children began to stutter as a consequence of the experience of starting school life. Let us assume, however, that we have in these 832 children only normal increase in the number of stutterers that obtains for the next four years. From the first to the second year of school life the increase is 252, from the second to the third it is 149, and from the third to the fourth it is 71, and from the fourth to the fifth it is 106. The average increase for this period is 144. Probably, therefore subtracting 144 from the 832 stutterers found in the first grade, not more than 688 children were stuttering before they came to school. That number is slightly less than one-half of the stutterers found in the fifth grade. The inference is clear, therefore, that more children stutter during their school career than before. This inference is even more justified when we note that this increase in the number of stutterers does not include the stuttering that begins after the fifth grade, and is an increase of more than 100 per cent in the first five years of schooling in spite of the recovery of some of the stutterers who stopped stuttering due to therapy or any other causes during their early years of schooling. Assume that not more than one stutterer out of ten recovers during their elementary period,

a period in which in our schools the speech correction program is most emphasized. On this basis 69 out of the 688 children who stuttered when they first came to school have recovered leaving 619 cases. Subtracting that from our total in the fifth grade, we infer that at least 791 children started to stutter during their school career. Another assumption that must be made in fairness is that there is some reduction in the size of the general school population from grade to grade from the first to the fifth. If we may judge from the figures of Madison, the decrease is such that 31 children out of 100 who enter the first grade are eliminated from the school population before they reach the sixth grade."

"These thirty-one children are lost because of deaths and because of transfer to state institutions or to private schools. Perhaps some are removed from public schools because they stutter. If this Madison situation is typical of the surveyed cities, as there is every reason to assume, it means that the increase in the number of stutterers during these early school years is even greater than appears on the surface. Probably twice as many children begin to stutter during their careers than before they go to school."

It is reasonable to suppose that the experience of adjustment to school life at the beginning of school would be a much greater emotional strain than the adjustment to the slightly different situation a child meets in changing from grade to the next in the first five years of schooling. If the school situation is at all responsible for stuttering, surely, the trying experience of making so complete an adjustment as is necessary when a child first comes to school is much harder than the adjustment caused by changing from one grade to another.

Dr. West states that out of every 100 children who

enter first grade, 31 are lost to the school population and reasons that if this be true there is even a greater increase in the number of stutterers than he claims in the early grades. If the percentage of stuttering is about 1.2 per cent as the studies cited in Chapter I seem to prove, the number of stutterers lost to the school in the first grade would be negligible.

The greatest fallacy in Dr. West's reasoning is the assumption that the stutterers, who represent the "increase over the next lower grade" began to stutter in the grade where they were found. It is very possible that many of these children have been stuttering for several years before their defects have been reported to the speech department. Many times, the writer has been asked by teachers of other subjects why certain students are receiving corrective work in speech and are much surprised to learn that they stutter. Some teachers are not sensitive to speech defects; others think a stutterer's speech is so defective that nothing can be done about it and neglect to report such a student for speech training; still others say, "Oh! he is just nervous; he can talk if he is careful"; and there are those who think a stuttering child is stubborn because he does not answer when called upon.

Any of these conditions might apply to stutterers found by Dr. West in the grades higher than first grade. If Dr. West had used a different technique in collecting data, he probably would reach an entirely different conclusion as to the age of onset of stuttering.

Now, this study was carried out in an entirely different way. The teachers of speech in Chicago meet their pupils once a week for periods of from ten to thirty minutes depending upon the subject's age and the nature of his difficulty. As soon as possible, the teacher gets as much information as she can from the teachers in the school where the child is in attendance, from the school doctor and nurse, the parents, the vocational adviser, and the child study department, when necessary, concerning the age at which the child began to stutter, the possible causes for his stuttering, the child's physical condition, the number and nature of previous illnesses, his eating habits, his sleeping habits, his play habits, his intelligence quotient, his attitude toward his family and playmates, the attitude of his family and playmates toward him, his attitude toward his teachers, his classmates and the school program, and any other information which might throw light upon his physical, psychological, social, emo-

tional and moral life.

However, for this study the teachers of the Speech Department (March 27, 1930) were asked to inquire again from parents or guardians of the stutterers then being treated in the Chicago Public Schools at what age the child began to stutter, in order to substantiate or check previous data. The following week the teachers began interviewing the parents or guardians who were able to come to the school. Each parent or guardian was asked, "At what age did your child begin to stutter?" To those parents or guardians who were unable to come to school the teacher wrote a note requesting the information and asking that the answer be written on her note and the note returned to the teacher. By the first day of May, parents or guardians of 1100 stutterers had answered. Parents of 474 subjects could not tell the exact age at which the stuttering began, but knew that it was before the age of six years. The actual age of incidence of stuttering of the other 626 subjects, as given by parent or guardian is to be found in Table 1, page 43 and the graph on page 44.

