

THE ORIGIN AND TREATMENT OF STAMMERING

cises are beneficial for this purpose, it stands us well in hand to add them to our curriculum of studies. Another beneficial result of the breathing exercise for the stammerer is the additional capacity it gives him for the retention of breath. Breathing exercises also give an upright carriage to the body, develop the chest, and keep the blood in active circulation. In short, they are beneficial to the whole organism, and while they cannot of themselves effect a cure for stammering, they nevertheless serve as an auxiliary and aid us in our work.

SLEEP

The New Year's, 1898, number of the Youth's Companion, in an article entitled "Gladstone at Eighty-eight," attributes the wonderful enduring faculties of this well-known statesman to his capacity for sleep and short naps. During his whole life it is said that he methodically found time for rest as well as work, and thus, unlike the majority of Americans of the same age, Gladstone at that time was well preserved and in possession of all his faculties.

Sleep is curative. Sleep is restful. Every stammering man, woman, and child should observe methodical and regular hours for sleep. In cases of intermittent stammering, where the severity of the affliction alternates in ratio with the physical condition of the sufferer, sleep, above all things, should be earnestly courted. Rest is oftentimes as beneficial as sleep. A half hour's rest or sleep before dinner will serve to strengthen the nerves and refresh the body as nothing else can. Every person

who suffers from stammering should sleep from eight to ten hours in every twenty-four. Do not oversleep, but sleep sufficiently. Too much sleep is as harmful as too little sleep. A good plan to pursue, if possible, is to sleep whenever you feel sleepy, except after eating heartily. Never sleep on a full stomach. You can neither sleep well nor will your food digest well. Always rest for a time after eating, but avoid sleep until your food is well under the process of digestion.

Dr. Felix L. Oswald, in an article entitled, "The Curative Power of Sleep," written for *Health Culture*, New York, says:

"Brain-work succeeds best while the activity of the animal organism is reduced to an indispensable minimum. The mind is never clearer than early in the morning, when the work of digestion is finished; and for similar reasons digestion proceeds most prosperously while the brain is at rest. A correspondent of mine, who is subject to attacks of spasmodic asthma, often passes a whole afternoon on suburban trolley cars, knowing from experience that the rocking motion and the sight of monotonous streets are apt to result in cat-naps, and that the shortest nap of that sort is sufficient to break the spell of the dyspnoea—the distressing difficulty to draw a full breath of life-air.

A mere cat-nap is also sufficient to relieve sick headache, dizziness, spasms of colic, and neuralgia; and protracted slumber—five or six hours of dreamless sleep—has saved more than one life that could not have been as much as respited by all the drugs mentioned in Bartholomew's "Handbook of Therapeutics." Chronic

THE ORIGIN AND TREATMENT OF STAMMERING

diarrhœa has been known to yield to that specific, and in many kinds of fevers, too, everything is gained if the patient can be helped to a few hours of deep slumber without the use of narcotics. Monotonous work, purposely continued to the verge of fatigue, may help to relieve insomnia, and in obstinate cases the application of warm winding sheets to the feet and of cool cataplasms to the head will promote the same purpose by alleviating the engorgement of the cerebral blood-vessels.

Opiates only mock the patient with the appearance of relief, and, like brandy in the rôle of a dyspepsia cure, frequently result in an aggravation of the trouble. Laudanum paralyzes the digestive organs, and not only fails to reproduce the conditions of natural slumber, but goads the brain into fever-dreams, more permanently injurious than sleeplessness.

Anne Payson Call, in "Power Through Repose," speaking of "Rest and Sleep," says: "Realizing fully that sleep is meant for rest, that the only gain is rest, and that new power for use comes in consequence—how absurd it seems that we do not abandon ourselves completely to gaining all that nature would give us through sleep."

Sleep is quieting to the nerves, soothing to the brain, and nourishing to the body. Undeniable as this is, cannot the reader easily understand that sleep is helpful to the stammerer. The stammerer, generally speaking, is nervous, and owing to his continued fear of stammering becomes mentally fatigued. His thoughts course rapidly through his brain, even faster than he can physically produce them. Motive power, when generated,

THE ORIGIN AND TREATMENT OF STAMMERING

is oftentimes misdirected, and in consequence he ages quickly.

Canon Kingsley has said: "The stammerer's life is full of misery, and necessarily a short one by reason of the mental depression and misdirection of vital energy which is induced thereby."

Sleep cannot, by any means, effect a cure in any case of stammering. The point I wish to emphasize is this: that loss of sleep and irregular hours will aggravate and make worse any case of stammering.

I wish to add, also, that plenty of sleep, with regular hours, will, by quieting the nerves and resting the brain and body, make possible for successful treatment cases of stammering that might otherwise prove difficult to cure.

MORALITY

There is no doubt but that morality obtains a wide influence for good in the treatment and cure of stammering. We have heard much about the physical treatment of stammering, and yet, important as it is, there has been but little written about the moral treatment of this awful affliction. I do not assume that morality and purity in living can in any case effect a cure for stammering. My claim is that it makes favorable for successful treatment a condition which would otherwise prove unfavorable. Fortunately, I have known of very few stammerers immorally inclined. On the contrary, the affliction appears to exert a restraining influence over its victim, and in the same manner that it deprives him socially from the en-

THE ORIGIN AND TREATMENT OF STAMMERING

joyment of the pleasures of life it also holds him in check from falling into the pitfalls of ruin. There are without doubt exceptions to this, since I have known of one or two stammerers who were decidedly immoral characters. My experience, however, from contact with large numbers of persons afflicted with stammering, bears me out in reaffirming that the large majority of stammerers are of the moral type. There is good and bad in everything and everywhere, and oftentimes the latter element predominates, but fortunate as is the case among stammerers the majority of them are, if not strictly moral, morally inclined. This fact is largely in favor of the stammerer, so far as the possibility of a cure is concerned, because if the order of things in this respect were reversed it would in a measure lessen the chances for recovery. The morally inclined stammerer is generally more susceptible to treatment than the stammerer who is not morally inclined. With a mind full of corrupt thoughts, a mouth full of evil sayings, and a body full of languor or disease, we have many obstacles to surmount before entirely satisfactory results can be accomplished. On the other hand, a mind filled with goodness and virtue, a clear conscience, and a healthy body make successful treatment both probable and possible. The stammerer who would make for himself a condition most favorable for an absolute cure of his affliction should at once set about to live a life of chastity and purity. Let him engage his mind with wholesome literature, his body with healthful exercise, and let him choose his companions with as much care as he would choose a life partner. Companionship has more to do with moral living than we would suppose. Every im-

