

**A treatise on the cause and cure of hesitation of speech, or stammering /
as discovered by Henry McCormac.**

Contributors

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2

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A TREATISE
ON
THE CAUSE AND CURE
OF
HESITATION OF SPEECH,
OR STAMMERING;

AS DISCOVERED BY

HENRY M^cCORMAC, M.D.

MEMBER OF THE ROYAL COLLEGE OF SURGEONS, OF EDINBURGH;
AND THE SOCIETY OF NATURAL HISTORY, OF BELFAST.

“ I can assure all, that by the most ordinary attention to the following pages, they may of themselves remove, with the utmost ease and facility, and in a very short space of time, the most inveterate and confirmed habits of Stuttering, no matter of how many years duration, or when contracted.”—*Preface to the Treatise.*

LONDON :
LONGMAN, REES, ORME, BROWN, AND GREEN.

1828.

A TREATISE

ON THE

RESISTANCE OF SPEECH

OR STAMMERING

BY

LONDON:

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PRINTED BY SAMUEL MANNING AND CO.

1831

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TO

JOHN M^cCORMAC, Esq.

Member of Council,

OF

HIS MAJESTY'S COLONY

AT

SIERRA LEONE,

THE FOLLOWING PAGES

ARE AFFECTIONATELY INSCRIBED

BY

THE AUTHOR.

JOHN W. BURNETT, Esq.

Author of "The

THE HISTORY OF

THE FOLLOVING PARTS

AND THE HISTORY OF

THE HISTORY

PREFACE.

THAT the following work will communicate, without the possibility of a failure, to the reader, whether medical or otherwise, the means of curing habitual stoppage of speech, may appear, at first sight, a little paradoxical, when we consider, that thousands of years have elapsed without any individual having ever been able to discover and communicate to the world any means by which this distressing affliction could be alleviated. But any scepticism that may exist on the subject will quickly vanish, when the stutterer, once in possession of the means, shall essay them on

himself, and find that, without trouble or difficulty, he may learn to speak his thoughts with the same facility as other men. Thus arriving, without loss of time or bodily suffering, at the consummation of his hitherto unattainable wishes ;— a consummation which, ere while, any sacrifice would have been made to attain, being now effected without any.

The peasant and the artisan will equally receive the benefit of this communication ; and that which for many centuries wealth could not purchase, will now be placed within the compass of even the most abject poverty.

It is singular, that a matter of such apparent simplicity should have so long eluded the grasp of so many inquiring intellects ; but so it is, the

human mind can create nothing of itself, even the most insignificant ; it must be led step by step to the discovery, and often pauses on the very brink.

The important information which I have the happiness of announcing in the following pages, is indefeasibly my own ; not being acquired from the experience of others, but arising in my own mind, from a consideration of the nature of the complaint. It is true my attention was led to it by accident ; but having been once turned in the direction of truth, it continued so till I had arrived at a satisfactory conclusion, without a communication with any human being.

I cannot, of course, say that no other person was in possession of the means before me ; I do not assert, that I was the first to *make* the discovery :

but I allege that I am the first to *communicate* it. If others be in possession of the means (and I have no doubt that some are) of removing hesitation of speech, they have preferred converting their knowledge into a source of mere personal emolument; whilst I, without taking upon myself to blame them, have preferred the mental satisfaction arising from the consciousness of benefiting my fellow-creatures at large, to any other motives, however lucrative or promising.

To my own (the medical) profession, this little work will become an object of interest, from its unfolding the pathology of a complaint, which has hitherto been inscrutable to its members, as well as from its shewing how to deduce a plain and obvious mode of cure. By parents, who have witnessed with a concern aggravated by their

want of means to combat it, the progress of an evil of no little magnitude in their families, it will be hailed with delight. Nor can I suppose, that it will be less acceptable to those occupied in the business of education, whether in private, or as the heads of public establishments, in which instances are not unfrequent of the mental powers of youth being almost at a stand, from their inability to participate with equal advantage in those means of instruction enjoyed by their companions. As to those individuals, who would be destined by their friends or their own inclinations to the service of the pulpit, the bar, the army, the navy, or the stage, did not impediment of speech prevent them, this treatise will be of great and obvious utility, as it will enable each to embrace his respective profession, without expense or delay. To such individuals in parti-

cular, it will be of the most essential service; whilst that portion of mankind who are similarly afflicted, but who superadd no profession to their ordinary occupations, after what I have above said, need not be specially informed of the advantages of a thorough knowledge of its contents. In short, to every one, who feels a lively interest in the progress of discoveries beneficial to mankind, and capable of removing one, from the many evils of life, the information conveyed in this work will not surely be deficient in importance. Finally, I can assure all, that by the most ordinary attention to the following pages, they may of themselves remove, with the utmost ease and facility, and in a very short space of time, the most inveterate and confirmed habits of stuttering, no matter of how many years duration, or when contracted.