These data show that 62.7 per cent of stuttering began before the age of six. Wallin and Conradi found that 80% began before school age. Fletcher considers 80%

Table 1  
Known age of incidence of stuttering

Age	Number of Subjects	Per Cent
2	87	7.9
3	43	3.9
4	43	3.9
5	43	3.9
6	108	9.8
7	73	6.6
8	52	4.7
9	51	4.6
10	40	3.6
11	23	2.
12	17	1.5
13	24	2.
14	14	1.2
15	6	.9
16	2	.3

Total number of subjects  
1,100

Total number who began to st. before 6 years of age

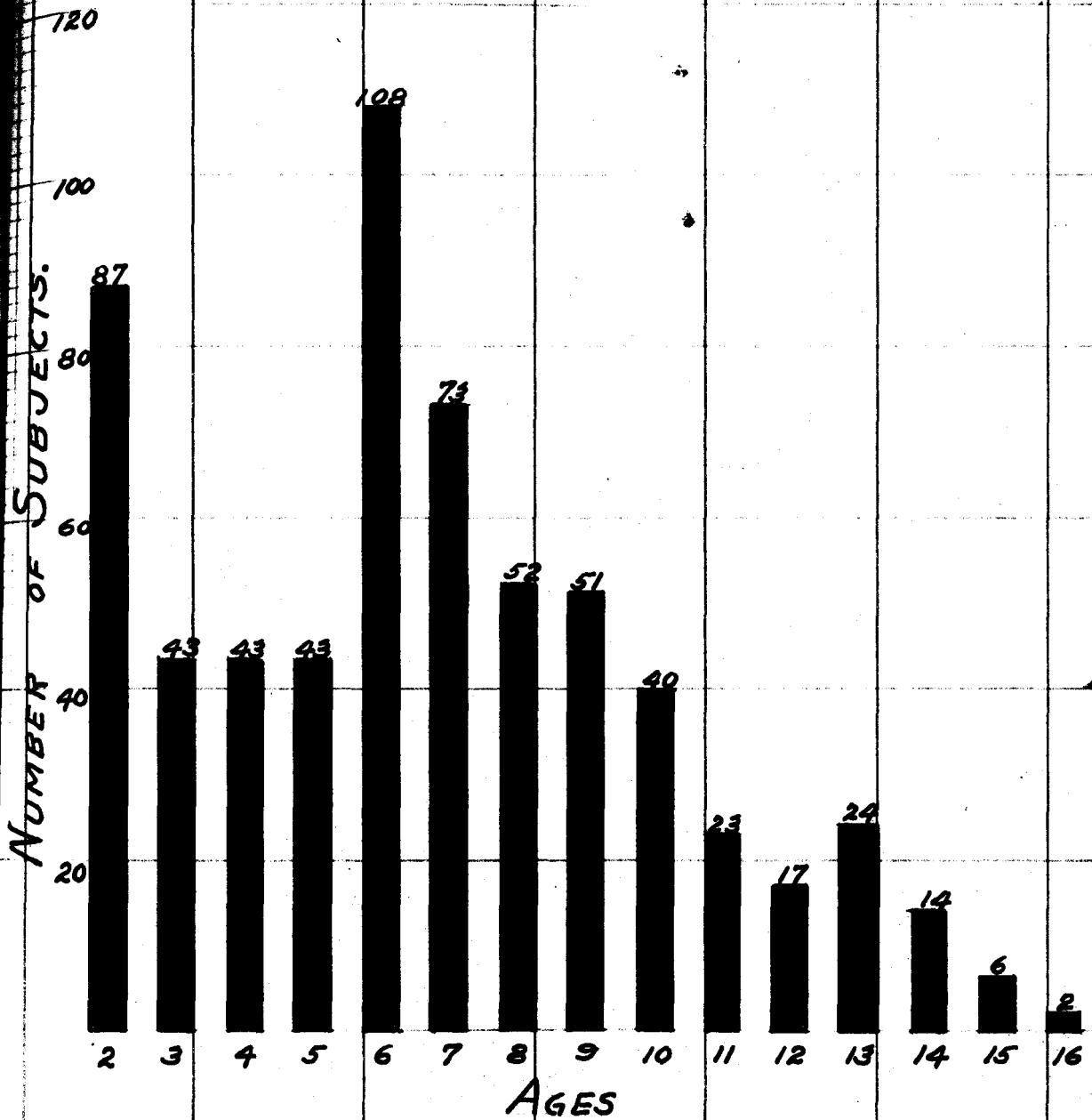
Actual age of incidence of st. unknown

Before 6	474	43
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690	62.7%
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# AGE OF INCIDENCE OF STUTTERING.



a very conservative figure. Byrn Bryngelson of the University of Minnesota (48:163) reports that 44% of 162 cases diagnosed, stutter from the beginning of speech and 44 stutter from 4 to 6 years and 6 months of age. Sufficient evidence seems to point to the pre-school years as the time when emotional disorders resulting in stuttering have their origin and as the time of childhood most needing study and careful attention.

Eighty per cent (80%) of stuttering began before the age of ten years. This would eliminate the theory (discussed in Chapter II) that stuttering is rooted in the six phenomena attendant upon adolescence. The percent that began to stutter between the ages of eleven and sixteen is so small (7%) that the adolescent period can hardly be proved to be a critical period in connection with stuttering. The characteristics of this period with their accompanying emotional reactions cannot be the primary causal factors in this speech disorder although they may easily be contributory causes.

The two boys who began to stutter at sixteen come from homes where no English is spoken. The emotional strain of adjusting themselves to the high school situation, we may assume, was sufficiently severe to be an ex-

citing cause. The real cause was probably something of long standing,--some traumatic experience which made it impossible for them to meet successfully the trying ordeal of competing intellectually and socially with high school pupils who could speak the English language fluently. The realization of their physical power, the urge for athletic fame, the strong attraction between girls and boys, the increased capacity for leadership that a boys feels at sixteen, his willingness to assume necessary responsibility, his desire for social contacts, all make fluent speech most desirable. The lack of perfect speech might easily develop a self-consciousness which might evidence itself in stuttering. However, it is doubtful that even so difficult a social situation would cause stuttering, if the emotional life of these boys had been properly directed through careful training calculated to develop emotional stability.