THE ORIGIN AND TREATMENT OF STAMMERING

pression received is one either for good or evil, and thus one evil companion will readily overthrow the very thing you are trying to establish, while a companion of good morals will strengthen resolutions and build up character. To prepare yourself for the most favorable results for treatment cleanse your mind of every impure thought and keep it constantly cleansed and pure. Avoid obscene language, burlesque or other objectionable plays or theaters, the use of tobacco in every form; also avoid the use of liquor, tea, coffee, and above all the poisonous cigarette. Avoid also all kinds of vice and the indulgence in any pleasure that exhausts the vitality. Take plenty of physical exercise, eat wholesome food, retire early, sleep on a good, comfortable bed, bathe often, and live well. If you will follow the plan I have here laid out, you will not only enhance the probability of a cure for your stammering, but you will also elevate yourself in your own estimation and in the estimation of all other men.

DIET

There is more benefit to be gained from diet restrictions than the stammerer would at first suppose. Many persons who stammer are equally as unable to control their appetite as their speech. Naturally of an active temperament and a nervous disposition they fall into the rut of doing everything quickly and without regularity. Probably one of the worst evils, aside from that of stammering, wrought by this practice or habit of doing things quickly, is that of rapid eating and overeating. It is also equally as harmful to the

THE ORIGIN AND TREATMENT OF STAMMERING

stammerer to eat food that is highly seasoned. He should avoid the use of spices or condiments in every form. Eat and drink nothing that contains more stimulus than nourishment. Eat nothing animal or vegetable that has not obtained maturity to reproduce itself under ordinary circumstances. Use neither tea nor coffee nor alcoholic liquors; avoid fatty substances and eat but little, if anything, that contains lard. Eat slowly and drink nothing while you have food in your mouth. Indeed, try to do everything moderately, and keep down all excitement of either body or mind. Cultivate a cheerful disposition and an agreeable state of mind. Cultivate none but agreeable feeling toward all. Be regular as possible in your habits, whether of eating, drinking, sleeping, or exercise, and do all things decently and in order. A derangement of the stomach means a derangement of the nervous system, which in turn aggravates your natural weaknesses. Nourish your body with wholesome food, and eat only such things as can be well digested. Indigestion is one of the aggravating evils of stammering. Apply the rules here laid down, and notice the improvement in your general health as well as in your talking.

STAMMERING

PRACTICALLY, THEORETICALLY

Lecture delivered before the members of the Detroit Academy of Medicine,
June 25, 1895.

MY experience from contact with the stammerer convinces me that the difficulty is scarcely, if ever, manifested in two persons in exactly the same manner. I have also learned that the conditions under which stammerers experience the greatest trouble are by no means the same.

There appears to be a wide difference of opinion regarding the definition and origin of this malady. It is not my intention, however, to enter into and discuss different authorities and criticise their definitions, but to outline as clearly as possible the cause of the stammerer's difficulty and practically demonstrate to you my mode of treatment.

I have frequently been asked the questions, "To what do you attribute stammering?" "What is the difference between stammering and stuttering?" To the public there would seem to be but little difference,

THE ORIGIN AND TREATMENT OF STAMMERING

and even the close observer, unless thoroughly acquainted with the peculiarities of this affliction, might easily be led astray in his conclusions.

Without going into detail of explanation, I will say that stammering is principally manifested in the articulating organs. Stuttering, on the other hand, is largely confined to the organs of respiration and vocalization. We have often heard it said that persons who stammer in conversation can sing without difficulty. This is generally the case, but not always. I occasionally come in contact with persons who experience the same impediment in singing as in talking. Their efforts to articulate certain syllables in singing meet with the same hindrance as is manifested in their conversation. Such cases, however, are rare. All movements of the human body are brought about by the action of muscles that are attached to movable apparatuses and are made to operate through the medium of the nerves. Without the proper co-operation of the muscles, it is impossible to accomplish anything. Thoughts originate in the brain,—the brain acts upon the nerves,—the nerves act upon the muscles,—the muscles act upon the bones,—and only after this process are we able to undertake any act. If the process of action is one of harmony, the act will be successfully accomplished. If, however, after the origin of thought there is an inability to accomplish or perform any ordinary human action, the deficiency is due to a lack of co-ordination. This lack of co-ordination of action, when spoken of in connection with or as related to the production of words, is the source from which originates or develops all forms of

THE ORIGIN AND TREATMENT OF STAMMERING

abnormal speech. The humiliation of stammering, the desire to speak fluently, and the fear that he may not be able to do so, keeps the stammerer in a state of constant mental emotion. It is owing to this condition of continued fear that we have associated with stammering so much nervousness.

With the aid of a number of my pupils who are present with us this evening I will endeavor to practically demonstrate to you, as far as possible, my mode of treatment.*

My manner of dealing with the stammerer is probably different to any that has heretofore been introduced, my own experience as a sufferer having given me a keener knowledge of the stammerer's nature than I could possibly otherwise have gained.

The first pupil I will introduce to you this evening appeared before you at your last regular meeting, and, as you remember, was utterly unable to read or speak three connected words. He applied to me personally for treatment, and was obliged to indicate by signs and by writing his wishes. The contortions of his face, you will remember, were most painful. He will address you to-night, and I want you to note carefully his complete change.

I will also introduce to you a pupil who has been under my treatment but three weeks, who stammered continually for many years, and who will tell you in a fluent and conversant manner of his remarkable cure.

*A number of pupils under treatment expressed their desire to attend this lecture and asked permission to submit themselves for examination to the members of the Detroit Academy of Medicine as evidence of the thoroughness of the treatment they had undergone.

THE ORIGIN AND TREATMENT OF STAMMERING

I have also with me a pupil who has been under other treatments at several different periods during his life, from which he says he received no perceptible benefit, and who will, I am sure, be pleased to relate to you some of his former experiences. You may talk to these gentlemen and to my other pupils with me this evening, and I do not believe any of them will stammer, notwithstanding they are all here in Detroit for treatment, some of them having come long distances to attend my Institute.

Before asking the gentlemen to address you I will endeavor to demonstrate (as far as the time allotted for this lecture will allow) the mode of treatment I follow in my school from day to day, and from which we have been able to obtain the results you see manifested here before you.