The years twelve, thirteen, fourteen and fifteen constitute psychologically the period of social consciousness. At this time children resent domination; they calculate the advantages of achievement; they desire to demonstrate superiority in performance; they desire to do great acts; they want to join and dominate clubs; the emo-

tions - shame, stubbornness, sulkiness, peevishness, embarrassment, shyness, are to the fore. Physically, there is a great change; an increase of nervous, muscular and heart activity; an awkwardness and lack of self-assurance. Socially, there is an eagerness for social recognition but often a self-consciousness that interferes with social attainment. At this age a child has a contempt for cowardice, a sense of honor and loyalty to the group. It is a period of stress and strain. (46:81-82). If a child at this time is not able to meet his fellows on an equal basis, his emotional struggle may result in stammering.

According to this study, almost ten per cent of stuttering begins when children come to school. This seems to point to the school as a contributing cause for stuttering. Terman says:

"The time to cure stuttering is before it begins. It is important, therefore, that every teacher have some knowledge of speech disturbances and the hygiene of the voice. She should understand that worry, embarrassment and excitement are important, immediate causes of speech defects.....If the school is a place of nervous tension; if the child is constantly worried into distractions ill-fitted for the child-mind; if it is asked to express its confused ideas under the eye of an ever-critical teacher, we have the ideal conditions for the onset of functional speech disturbances." (44:357-58).

Garry Cleveland Myers says that speed is a hazard

that threatens the mental health of many school children. He claims that often a school atmosphere is created which makes thinking impossible and causes something to happen to the nervous system of many children which promotes physical and mental ill health (33:18-24).

The importance of the pre-school period is becoming more and more recognized as one of the determining factors in adult behavior. Psychologically, it is the time of greatest growth. During this period the infant is acquiring perceptions and motor coordinations, attitudes toward things and persons, prejudices, inclinations, habitual preferences, and inhibitions. He is incorporating modes of behavior which do not, of course, constitute mature personality. On every level of behavior, the psychological, the sensory-motor and the higher psychical, he is acquiring both healthful and unhealthful habits of activity.

(23:8) The years of pre-school childhood are registered in the organization of the nervous system, and there they continue to dispose or pre-dispose the later-day individual. Man is, neurologically, a bundle of habits, complexes and conditioned reflexes, which have a tendency to persist when they begin under highly emotional conditions. Surely, the age of incidence of stuttering indicates that

parents, teachers, doctors, public-health nurses, visiting teachers and social workers should work together in an educational campaign to provide for children a home and a school atmosphere that would be conducive to normal, physical, and emotional growth.

This study finds 62.7 per cent of stuttering begins before the age of six years. Other studies and observations seem to prove that as high a percentage of stuttering as 80 begins before school age. These data seem to indicate the need for further research and study of the pre-school years, when the child is developing physical resistance or pre-disposition to disease, or stability or instability of emotions, and should be developing moral and mental power sufficient to drive the emotions in the channel of desirable character.

While there is disagreement among experts on many points, there is unanimity as to the importance of the first five years of life when fundamental, physical and mental habits and social attitudes are formed. "This is the time when the parent is the only teacher the child knows, when the home is his world. Understanding children and the causes of behavior problems which they present is not a matter of intuitive understanding or of the anxious

desire of parents to meet their full responsibilities. It comes as the result of much study of the physical, mental, and social needs of many children as well as the careful determination, in the light of the accumulated knowledge, of the needs of an individual child." (45:xiii).

Many parents lack the knowledge necessary for properly rearing children. They are asking:

"Why their children have temper tantrums, why they must be coaxed to eat, why they are jealous, why they are afraid, why they have not learned physical control. They want to know what is normal behavior and what are the signs that indicate that their children need the help of a specialist in mental health, and then they want to know how and where his services can be secured." (45:xiii).

By asking these questions, parents are evidencing their willingness to learn how to provide the necessary conditions for their children's best development. It seems, then, that the community which is to benefit from efficiency of its citizenry should provide a coordinated psychiatric, psychological, medical and social service which would instruct parents in the intricacies of their job.

Parents often excuse themselves by saying their children inherit their social tendencies. Certainly, the heredity factors in children are fixed and unalterable, but the environment can be altered and offset, to a great

degree, the heredity. Dr. Thom states that (45:2):

"The great majority of children with undesirable habits, personality deviations, and delinquent trends are not the product of an irreparable past over which they have no control. They are largely the results of the environment in which they have been reared, and the dominating feature of this environment is always the parent."

Kirkpatrick too offers encouragement to scientists engaged in studying habits and personality and their relations to desirable conduct, to scholastic and industrial efficiency, and to other successful adaptations in life.

"From the individual's standpoint heredity should neither be ignored as of no importance, nor yielded to as inevitably fixing one's destiny. Instinctive and hereditary tendencies are the roots from which the physical, mental and moral life develops. Some individuals develop more rapidly and to a greater degree than others. All are of the same characteristics but each may make himself out of his environment. Some cannot go so far as others in certain directions nor as easily; but no one has exhausted his possibilities of development. The practical problem is to expand our efforts upon the useful characteristics that we do possess in the greatest degree." (27:29).