I can, of course, give you but an idea of the work that is carried on daily in my Institution, owing to the fact that I am obliged to demonstrate within an hour's time what usually requires from three to eight weeks to accomplish. *

From four to five hours each day we exercise our pupils after this manner. Vocal and physical exercises are also introduced, and generally by a series of exercises founded on an educational basis, of disciplining the pupil to do exactly as he is told, he gradually gains perfect confidence and freedom of speech.

* A half hour was, at this point of the lecture, devoted to the practical demonstration of the Lewis Phono-Metric Method of treatment, used largely in effecting a cure.

THE ORIGIN AND TREATMENT OF STAMMERING

At first the instruction to the pupil is usually private, and after he has made sufficient progress to warrant it he is obliged to perform before a portion of the class what he has already done in my presence. If he can do this successfully, other pupils are introduced, and he is placed under the most embarrassing conditions, made to read, to converse, to deliver impromptu speeches, is cross-questioned, and the most severe tests applied. If with perfect confidence he proves himself capable to fully stand these tests, he is then permitted for a few days to talk at leisure to myself or to the other pupils, asking any questions he desires or he may enter into general conversation. If, after this time, we find that he does not stammer, he is permitted to join our question-asking expedition and is allowed to talk to any one or every one—the more the better.

It is impossible to tell definitely when he enters the length of time any pupil will require for treatment. It largely depends upon his application to his work and his aptitude and comprehension.

The average person, however, has been obliged to remain from three to six weeks.

Author's Note:—The reader must not infer from the above that pupils attending our Institute are in any manner asked to submit themselves to criticism either in a public way or otherwise. On the contrary, we are extremely careful to maintain the utmost privacy for those who place themselves under our treatment and care. We never mention the names of our pupils without permission, and, when desired, the strictest confidence and secrecy of correspondence or attendance is preserved. As already stated, the gentlemen who attended this lecture expressed their desire to be present, knowing that they would be called upon to address the members of the society. Notwithstanding this caution they decided to attend in a body and were highly complimented on all sides for the success of their undertaking.

CAUSE AND CURE
OF
SPEECH DEFECTS
AND THE CONDITIONS THAT RENDER STAMMERING
CURABLE

A paper read before the Convention of the National Association of Elocutionists of America, held at Detroit, Mich., 1896, June 24 to July 3.

I KNOW of no other subject demanding the same consideration and attention upon which so little has been written and said as the affliction of stammering. It has occurred to me that more has been accomplished for the advancement of the study of elocution during the past five years than for the cause of the stammerer during the whole of the bygone century. While relief for almost every other known infirmity has been carefully sought after, the cause of the stammerer has been sadly neglected.

Schools for the deaf and dumb, institutes for the blind, homes for sick and friendless children, homes for the aged and infirm, asylums for the insane and incurable, and many other such public institutions mark the charitable spirit of our country, while the affliction of stammering receives only a passing recognition.

THE ORIGIN AND TREATMENT OF STAMMERING

My own experience, having myself stammered for more than twenty years, together with a careful study of the subject and contact with a great number of persons who stammer, convinces me that a great majority of persons who are thus afflicted are themselves as ignorant of the real nature of their malady as are the persons with whom they come in contact. They know they stammer, but further than this, concerning the cause and necessary means of correction of the evil, the great majority of them know absolutely nothing.

Before much can be accomplished along the line of advancing the cause of the stammerer, some radical changes will require to be effected. The stammerer will require to be educated to an appreciation of the necessary means of correction of his difficulty and the public in general enlightened regarding his neglected condition. I feel it unnecessary to speak in condemnation of the crude surgical practices for the relief of stammering resorted to during the early part of the present century. Those present who know the history of the art and science of treating stammering are aware of the awful results of which I speak. I shall not attempt to give you a history of these blunders. They were too many in number, would fill too many volumes, and would require too much time to here explain. They covered a period dating from the early history of Europe down to 1870, during which time the poor stammerer was butchered and tricked in every imaginable way.

By those who have given serious thought and study to the subject, it is conceded that stammering is of mental origin. With persons who stammer there seems to

THE ORIGIN AND TREATMENT OF STAMMERING

exist in the portion of the brain which governs and controls the motions requisite for the production of speech a difference of brain fibre from that of the ordinary individual. The difference does not appear as one of structure, but of sensibility. This idiosyncrasy exposes the brain of the stammerer to be most easily disarranged and the organs co-operating thrown into spasmodic action by the ordinary mental desire to speak. In other words, there seems to be a lack of co-ordination and of harmonious action between thought and its transmission and conversion into articulate speech. Thoughts of the brain arising either from immediate sensation or otherwise are carried along through a succession of channels before they can be audibly expressed. Few of us, unless we have given careful study to the subject, know just what this process of transmission consists of. To better illustrate, let us imagine the transmission of thought from the brain and its conversion to expressed words and ideas a chain consisting of several links. The first



link represents the systematic arrangement for production of thoughts and ideas that originate in the brain through our immediate sensations, or which take their origin in an abstract manner.

The second link represents a determination or desire of the will to give expression to thought.

THE ORIGIN AND TREATMENT OF STAMMERING

The third link represents a generating influence of the will that moves to action any portion of the body. For the purpose of illustration I have designated this influence "Motive Power."

The fourth link represents the action of articulate speech.

We have before us in the four links of this chain the process of transmission of thought to its conversion into audible expression, and a complete analysis of speech, which, I trust, will better enable us to discover the stammerer's defect.

It will now require an investigation and examination on our part of the different links which make up this chain to find the point at which the functions concerned cease to harmonize. As long as the process of transmission is harmonious the results will be most satisfactory. It is only when the organs concerned in the production of speech do not act in harmony that we hesitate or stammer.

Let us turn our attention to the first link of the chain before us. Is the elaboration of thought and its arrangement for production in the brain of the stammerer unsystematic? Do we find this to be true? If true, the stammerer, intellectually speaking, would not only be weak-minded, but would also be lacking of intelligence. The fact that many of the brightest men the world has known have stammered would appear as evidence against such a conclusion, and I think any further argument on this point is unnecessary. I think it is generally admitted that the stammerer is not weak of intellect, but on the contrary, many persons who stammer are superior

THE ORIGIN AND TREATMENT OF STAMMERING

in this respect to some persons who are gifted with perfect fluency.

From an examination of the second link it would appear that there can be nothing lacking in the desire of the stammerer to express himself. If so, the defect must amount to either an excessive or deficient energy, resulting in an inability to give physical action to internal thought. If the difficulty of stammering were due to a defect at this point, we would find that, as well as the organs of speech, other organs of the body would fail to respond to our desire.