"The responsibility of training the child and providing him with a suitable environment in which to grow up belongs to the parents and should be assumed by them. If they are to meet this obligation adequately and successfully, it is necessary that the task be taken seriously, and that they give the subject of child training the thought and consideration that it merits. Certainly there is no problem more worthy of parents' time and efforts than that of helping to develop the child's personality, so that he may be a happy and efficient adult. Being a helpful parent involves more than loving the child and being interested in his welfare. Knowledge is required for this job just as it is for any important task." (45:vii).

"Important as the responsibility of parents may be in guiding, directing and training the child, it must not



overshadow another essential parental attitude--that of creating in the home an atmosphere of affectation, kindly consideration, and fair play," so that the emotional life of the child may be directed toward a worthy end.

## CHAPTER IV

### CASE STUDIES

It has been shown in Chapter III that 62.7% of stuttering began before school age, that 7.9% began at two years of age and that 3.9% began at three years, four years, five years respectively. There is no evidence indicating that even a tendency to stutter is congenital. But there must be a cause for stuttering. This cause cannot be entirely physical, for if it were, stutterers would never be able to speak fluently, and all people who work with stutterers know that on many occasions they do speak perfectly. Of the stutterers considered in this study only 4% of the 62.7% that began to stutter before school age were reported to have had, prior to entering school, causal diseases such as measles, whooping cough, diphtheria, mumps, bronchitis, hence the cause can not be physiological, therefore it must be psychological--if psychological, what?

In order to secure further evidence that may throw light upon the nature of the emotional disturbances preceding stuttering, and perhaps place responsibility for the cure of stuttering, the author has made a study of

several subjects who are interesting cases, and who have been treated or are being treated by her now. Since opinions differ as to the nature and cause of stuttering, there is a difference of opinion as to which profession should assume responsibility for curing stuttering.

Dr. Scripture is of the school which believes stuttering to be a medical problem to be treated clinically (38:749).

Dr. Kenyon suggests a special school for stutterers under the direction of a competent medical man (26:194).

Dr. Fletcher says that stuttering is an educational problem (19:311). School systems accept it as a teaching job.

Doctors Swift and Blumel, and Professor Dunlap consider the psychologist as the one capable of curing stuttering. Dr. Greene pleads for a therapy of a "medical, psychological, re-educational and social nature" fused together in a harmonious union that their adjustment completely saturates the maladjustments of stutterers. (21:57-62). Whether the physician, the psychologist, the teacher, the psychiatrist, or the social worker is to have jurisdiction, a knowledge of the age of incidence of stuttering is a helpful starting point for further research.

Case 1. Lucille was thirteen years old when she came to high school. She was very ambitious, had been the best

pupil in the eighth grade in her elementary school, and wished to continue to lead her class in high school. When she had been in high school about a week, she had difficulty saying the word "Jerusalem" during an English recitation. Afterwards, she was unable to recite in that class without stuttering, and in a short time was a real stutterer. She was given speech instruction, was cured three times and has had three relapses--the last the most severe. She is now in her 3A semester. Lucille wishes to be an orator. The speech teacher helped with enunciation, inflection, resonance, and voice placing and advised her to join the class in public speaking. She spoke so pleasingly in the public speaking class that several other pupils asked the special speech teacher for help so that they might speak as clearly as Lucille. Things were going along very nicely until Lucille entered the oratorical contest of February 22, 1930. It was decided that of those competing, Lucille's oration was the best, her enunciation the clearest, hers the most pleasing stage presence, but she was not chosen to represent the school in the contest because the teacher of the public speaking class thought that her voice was not sufficiently strong to carry in a large hall, and feared she might stutter.

Lucille was bitterly disappointed, but after a little comforting, decided that having entered the contest at all was splendid experience and a great triumph for her. She said she would have to be a good loser and would certainly work hard to gain carrying power and try for the next contest.

The speech teacher realized that Lucille was not so happy as she had been and advised less study and more fun.

Three weeks after the contest, Lucille came for her speech lesson. She wept bitterly and insisted that she had been making a fool of herself in all her classes during the past week. It took a long time to calm the child who was having a real adolescent hysteria. It was decided that Lucille should take a week's vacation during which she was to forget school. After the vacation, Lucille was calmer, but still a bit gloomy. Up to this time, she had always been very sweet and charming and apparently convinced that her stuttering was her own fault. "I should have more self-control. I know I can speak correctly, but I allow that fear to master me", she had frequently said. This day, however, she burst forth with, "It's that old fifth grade teacher's fault. If she had

not promoted me from 5B to 6B, I would not have come to high school in February. I would have begun high school in September after I had had time to rest up, and I never would have stuttered if I had not been so tired. I always feel so rested in September that I can do anything I have to." Then she went on to complain that high school had been so very different from elementary school. There was so much confusion getting started and so many teachers to become acquainted with. In the elementary school one teacher had taught her all the school subjects and there was not the running from one room to another between classes for fear of being late. She said it was very hard for her to become accustomed to the high school organization.

The school that had given her a double promotion did not make an integrated study of Lucille. It knew her intellectually, but neglected to discover that physically and emotionally she was unable to cope with the trying situation a thirteen year old encounters when he leaves a motherly teacher who teaches every subject, to come to a departmental organization where he is only another freshman. Such a situation was the exciting cause for Lucille's speech defect, but as in the case of the sixteen year old boys, the predisposing cause likely had its inception at

a much earlier age leaving her emotionally unstable.