Again, let us consider the case of the infant. Take, for illustration, the child who has inherited the original defect of the stammerer. It, as well as the adult, can only make known its wants by means of physical action, and if the defect of stammering were due to an excessive or deficient mental desire, we would find this child, before speech was complete, would be not only wholly unable to express itself, but would betray all the symptoms of the stammerer. It has been found, however, that such children do not betray their malady until a more complex action is required of them than the mere act of desiring. This, to me, is conclusive evidence that the difficulty of stammering is not attributable to any deficiency at the point under consideration.

Before examining the third link of our chain let us proceed to consider the fourth. I believe stammering to be of more obscure origin than is generally believed. True, the outward manifestations to the observer are wholly confined to the organs of speech and, at first thought, it would appear that the cause of the difficulty

might be attributable to wrongly formed speaking organs. If stammering were due to an organic defect of the organs of speech we would find persons who are thus afflicted would always have exactly the same difficulty on the same words and under the same conditions. We find, on the contrary, however, that persons who stammer are at times able to converse in a perfectly fluent manner without the least hesitation, while at other times they are unable to speak three connected words or to raise their voices to make an audible whisper. I am willing to admit that persons who stammer are as liable to organic defect of the organs of speech as are persons who are not afflicted, but do not believe that the percentage of persons who suffer from organic defect of the speaking organs is any larger among stammerers than among other persons not addicted to stammering. Furthermore, I have never found, in a single case of stammering, the least defect in the organs of articulation. I therefore conclude that the action of speech itself is, with the stammerer, perfect and complete.

We have now examined all but the third link of our chain, and having found nothing to indicate the origin of the stammerer's difficulty, let us proceed to examine the third. This link joins mental desire with physical action and would appear as the point where the current of thought is connected with the movable apparatus of articulate speech. Up to this point the process of transmission is but mental. Here the current of thought is connected with the dynamo of human mechanism, and like a flash mental desire is transmitted and transformed

THE ORIGIN AND TREATMENT OF STAMMERING

into moving, living action. This point of contact may be the source of all forms of abnormal speech. The mental energy of the will fails to generate to action the required stimulus of mind and body necessary to the proper co-ordination and harmony of the functions concerned in the proper production of perfect speech. The lack of harmony thereby occasioned results in stammering and, as previously stated, the point of contact would appear as the real source and origin of the stammerer's difficulty.

The unsuccessful efforts of many who have endeavored to treat the stammerer I attribute to unfavorable conditions. With favorable conditions and proper treatment any case of stammering, no matter how severe, can be successfully treated.

Let us consider for a moment the conditions favorable to a perfect cure:

First, any treatment, to successfully overcome stammering, will require to establish a foundation upon which to build.

Second, this foundation can be explained as the basis from which the child, during earliest infancy, evolves the proper manner of talking. To establish such a foundation means a return to the fundamental principles of breath and tone production, with a well-directed force of will against the mental influences of stammering and the unnatural conditions that have arisen.

The third condition to a successful treatment will require an instructor who, from a personal experience of stammering, can appreciate the feelings of the stam-

THE ORIGIN AND TREATMENT OF STAMMERING

merer and know the trend of the mental influences that act in discord. Such a person with a well-directed force of will power constantly exerted in the right direction can successfully direct the stammerer to a proper deliberation of action.

The fourth condition to a successful treatment will require for the stammerer a home life surrounded with moral and persuasive influences, directly under the care and watchfulness of his instructor, where, from day to day during treatment, the necessary care can be easily exerted.

The sixth condition to a favorable treatment will require that the stammerer may be surrounded with a number of others who are similarly afflicted, that he may constantly be reminded by them of the grave importance of careful attention to training.

The seventh condition to a successful treatment is proper food and nourishment for the stammerer. His changes of diet, hour for retiring, and habit of stimulants will require to be carefully restricted.

These conditions earnestly sought after and strictly adhered to will make favorable for successful treatment the most severe cases of stammering you can possibly imagine.

INSTITUTIONAL AND HOME TREATMENT

THERE are many diversities of opinion as to what constitutes a good treatment for the cure of stammering. To me a good treatment for the cure of stammering means much. To others it may mean the same, but their way of looking at the matter and my judgment of the affair may be entirely different. Thus I will endeavor to make plain my views and will tell what practical experience has taught me to be, from all points considered, a good method of cure.

Feeling that the influence of both the institute and the home are necessary in accomplishing the cure, I shall endeavor to point out to my reader a place for both, and throughout my discussion will try and make clear my ideas of the merits of each. The fact that I can count on the fingers of one hand but few institutes for the cure of stammering (within the last quarter of a century) that have proved successful, is evidence that there is a lack in management somewhere. I know of more than a score that have started apparently under the most favorable circumstances and have subsequently fallen by the wayside. Who is responsible for this? Was it a lack on the part of the instructor in his ability to effect the cure, or

was failure due to lack of business management? In the majority of cases both causes were responsible for failure. The first requisite necessary in successfully conducting an institution for the cure of stammering is an ability to effect the cure. I am satisfied also that no person excepting one who has himself tasted of this cup of galling bitterness is in a position to understand the feelings and condition of the stammerer. The circumstance that a person can cure a single case of stammering, or in fact that he can cure a number of cases, is no evidence that he could conduct successfully an institution where large numbers of persons thus afflicted are expected to congregate for the purpose of obtaining relief. To successfully conduct an institution of this kind it requires something more than an ability to cure, which is, however, as I have already said, an important element to success, in fact, the most important. Institutions must be conducted on a large scale to insure success. A small mercantile business will sometimes pay better returns for the money invested than larger concerns of a like nature, but a small institution for the cure of stammering run in a small way is nothing. Everything in and about a stammering school must have attention to insure good results.

In the first place the system used to effect the cure is important. Whatever the system may be it must be complete. It requires on the part of the teacher a knowledge of all systems, without which and without the skill of an adept in applying them the results looked for may prove disappointing. Surprising as it may appear to one unacquainted with this study, more depends

THE ORIGIN AND TREATMENT OF STAMMERING

upon the thoroughness in applying certain principles than in the methods themselves. To know a thing and to do it are two entirely different things, and thus it requires not only familiarity with certain rules, but also that these rules and principles must be properly applied and carried out.