Case 2. Joe came to a technical high school for boys when he was fourteen years old. He stuttered, but that did not bother him much. What, did hurt, was his chronic headache. He was sent to a clinic where he was fitted with glasses and had his tonsils removed. Early in his sophomore year, the stuttering was cured, but toward the end of that year he came to the speech teacher because he was stuttering again, and his head ached, his back ached, and he did not feel like doing a thing. The teacher, upon questioning Joe concerning his habits, found that he had been eating bread, soup-meat and coffee for breakfast, soup-meat sandwiches for lunch, and bread and soup for supper. When asked if he never ate fruit and vegetables, he answered, "Oh, yes; we put vegetables in the soup, and I sometimes eat an apple". He also told that he did the cooking and other house work besides caring for his twin baby sisters. Joe's mother worked nights and slept during the day. The father was a splendid mechanic but believed that steady work makes a man grow old too quickly. So he rested a couple of days each week. This trip to the clinic netted Joe a bad case of kidney trouble. He was under the doctor's care for the rest of

the semester and all of the summer vacation. His speech was perfect when he came back to school in September. Joe was a very grateful and happy boy.

The speech teacher was very proud of Joe's improvement, physical social and in speech and probably boasted a bit. Imagine her chagrin when, during his junior year, Joe rushed into her room, wild-eyed and stuttering. He announced that he had just been nearly scared out of his wits, and he was afraid he was going to stutter again. "I thought I had lost a dollar that my ma gave me to pay the gas bill. If I had lost that dollar, I know what would have happened to me". Poor Joe! He certainly had a whipping phobia which was probably one of the causes of his stuttering. His father worked occasionally, as stated before, and drank whiskey frequently. The mother was a hard-working tired woman, - ambitious for her children. The home was certainly contributive to nervous instability. Joe said that he had always stuttered and that he had always been afraid of being whipped.

Case 3. Adair is a different type of case. When he was brought to the speech teacher, he had the appearance of a sub-normal child. Adair was sixteen years old, six feet tall, weighed one hundred and ten pounds, and needed



his first shave. He stuttered and besides could say only a few of the consonant sounds. His mother talked for him. After his mother left, the speech teacher tried to have him tell what he had had for breakfast, but could not understand him. She asked him to write it. His spelling and writing were almost as bad as his speaking. After much effort, she learned that for breakfast, Adair had had grape fruit, biscuit, egg and cocoa. After her meeting with him, the speech teacher was quite sure that he was not mentally normal although his mother had said that Adair subscribed for several mechanical magazines and had performed some rather amazing feats in an electrical way, - in fact, he had rewired their house and had learned all he knew from reading mechanical magazines.

Further examination proved that Adair was a very poor reader, a worse speller and could write not as well as a second grade pupil. He had been unable to attend school because of ill health, but had been taught at home by his mother and grandmother. When he was fourteen years old, he had been sent to a pre-vocational school from which he had come to high school, probably passed on because of his age and size. The speech teacher recommended an examination by the Child Study Department.

That department judged Adair to be a normal child with a high I.Q. in need of speech correction. Then the speech teacher recommended private work in reading, spelling and writing under the direction of an excellent primary grade teacher. She (the speech teacher) worked with his speech, concentrating on enunciation. When Adair could make himself understood, he told the speech teacher that his grandmother had read to him from the mechanical magazines. He followed directions as she read them and had learned to make many useful articles, among them a sail boat. He had traveled with his parents in search of health. That, together with his grandmother's reading to him had given him a rich background. With the coaching and his grandmother's help, he was able to keep up with his class the first semester in everything except mechanical drawing. His speech improved steadily. By the end of his first year, he could be understood. He had gained considerable weight and was a much happier boy. By the end of his sophomore year, his speech was cured and in his fourth year, he made the honor roll.

This was a case of the parents' keeping the boy dependent. His ill health and undeveloped speech made him so pathetic an individual that every effort was made

to shield him from embarrassment. Ill health, his attempt to make himself understood, and the home attitude very likely caused him to stutter. June Downey lays stuttering to emotional disturbances "such as dependence on parents, feeling of inferiority" (31:233). Adair was dependent and felt inferior because he could not make himself understood.

Case 4. Vincent is sixteen years old, a junior in high school. About dusk one evening, when he was five years old, Vincent was running along near a prairie. A number of bill boards made a fence separating the prairie from the sidewalk. A man who was in the prairie saw Vincent coming and thought he would have some fun with him. He ran from behind a bill board, caught Vincent in his arms, and said to him, "Now I have you!" in a voice calculated to frighten the child. Vincent was so terribly frightened that he was unable to speak at all for several hours. The next day he began to stutter.

This case shows what a delicate mechanism a child's nervous system is and how carefully it should be guarded from shock lest the consequence be an emotional injury which might cause stuttering.

Case 5. Otto was a seventh grade pupil, thirteen

years old and a stutterer. He told the speech teacher that he had always stuttered because of a fright which had occurred when he was two years old. The speech teacher elicited the following history. When Otto was two years old his grandfather had committed suicide by shooting himself with a shotgun. At the time Otto was asleep in an adjoining room. Of course there was a great deal of excitement. The dark sleeping room, the loud noise, the attending commotion were quite enough to cause an emotional strain. Otto insisted that he remembered the whole affair, but of course what he remembered was the hearing about it. At any rate, as a result, he stuttered and was not cured when he left school after finishing the eighth grade. Either the trauma was too deep for recovery, or the teacher's method was not adapted to the case.

Case 6. Bobby, a two-and-a-half-year old, has just been brought to the attention of the writer. After playing with a stuttering boy for two days, Bobby began to stutter. His history is rather a sad one. His mother died when Bobby was born. The baby weighed four and one-half pounds at birth. It was necessary to keep him in the hospital until he was four months old, during most

of which time he was near to death and of course he was deprived of the loving mother attention babies need.

(33:9). Bobby never has eaten sufficiently to satisfy the doctor and lately he has fought his afternoon nap. It is reasonable to suppose that his delicate health and irregular habits probably have weakened his nervous system and made him so emotionally unstable that he naturally imitated the stuttering of his playmate. Groves stresses the necessity of a quiet babyhood with regular routine as to eating and sleeping habits. He says that a baby thrives on love as a plant thrives on sunlight. (33:1-123).

Case 7. Irving came to the attention of the writer ten years ago. He was in sixth grade at that time. He stuttered a little and after a year's treatment was apparently cured. At that time he was very much interested in the carpenter trade. He made a toy sailboat which was a very splendid project and for which he was offered twenty-five dollars. He would not sell it however. He had worked at it evenings through a whole winter. He told with great pride that he had put on nine coats of paint rubbing each coat before applying the next until the finish looked like satin and could resist wear to an amazing extent. The perseverance with which he kept at this

job has been characteristic of him through the ten years of teacher-pupil relationship.

In due time Irving came to a technical high school for boys. He and the speech teacher were mutually glad to see each other. He asked to be admitted for speech work because he had begun to stutter again. The teacher thought that his trouble was due to the need for adjusting himself to his new environment and hoped that he would be cured in a short time. However, the relapse stubbornly resisted treatment.

In a confidential talk, he admitted that things were terrible at home. His mother was sick (goiter) should be operated but was afraid. His sister had been operated for goiter. All the family, seven older than Irving, had chores for Irving, keeping him busy all the while, even in washing dishes which he thought his sisters should do. He did not mind the work, but the nagging was very irritating. The poor boy was kept in an agitated state of mind most of the time. Beside other duties, he acted as family chauffeur but he was never allowed to take the care out by himself. He was anxious to take part in extra-curricular activities but was not allowed by his mother to stay in school after the regular hours. He did

join the R.O.T.C. however, and became a lieutenant. After two years of high school experience he decided that he did not want to be a carpenter but concluded definitely that he would be an electrical engineer. His folk frowned upon this decision because such a profession would necessitate a college education. They wanted him to work although they have plenty of money to provide for his education and he worked on Saturdays and during vacations, earning enough to pay his expenses and clothe himself. His brothers had very splendid positions. The mother thought if his brothers could do so well without a high school education Irving should do even better with high school. Irving's stuttering was cured, and he had relapses several times. While he was in high school two of his sisters and a brother were married and his mother was operated; thus, home conditions were improved. During the last half of his junior year and the first of his senior year, he did not need special work. But just before graduation he stuttered badly. The old question of whether or not he should be allowed to go to college was discussed at home. The speech teacher advised Irving to accept his family's decision--to work. He could then save his money and later go to college. On graduation night

after bidding the speech teacher good bye he said,  
"Don't you worry about my speech. It's going to be all  
right, and I'm going to college too."

Nothing was heard from him for a year and a half.  
Then he came back to high school to take a post graduate  
course in mathematics. He was going to Georgia Tech.  
Georgia Tech offers a "part time work", "part time instruction"  
course for which he hoped to qualify. He had been working  
for the Western Electric Company and had done very well,  
had earned two promotions, and had saved \$500.00. If he  
could make the part-work course the \$500.00 would carry  
him through.

He was stuttering quite badly. He explained it by  
saying that the storm which broke out in the family circle  
when he announced that he had given up his good position  
in order to go to college was so frightful that he was  
compelled to leave home. He was staying with a married  
brother who was giving board and room free while he at-  
tended classes at high school. He did not make the course  
he had hoped to enter, but he was admitted to Georgia  
Tech. He was there during the year 1930-31 and just made  
the grade. When he visited the speech teacher this June,  
he talked perfectly and said he expected to continue to do



so. He had been fortunate to secure work during the year which helped him carry his obligations, and he had the promise of a job for the next school year. His grades were not high, but he was giving every possible minute to his studies.

Now, this boy's cure shows the result of recess from nagging, freedom to carry out one's ambitions, and perseverance under discouraging circumstances. His home was quite conducive to the development of stuttering when the inherited tendency to nervous disorders were present. Relief from the family environment cured his stuttering. This is another proof of the necessity for educating parents in the care of children. Irving had said repeatedly that he wished he could receive at home half the consideration and sympathetic understanding given him at school.

Case 8. Abe began speech corrective work when he was a 1A student in high school. He was a delicate looking boy, with red, irritated eyelids which often indicates eye strain. However, the speech teacher was unsuccessful in her efforts to have him examined by a physician. Abe just did not believe it would help and told her that if she insisted upon seeing his parents about it he would quit speech training. He said it would not do any

good to see them anyhow because they did not believe in doctors. In fact, almost all the teacher's efforts to help Abe met with the same attitude. "I don't believe that will help me." After two years of endeavor, the speech teacher suggested to Abe that he try another teacher since he lacked the confidence in this one. He begged to be allowed to continue and agreed to try anything the teacher would suggest.