There must be method in everything. Even as a large department store, such as Wanamaker's of Philadelphia, or the Siegel Cooper Co. of Chicago, could not succeed without method, neither can an institution for the cure of stammering. The business methods of an institution of this kind are as important to its success as its methods of cure. Correspondence should be well cared for. Letters carefully filed away; answers as carefully copied, and all correspondence kept as confidential as a sacred trust. A proper office system throughout should be maintained. A separate advertising department established, where all literature, pamphlets, circulars, and magazine advertising is properly taken care of. Bills due should be paid at once, in order to insure the financial rating or standing of the institution. Receipts should be made out and given to all persons paying money into the institution, however large or small, and the utmost economy practiced at all times.

One reason, I think, that so many institutions for the cure of stammering have failed is, because of their many broken and unfulfilled promises. They picture things in an untrue light and gild their phrases with the warmest coloring. This is a great mistake. We see the same principles carried out in every-day life. Every daily paper we read is filled with untruths. The advertise-

THE ORIGIN AND TREATMENT OF STAMMERING

ments of the majority of stores, many of them considered reliable, are full of untruths. "Bankrupt Sales," "Going Out of Business," "One Dollar a Yard Goods for Fifty Cents," "Dissolution of Partnership Sales," and what not — all to deceive the public. Why not the truth? Isn't it better in the end? Of course, and so it would have been better for many of those institutions, now obliterated and dead, had they not made so many promises which they knew they nor anybody else could not fulfill.

In looking after their own pecuniary interests many of those institutions that have failed entirely lost sight of the pupils' welfare. Their object appeared to be to get all the money they could and give as little work for it in return as possible. The pupils' interest should be considered first, in which way is the only way of serving the best interests of the institution. The fact of the matter is, the pupil makes the institution, and without that support which he gives, no institution can exist without loss. Here is a critical point, however, as the teacher may (overambitious to serve his pupil and at the same time himself) indulge his pupil in liberties which he should not have, with the fear that his order to desist will mean a separation of friendship. I know of but one way to overcome this obstacle. Teach the pupil to know that duty comes first. That all other issues to his cure are secondary and that you prefer his ill will and respect rather than his good will without it. Obedience is the first law of order and should be made infallible, as a principle, with pupils in their duty to the instructor.

THE ORIGIN AND TREATMENT OF STAMMERING

Let the teacher establish a fixed rule in dealing with pupils and never deviate from a principle which experience has taught him is best. Accept suggestions, but do not accept dictation from any pupil as to the treatment best adapted for his particular case. He comes not to instruct, but to learn; not as a teacher, but as a pupil, and as such should be taught to obey. Let the teacher ask kindly that his instructions shall be fulfilled, and carry himself with such dignity as will maintain the respect and confidence of his pupils. If the pupil openly disobeys, let the teacher demand obedience, and if necessary exact it. The majority of pupils, however, are ever ready to obey, as in obedience to instructions is embodied the elements of the cure.

In considering the requisites of the institution, it can be authoritatively stated that the influences of the home life are absolutely necessary to the best interests of both teacher and pupil. In fact, I consider that at least 25 per cent. of the value of treatment in effecting the cure is in some instances due entirely to the influences for good which all pupils under treatment for stammering should have cast around them. The carefully guarded moral life of the ideal home should be made a permanent fixture of the institution.

In the conduct of institutions for the cure of stammering this important feature has not been taken into consideration, and for this reason, if from no other, such schools have been short lived. To insure success the management of the institution should provide for its pupils a home equipped with all modern conveniences, customary to modern ways of living. Not only

THE ORIGIN AND TREATMENT OF STAMMERING

in this respect should the home be provided for, as many a house equipped in the matter of modern conveniences is anything but a home. In speaking of the home, I refer more particularly to the influences and surroundings rather than to equipment and furnishing, which, however, are important if not indispensable.

Everything in and about the home in connection with an institution for the cure of stammering should be kept scrupulously clean, neat, and cheerful. Reading rooms as well as a library should be provided for pupils, with plenty of wholesome literature. All the popular magazines of the day, such as the Century, Harper's, Scribner's, Munsey's, the Ladies' Home Journal, the Youth's Companion and several dozen other papers of this class, as well as religious papers of high character, should be placed at the disposal of the pupils of the institute.

The establishment of a home of this character, however, in connection with an institution for the cure of stammering is not as easy a matter as it would appear. It costs thousands of dollars, but it means much to the stammerer, as it adds considerably to the value of his treatment.

Parlors should be provided with pianos, as well as comfortable sitting chairs for retirement and ease, and every pupil of the institution, no matter what his former sphere of life has been, should be made to feel perfectly welcome to every portion of the home. Deportment and gentlemanly conduct should be made the only obligation in return for these many advantages, and with a carefully guarded life on the part of those who

THE ORIGIN AND TREATMENT OF STAMMERING

have charge of the home, the highest degree of success may be expected.

While the institution owes the pupil a duty almost equal to an avowed obligation, the pupil in return owes the institution a duty equally as important. It is the part of the teacher to instruct, to encourage, to enthuse, and, if necessary, to exact or demand. It is the part of the pupil to obey, and not only to obey, but to do more than obey—to exert himself in his own behalf.

There are many kinds of salaried employees—of which two distinct classes have always been apparent to the writer. That class of persons who work only for their own interests and do exactly what is expected of them for a fixed sum per day or per week. That class who in trying to serve their own interests try to serve also their employer's interest, and who show by their efforts that they are doing more than is expected of them. The former class always work for a fixed salary, which is never advanced. They are paid for exactly what they do, and they do exactly what they are paid for.

The latter class generally find their way to the top, as the employer realizing the fact that they are doing more work than they are being paid for, will, if just, advance them accordingly.

This same idea appears to prevail among persons under treatment for stammering. Some pupils work only to serve their own interests. They obey, but create no originality. They do exactly the amount of work demanded, but nothing more.

The other class is that of pupils who work not only for their own interests, but also for the interests of their

THE ORIGIN AND TREATMENT OF STAMMERING

fellow sufferers. They make an effort of their own. They put forth a determination into their work that generates a like determination in others. They create an originality and do many things not absolutely required of them, but which serve to advance them in their work. In this they are wise, as it is only in serving the best interest of the institution and of his fellow sufferer that the stammerer will succeed in serving best his own interest.

There is another class, and a most important one to the institution, as no institution can long succeed if hampered by its influence. This class is one of persons who are disinterested in their own cure. They come into the institution because their parents or friends want them cured. They feel no humiliation over their infirmity. They boast that it is their own business if they stammer, and say if other persons do not like their style of talking they do not have to. Such persons should be barred from treatment, as their presence is always harmful to others, and, besides, effort to cure them generally results in failure. They are as indifferent to treatment as they are to the opinions of those whom they torment with their stammering.