The teacher and Abe analyzed his case and decided that he was brooding about his condition and that he would have to stop that, change his attitude of "It will not help me", to an attitude, of, "It must help me", get out of doors, enjoy himself, mingle with young people, in fact, become a regular fellow. After this talk he did change. He greeted the teacher with a smile each week, laughed at her jokes, (whether from enjoyment or through diplomacy, she did not know) and seemed to enjoy life more than formerly. His speech did not improve much, but each following week he insisted that he was talking better. He was graduated in the June class of 1931. In a class of 400 he stood tenth in scholarship. When he last saw the speech teacher, he assured her that he would come back to visit her and that he would correct his speech.

The teacher believes he will.

This boy seems to have been the victim of oversolicitous parents. They worried about his condition, allowed him to know that they were worried and caused him to brood over his affliction. During the months of confidence, he acknowledged that he did not want to worry his parents because they had many other worries. That is why he did not want the speech teacher to visit his home. This family was evidently the victims of a false outlook on life. Instead of making the best of conditions, facing the situation openly and overcoming their difficulties, they worried and fretted and continued to suffer, thus creating a mood in themselves and in Abe that might easily develop an unwholesome mental condition. Abe was in a discouraged, depressed mood, unsocial and with the attitude, "Nothing will help my stuttering."

Irving was continually in either an irritated mood, or one of agitation; Lucille was in a fearful mood, always afraid that she would stutter; Joe had developed a fearful mood, afraid of being whipped. Moods are closely related to emotions. The words angry, cautious, sociable, appreciative, respectful, fearful, are some of the words that describe moods. McDougall (30:359) says:

"The mood is clearly an affective conative factor of immediate experience. We not only display moods by our attitude and behavior, but often we are immediately aware of the mood. Yet we recognize that a mood may persist, even when some emotion of an entirely different quality and tendency dominates the scene. Thus, when in an angry mood I may be provoked to laughter or to pity, without the angry mood being wholly dispelled." .....

"When we cease to think of the object or situation that has excited the emotions, without having freely expressed the emotion and achieved the natural goal of its impulse, the mood remains, a resonating echo, as it were of the emotion."

Stutterers are most of the time in a distressed mood. They are unable to talk freely; this makes them uncomfortable, possibly envious of others who can talk glibly, angry because of their inability, sorrowful, unsociable. Wendell Johnson (25:1) says:

"I am a stutterer. I am not like other people. I must think differently, act differently, live differently, because I stutter. Like other stutterers, like other exiles, I have known all my life a great sorrow and a great hope together, and they have made me what I am."

Later, he explains, he took refuge in day dreaming because of his affliction. Johnson was most fortunate in being hopeful of a cure. Many stutterers feel hopelessly incurable.

McDougall continues:

"The mood renders us peculiarly susceptible to the re-excitement of the corresponding emotion. Thus if you have been recently startled or frightened, you will be readily startled again; for the persisting subexcitement

of the fear-disposition renders it more susceptible to new excitement that it was when completely quiescent."

Stutterers, being subject to moods, are peculiarly susceptible to re-excitement of emotion because of their continued mood. It is very essential that they be trained to overcome moods of an undesirable nature. Moods are the results of reactions to emotional stimuli. If a wholesome character could be molded by early training, moods would be means of developing the more desirable personality traits.

McDougall says (30:359):

"Disposition, temper and temperament are the raw material of personality provided by heredity. From them character is built, under the touch of experience and the guidance of increasing knowledge and intelligence."

"Throughout the mental development they reciprocally influence one another. Though they are laid down in the native constitution, they are modifiable by wise guidance, and self discipline. Wise education consists largely in continued influencing of those three complex constitutional factors; it may do much to correct any native defect or lack of balance among them."

Dr. McDougall defines temperament, temper and disposition, the three determining factors in one's ability to adjust himself to his environment, as follows:

1. "A man's disposition is the sum total of his instinctive tendencies." (30:351)
2. "The temper of a man seems to be the expression of the way in which the conative impulses work within him." (30:353)

3. "The temperament of a man may provisionally be defined as the sum of the effects upon his mental life of the metabolic or chemical changes that are constantly going on in all the tissues of his body." (30:354)

From these cases, as well as from the findings in Chapter III, it seems evident that the job of preventing and curing stuttering belongs to all professions that have to do with health, education, moral training, guidance of emotional life, and social efficiency. If it is true that conduct is the result of all that we do, then it is very essential that children be guided from the very earliest moment of life to behave so that their emotions will be so well under control and direction that they will work together in harmonious fashion. Gesell (20:41) quotes a nineteenth century religious authority and agrees with him as saying:

"I have no scales to measure the effect in this matter of early training, but I may be allowed to express my solemn conviction that more, as a general fact, is done, or less by neglect of doing on a child's immortality the first three years of his life, than in all the years of discipline afterwards. .... Let every Christian father and mother understand when their child is three years old that they have done more than half of all they will ever do for his character."