To succeed in its efforts, the institution should endeavor to instill into the life of every patient a determination to succeed. No such word as "failure" should be permitted. Stammerers who come into the institute, not knowing the importance that attaches to willingness to obey, and personal effort on the part of the pupil should be taught the importance of these factors at the beginning.

THE ORIGIN AND TREATMENT OF STAMMERING

Those who put forth effort of their own and obey to the letter should be encouraged to the utmost, while those who are disinterested in their cure should not be permitted to enter.

Rigid discipline in treatment, with attention to detail by the pupil in following out instructions, together with carefulness on the part of the management in watching the progress of its pupils, will, if the above suggestions are carefully observed, add largely to the success of any institution for the cure of stammering.

The advantages of the home life in connection with the institution are shown in the benefit derived by pupils through association. In a school of this kind the co-operation of the pupil with the teacher is absolutely essential. He should be taught also to manifest an interest in others. In this way the subject becomes interesting to him. He soon learns to regard the cure as a study, and it is oftentimes surprising with what earnestness he will apply himself to solve the problem.

Mr. A becomes interested in the phenomenon of Mr. B's case, while Mr. B is equally interested in studying the peculiarities of Mr. A's case, and so on throughout an entire class of ninety to a hundred pupils. Has the reader ever stopped to think what it means to have this many stammerers all collected together under one roof; all living together, eating together, and working together? It means a great work, I can assure you; but when these ninety to a hundred persons are constantly changing places, new ones coming and old ones going, it means in the course of a year many hundred patients. That all these persons should learn to co-operate with

THE ORIGIN AND TREATMENT OF STAMMERING

the teacher is one of the important elements to success ; but that they should also be brought into association, one with the other for each other's benefit, that they should in fact each strive to help the other, is a still greater element to success, and one of the most important elements of the cure. In this way, in addition to the regular teaching staff of the school, every pupil has constantly from ninety to a hundred instructors, all interested in his cure and anxious to have him succeed.

Another advantage to be derived from the home life in the institution is that of making the pupil feel satisfied and cheerful. Naturally sensitive over his affliction, he does not care to associate with persons who have no sympathy for him. He does not ask for sympathy, yet dislikes ridicule. Thus by bringing him into the home where he is constantly in association with others who are similarly afflicted, he is not exposed to the heartlessness of unkind persons, which he might otherwise fall in with.

There should be system in the home life of the school as well as in the method of instruction. In this the advantages of a home for the pupil are without question of great value. He can be most carefully watched, and is at all times directly under the observation of the faculty. His hour of retirement, his daily exercise, his diet, as well as his other habits, can all be carefully regulated. In this respect, if in no other, the advantages of the home are without question of more than real value to the pupil under treatment.

In a word, the home provided for the pupil is as important in accomplishing the cure as is the method of

THE ORIGIN AND TREATMENT OF STAMMERING

instruction. The latter should be thorough, while the former should be adapted especially for comfort, convenience, and accommodation. It should contribute to make the life of the stammerer a cheerful one; it should surround him with wholesome and moral influences; it should in fact be a Christian home in every sense of the word, and thus, while aiding in accomplishing the cure, it will also serve a two-fold purpose, that of adding to the life and character of the pupil.

When you have made up your mind to enter an institution for the cure of stammering, go in with all confidence in your instructor, belief in the cure, and a firm determination to win. I make this suggestion for two reasons: I have observed that the degree of success with which the pupil meets is always in direct ratio to his belief. I have also observed that pupils without confidence in their instructor lack also confidence in their cure. Fortunately, I have had but few cases of this latter kind to contend with, as the majority of persons suffering from stammering with whom I have come in personal contact were firm believers in the cure. However, I have occasionally met one who, owing either to former failure or to general skepticism, disbelieved in any method of cure, but who for the sake of experiment was willing to go in on a speculative basis. This is poor policy, and sometimes proves an expensive experiment in the end. It costs the same for treatment whether you believe or disbelieve, whether you have confidence in your instructor or whether you lack confidence in him, and the results are always more gratifying to those who believe. It is the hardest work in the world for a physi-

THE ORIGIN AND TREATMENT OF STAMMERING

cian to raise from a sick bed a patient who believes he is going to die. It is equally hard for the teacher to cure his pupil of stammering unless the pupil places confidence in the instruction. This class of disbelievers is detrimental to the best interests of both the institution and its pupils, and often dampens the ardor of a whole school. Many of these persons who are thus skeptical, when brought into contact with the work of a well-conducted institution, lose their disbelief and become warm supporters of the methods employed. Their cure makes them so, for how could they be otherwise when they have actually become partakers in the enjoyment of that for which they have so long searched?

There is much truth in the statement that stammering is a lack of confidence. I believe it is, and also that many persons stammer in their every-day actions without ever speaking a word. Stammering has sometimes presented itself to me in these words: "I don't know whether I can or not; I don't believe I can."

The majority of my readers are persons who stammer. Have you ever felt that sensation of doubt? Is not your first impression an impression of doubt, when approaching a word difficult of utterance? Is not the second impression one of disbelief? You say "yes." What is the result? Your answer is, "failure." Thus many persons stammer without even uttering a word. They doubt their own ability to perform certain acts. "They don't know whether they can or not; they don't believe they can." They halt, hesitate, stumble, in fact, they stammer, and even though it be by act alone, without the sound of vocal utterance, neverthe-

THE ORIGIN AND TREATMENT OF STAMMERING

Is it characteristic of stammering, which in truth it really is. When, therefore, it is shown that stammering is in form only a "lack of confidence," is it not a reasonable argument that the degree of success under treatment is always in ratio to the confidence of the pupil? Is not confidence that element which we are trying to establish? How, then, can we establish a cure unless we can establish a confidence? The fact of the matter is, the cure consists largely of confidence, even as the defect is largely a lack of confidence. Take my advice, then: when you enter an institution have confidence in the instruction. Do not go in on the belief that every man is a rogue until you prove him honest, but in considering your cure believe in your treatment that every man is honest until you prove him a rogue. This latter I confess is not a good policy to pursue in all things, but when the matter of establishing a cure for stammering is thus dependent upon the establishing of confidence, it is well to believe from the beginning. I refer in this matter entirely to the pupil's conduct and belief after arriving at the institution. Before entering such an institution, "make sure you are right and then go ahead." By this I mean take every precaution to thoroughly investigate its merits. If it bears favorable investigation and you are willing to "make the experiment," cast aside any disbelief which you may have previously entertained and abandon every doubt before enrolling yourself as a pupil. Stake everything in belief and have confidence in your cure to the uttermost degree. This will insure a cure in any case of stammering, it matters not how severe the

THE ORIGIN AND TREATMENT OF STAMMERING

case may be, providing the pupil is willing to obey instructions. Much of course depends upon the instruction. I refer only to such instruction as one would expect to find in any well-conducted and well-regulated institution for the cure of stammering.

The time was when such institutions did not exist, but with the advancement of science new ideas have been developed along this line, from which have evolved practical methods for the cure of stammering.

To enumerate the many different methods that have been practiced for the cure of stammering within the past century, giving a description of each, would fill an entire book, and could prove of little benefit, if any, to the reader. In truth, I believe it would prove harmful, as much time at earlier periods was uselessly spent in vain efforts to obtain radical results. Only within the past few years have practical methods of cure been in use—the result of modern thought, investigation, and invention. In fact, as recently as 1852, methods of surgery were largely practiced for the cure of stammering, and with harmful results, as is shown by the following extract, taken from “Stammering: Its Effects, Causes, and Remedies,” by C. P. Bronson, M. D. Dr. Bronson was considered in his time an authority of unquestionable reputation, and concerning surgery as a remedy for stammering says:

“I am also aware that some persons contend that stammering is caused by malformation of the vocal organs, which either produce or modify sound. But this opinion is incorrect, as is evident from the fact that it is caused by a disease which induces this impediment of

THE ORIGIN AND TREATMENT OF STAMMERING

speech. In consequence of this false notion, some grave professors of medicine and eminent surgeons have undertaken to cure stammering by operations, a few of which I witnessed some years ago in the medical department of the New York University. Being personally interested in the subject, I took much pains to see individuals who had been operated upon as they came out of that college. I inquired of them whether they were cured. Their words and actions invariably replied in the negative. The operation I would observe," continues Dr. Bronson, "was merely piercing the tongue transversely or cornerwise from about one-fourth of its corner side to its right upper side." "In the name of common sense," says the Doctor, "what has such an operation on a modifier of sounds to do with the organs that produce the sound?"

Many such nonsensical ideas prevailed among early investigators, the results of which served only to dishearten the stammerer. Several deaths were reported from hemorrhage. Stammerers were mutilated and cut to pieces in every imaginable way. Tongues were cut, tonsils removed, needles were inserted into and passed through the base of the tongue, sharp-pointed instruments forced into the vocal cavities, gargles of various kinds used to allay the irritation, and powders administered to the patient with the hope of benefiting him.

One writer says: "My attention was called to an advertisement which proposed to cure stammering in various ways. One man advertised to cure by a surgical operation, which he said could be performed in the twinkling of an eye, and the stammerer was forever

THE ORIGIN AND TREATMENT OF STAMMERING

cured. I called on the performer (who dubbed himself Doctor), but without the least faith imaginable. In the center of his office stood a round table, on which was spread in beautiful confusion a quantity of surgical instruments such as dentists use. I made some inquiries as to his mode of operation, price, etc., but with what little knowledge I then possessed of the structure of the human system I was confident that his apparatus was all a humbug, and not willing to be 'fleeced' for the ninety-ninth time, I retired with his angry words ringing in my ears."

Such was the condition of things up until as late a period as 1850. Earlier than that time matters were even much worse, as is shown by the unbalanced theories of authors who unhesitatingly put their views into print.

As already mentioned, it could only serve as productive of evil that I should discuss further or enlarge upon their worthless methods, nearly all of which have since been abandoned. Better that I should tell my reader what I consider to-day the best means of treatment, and bury these old, worn-out, and threadbare ideas in the grave of the past, where they so fittingly belong.

The use of a surgeon's knife to effect a cure is not required in one case of stammering in a thousand. Only where malformation of the organs appear is it necessary to perform a surgical operation, and of such cases during my entire acquaintance with stammerers I have known only one. This single case was a complicated one in many respects, and it may be a relief to add that stam-

mering was not due even in this instance to the malformation. It was necessary, however, in order to correct the articulation of the sufferer that an operation should be performed. As a matter of fact, his stammering habit was entirely cured before the operation was commenced, thus conclusively showing that there was no relation between his stammering and the abnormality of his tongue. It simply happened that in addition to stammering he had unfortunately been born with a peculiarity which is sometimes manifest in persons not addicted to stammering. Had he never stammered the operation would have been necessary just the same, in order to establish perfect articulation. Malformation of the speaking organs among stammerers is very rare, and not at all more common than among persons not thus afflicted.

Among letters received from many thousands of persons addicted to stammering, and from my personal acquaintance with a great number, I have recollection of but few instances where any defect other than that of stammering was manifested in the patient. As has been demonstrated again and again, surgery can only prove harmful where it is not necessary, and I know of no better illustration of the truth of this statement than in cases of stammering. The less the stammerer has to do with the knife of the surgeon the better for him in nine hundred and ninety-nine cases out of every thousand.

I have always maintained and still believe that medicine is sometimes necessary in cases of stammering, even as I believe its use is necessary by many persons who do not stammer. I will go further than this, and say that it

is particularly beneficial as an auxiliary in some peculiar cases of the intermittent class, where the physical condition of the sufferer has much to do with his ease in talking. Stammerers who suffer from exhausted vitality or who have weakened energy, in applying themselves may oftentimes profit by the advice and attention of a good family physician. Any reputable doctor will tell you, however, that the less medicine you take the better for you. A judicious amount of exercise, plenty of sleep and rest, and good, wholesome diet are in the majority of instances much better than medicine. Often a mild tonic is necessary or even a physic to arouse the liver; but other than this, unless there is some chronic ailment, leave medicine alone.

All good methods for the cure of stammering should have incorporated into their regimen a graded system of physical exercises. Graded, for the reason that what might prove beneficial to one patient would be harmful for another. From the fact that mental energy and will-power, upon which good talking largely depends, are largely induced and augmented by judicious exercise, one who stammers should take every opportunity that presents itself to put himself in the "pink" of condition physically.