It seems reasonable to believe that the causes of nervous speech disorders are psychological and that the spasmodic manifestation of the speech organs is only the

external symptom of a deep-seated mental conflict. \*

Mrs. Gifford of California (48:74) makes the positive statement:

"It has been now definitely established that severe shocks and emotional conflicts in very early childhood remain as memories for many years, and may continue to disturb the speech functions, which in itself is perfect, until such time as corrective measures are applied. We can more easily understand the relation between stuttering and the sub-conscious emotional memories and conflicts, when we consider that every normal speech reflects the momentary emotional state of mind. Embarrassment causes a hesitating reluctant speech, excitement, an increase in the tempo, indifference a certain monotony, and so on through the various moods."

Many influences enter the causes and continued manifestation of the nervous speech disorders. In Irving's case nagging and continual discouragement might be considered contributory influences. Joe was under the influence of a tired mother, a drinking father and a fear of being whipped. Adair was under the dominance of parents whose over-anxiety handicapped his freedom of thought and performance.

Parents must be made to know that the atmosphere within the home and the environment outside the home are of paramount importance in child training. They must be made to realize that ghost stories, practical jokes, and, with very small children, movies, (scenic railways, fire scenes, etc.) are often causes of fright from which some

children never recover. They must be made to see that the permanency of desirable habits is not solely dependent upon repetition.

"That the mere fact that the individual is made to do the same thing over and over again gives no little assurance that the practice will be long continued after supervision has been removed. Unless a task is performed efficiently, and with a fair degree of ease resulting in satisfaction on the part of the doer we can hardly expect permanence. For this reason the attempt must be made to see that successful accomplishment is rewarded by emotional satisfaction. This emotional satisfaction may be directly associated with the habit we are trying to establish. The sense of accomplishment and the power associated with learning to walk and talk, for example, furnishes the necessary stimulation for acquiring the muscular coordination needed for both these tests." (30:16)

Mothers take untold pleasure and satisfaction in caring for and carrying burdens for their children.

"It is important that this phase of absolute dependency of the child upon the parent be terminated by the process of weaning him, not only from the breast, but from incapacitating emotional relationship existing between child and parent. This can be brought about by allowing the child to assume responsibilities of self-protection and self entertainment at the earliest possible date, and by giving him every opportunity of developing new interests, the most important of which is companionship outside of the home." (45:29)

Dr. Karl M. Bowman, Chief Medical Officer at Boston, (9:187-85) maintains that certain attitudes toward life mark the idea man:

1. "Intelligence is developed to reasonable degree."
2. "Intelligence is utilized and determines much



of the individual's behavior. There is an objective view of self with an appreciation of its capacities and its limitations."

3. "Immediate discomforts are endured for the attainment of future happiness."

If a child's intelligence could be evolved so that he might use it to study himself as an individual and in relation to society, he would not develop self consciousness or moods that create emotional reactions which result in stuttering.

Another of Dr. Bowman's attitudes says:

"The personality is well integrated, various drives work with each other harmoniously rather than clashing, there is a minimum of friction within the personality hence it is more efficient."

If parents would begin immediately to develop these desirable attitudes, and if parents and teachers would continue the training during the school period, the child would grow up with a realization that he is a member of society, with a recognition of his responsibilities in such an organization, and with an appreciation of his relation to his Maker. Such an individual could not stutter.

## CHAPTER V

### CONCLUSIONS

1. There is an urgent need for helping stutterers to acquire normal speech.
2. Prominent among the theories on causation of stuttering are:
  - a. Dead theories
    1. Stuttering is caused by the inability of one or more of the peripheral organs of speech to properly function.
    2. Stuttering is caused by a lack of rhythm.
    3. Stuttering is caused by faulty breathing.
    4. Stuttering is caused by a lack of psycho-muscular control.

b. Live theories

1. The ideo-motor theory

a. Dr. Bluemel--Stuttering is caused by lack of a clear-cut verbal image in the mind.

b. Dr. Swift--Stuttering is caused by an absent or weak visualization at the time of speech.

2. Stuttering is rooted in sex, and is caused by the individual's attempt to hide his sexual emotions. (This theory was not given much attention at the last meeting of the American Society for the Study of Speech Disorders.)

3. Stuttering is caused by the fact that neither one of the cerebral hemispheres is dominant in respect to the speech organs. (This theory is receiving a great deal of attention because of the experimentation

being carried on at the University of Iowa.)

4. Stuttering is caused by a predisposition to emotional instability. The exciting cause may be fright, severe illness, or any nervous strain. (This is the theory that seems most worthy of attention and the one held by a majority of those present at the last meeting of the American Society for the Study of Speech Disorders.)
3. A survey of stuttering children in the public schools of Chicago, during the school year of 1929 and 1930, shows that  $62\frac{1}{2}$  per cent of stuttering begins before school age. This figure is directly opposite to Dr. West's survey. He finds twice as many children began to stutter after entering school as began to stutter before entering school. Dr. West's technique in arriving at his conclusions appears to be faulty.
4. There is need for proper direction of the emotional life of children so that stuttering will

be eliminated.

5. There is need for further research in training of the emotions.
6. There is need for teaching parents how to provide the environment and home atmosphere which will be conducive to the development of emotional stability in their children.

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The thesis "Stuttering: Its Cause and Age of Incidence," written by Sarah Honan Blake, has been accepted by the Graduate School of Loyola University with reference to form, and by the readers whose names appear below with reference to content. It is, therefore, accepted as a partial fulfilment of the requirements of the degree conferred.

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