That physical exercise is beneficial in the treatment of stammering no recognized authority disputes, exercises to develop the torso, and for the development of the muscles of the neck, being especially productive of good. Physical exercise in a general way, such as one will receive in the ordinary first-class gymnasium where the regimen is directed by a well-informed instructor must

also serve to lessen the severity of the stammerer's difficulty. The reason for this is not at first apparent, but when one stops to consider that such exercises serve to subjugate the muscles to the power and influence of the mind the object is readily made clear. Who will say that by disciplining the muscles of the body to obey the commands of the will we have not gained the first step in harmonizing this inharmonious action? I have always maintained that breathing exercises for the development of the organs of respiration were highly beneficial to the stammerer as a means in overcoming his impediment, but have never advocated their use wholly as a means of physical development. My purpose in using breathing exercises is not wholly because they strengthen the organs of respiration, nor because they serve to increase the capacity of the lungs. Stammering is not due to incorrect breathing habits, which latter are generally the result of stammering. Neither is stammering due to an undercapacity of the lungs.

Why, then, use breathing exercises in overcoming the defect? My answer is, "for the same reason that I would use physical exercises, for the same reason that I would use vocal exercises." Physical exercises are well adapted to improve the general health and physique of the sufferer; breathing exercises are beneficial to aid in this physical development, and vocal exercises serve to mellow and strengthen the voice, which is good even to persons not afflicted with stammering. These exercises, however, as used in connection with a treatment for the cure of stammering should, while intended as an

THE ORIGIN AND TREATMENT OF STAMMERING

auxiliary to the general health of the sufferer, be given for the purpose of mental discipline.

I will endeavor to make myself clear in this statement by saying that the defect of the stammerer is in the mind,* not in a weakened voice, not in general physical weakness nor in incorrect habits of breathing. These latter are all the results of stammering and are generally associated with the defect, and often serve to aggravate it, but should never be attributed as a cause.

Stammering is manifested in a lack of ready and harmonious response of the muscles of the body to the commands of the will. It is therefore by making the muscles obey the will that we principally succeed in overcoming the defect. To do this we must give the mind absolute control over every muscle of the body, and whether it be a muscle concerned in the production of speech or not it must be disciplined to obey. If we would control the unruly muscles we must obtain a more ready response from each and every one. We must be able to control them separately, in pairs, and together. Desire must become a command, and command, law.

To accomplish this we must summon to our aid every exercise where mind and muscle may act one upon the other, and by means of a process of educational training we strengthen both, teach the latter to act in conformity with the commands of the former harmoniously and with precision.

As an illustration let us for example execute costal breathing. We place the flat portion of the hands upon

* See footnote page 27.

THE ORIGIN AND TREATMENT OF STAMMERING

the sides just beneath the arm pits, and by inhaling through the nostrils we inflate the lungs in such a manner as to extend the muscles of the sides while the body assumes a flattened position from front to back. In performing this exercise we direct the mind to action and by exercising the will and centralizing it for a few moments we force into quick and ready obedience those muscles which, as the result of stammering, oftentimes refuse at first to obey. Other forms of breathing are similarly executed, until finally the mind becomes all powerful in command. Physical exercises serve much the same purpose. The gymnast will tell you physical exercises, if practiced regularly, give the mind control of the body. This is seen in the great muscular feats performed by such men as Sandow, who by the command of his will alone could knot every cord and muscle of his body. Many can move the muscles of their scalp without a perceptible movement from any other portion of their entire body. The same is true of the muscles of their chest, back, legs, and arms, over all of which they have absolute control either individually or collectively. And all this control is but the result of continually practiced mental disciplinary exercise, the organs of the body being disciplined and educated to obey the dictates of the mind. The same theory that applies to breathing and physical exercises is also true in vocal exercise. Much as has been said by others about the advantages of breathing, vocal and physical exercises for the treatment of stammering, I have never heard it advocated nor have I ever read that they were intended for any other purpose than for the mere object of simple corrections in incorrect

THE ORIGIN AND TREATMENT OF STAMMERING

breathing habits, for the development of the voice or for strengthening a weakened organism. I have always been aware they served for all these purposes and that they are highly beneficial, but their better purpose has never been outlined to me. It has come to me through real experience in the treatment of hundreds of cases, that the object of such exercises as I have mentioned when used in connection with methods for the cure of stammering is for a better purpose than is generally believed — that of disciplining the muscles of the body to obey the commands and dictates of the mind.

THE MECHANISM OF SPEECH *

IT HAS been said that stammering is caused by a want of due control of the mind over the vocal organs, and as the brain is the seat of the mind let us consider its physiological construction and functions.

The brain is divided into two parts, the cerebrum and the cerebellum. The cerebrum fills the front and upper part of the skull and comprises about seven-eighths of the entire weight of the brain. In appearance it resembles an English walnut. It is divided into two parts, the same as the meat of a walnut or hickory nut, and like them is curiously wrinkled and folded with convolutions. The greater the number and deepness of the convolutions the greater the mental power.

The cerebellum lies below the cerebrum and is in the back part of the head. Its structure is similar to that of the brain proper, but instead of convolutions it has parallel ridges, which give it a peculiar appearance, called the *arborvitæ* or tree of life.

The cerebrum is the seat of the mind. It is the function which the cerebrum performs that distinguishes man from all other animals and it is through the action of the cerebrum that he becomes a conscious, intelligent,

* Extract from the PHONO-METER, a monthly paper exclusively for persons who stammer; edited and published by Geo. Andrew Lewis.—See last page.

THE ORIGIN AND TREATMENT OF STAMMERING

and responsible being. The cerebrum is the center of thought. Persons in whom it is seriously injured often become unable to converse intelligently, both from inability to remember words and from loss of power to articulate them.

The cerebellum, lying between the base of the cerebrum and the upper part of the spinal cord or an expansion of the cord called the medulla oblongata, is the center for the control of the voluntary muscles.

There are two kinds of muscles, the voluntary and the involuntary. The voluntary muscles are those controlled by the will. If we see a dime, the mind sends a message over the motory nerve to the controlling muscles of the arm and fingers to act, to get into motion, to pick it up, and the muscles having always been accustomed to do the mind's bidding without any doubting, work harmoniously. Therefore the muscles of the arm and fingers and all such muscles are voluntary because they are controlled by the will. Without any message from the mind, our hearts beat day in and day out, year in and year out. This throbbing of the heart is beyond the control of the will and hence the heart is the best example of an involuntary muscle. However, as we can wink when we wish to and we can't help but wink ever so often, the muscles of the eyelid are both voluntary and involuntary.

Of all cases the inherited case is the worst. In the inherited case, there is an inherited abnormal condition from the very first, and if the child is given the proper instruction in articulation, vocalization, and breathing, and is taught to have confidence in its ability to talk,