Belfast, May, 1828.

STUTTERING—*Psellismus*.

ENGLISH.—*Stammering*; *Hesitation of Speech*;
Stuttering; *Stoppage of Speech*.

FRENCH.—*Begaiement*; *Balbutiement*; *Bredouil-
lement*.

GERMAN.—*Stamlen*; *Stottern*; *Anstossen*.

LATIN AND GREEK.—*Ischnophonia*; *Psellismus*;
Battarismus; *Balbuties*.

I HAVE above enumerated the principal synonyms expressive of hesitation of speech, and will now proceed to detail its true nature, and also some of those false theories which have hitherto been deemed explanatory of it.

The organs of speech are obviously liable to many and varied affections, which, of course, must modify their irregular action to an almost infinite extent. Many of these have been ably treated of, in many different works; but I shall not now touch on them, unless to illustrate the subject of the present work, as it would but occupy too much space. I shall commence, with describing the affection in question.

Stuttering, which term I prefer as being more expressive than any other, consists of an inarticulate, interrupted, and difficult utterance, in which the peculiar sounds which constitute language are expressed in a confused, hurried, and imperfect manner, with infinite difficulty, and a considerable degree of bodily pain to the person who is the sufferer. There is an action, apparently convulsive, of the muscles of respiration, which, in fact, are those of the whole body accompanying it; the pulsations of the heart are increased in force, but diminished in frequency; the circulation of the blood becomes slower; hence, the veins of the neck, face and forehead, become turgid, and

those parts themselves discoloured, and their muscles, and those of the nose, which are altogether in stutterers much *pronounced*, become convulsively agitated, giving the person somewhat the aspect of insanity, or of one labouring under a fit of epilepsy; the eyes, too, start from their sockets, and the whole expression of the countenance, however beautiful and lovely it may have been when at rest, now becomes horribly disfigured. It is, however, difficult to find any who are confirmed stutterers remarkably handsome, as, unless they commonly remain silent, their features generally lose their relative proportions, by the undue development of some of them; hence, it would not be difficult for those who are in the habit of seeing stutterers, to be aware of their infirmity, even before they speak. The chest is also more contracted than in other individuals, and the blood less organised: hence, *cæteris paribus*, the lungs of stammerers are more liable to disease. I might, indeed, and with full propriety, enter into further details, did the limits which I have prescribed myself permit,—as we

may rationally expect, that in the course of a year or two, both in Europe and America, confirmed stuttering will only be a disease to be spoken of as a thing of the past, or only to be witnessed, in persons afflicted with insanity.

But it is not bodily structure alone which is affected: stammering has a considerable influence on the *minds* of those who labour under it—frequently rendering them melancholy, passionate, or morose, from a sense of their degradation, and their deprivation of the greatest blessing of humanity—oral communication with their fellow-creatures, whether in the crowded arena or in the social circle.

I shall now proceed to the cause, which, in nine cases out of ten,—I think I may safely say, ninety-nine out of a hundred,—is that which I am about to point out. Such causes however, besides, as are any ways influential, I shall also notice in their proper order.

The primary cause of psellismus then, in common with that of many other irregular or abnormal affections, arises from the want of knowledge in the patient to put his organs in the proper train

for executing the desired freedom of action ; but the proximate cause in most cases *arises from the patient endeavouring to utter words, or any other manifestation of voice, when the air in the lungs is exhausted, and they are in a state of collapse, or nearly so.* In this consists the discovery, hitherto made by none ; or if made, not announced. The patient endeavours to speak when the lungs are empty, and cannot. Why ? because the organs of voice are not struck by the rushing current of air ; they do not vibrate ; therefore voice or speech cannot take place, whatever position we put them and the organs of speech into ; for the organs of voice are one thing and the organs of speech are another, though commonly confounded ; we can utter a voice without speech or words, but not the latter without the former. In vain do we press down the keys of an organ—the many-toned tubes will not vibrate without the air rushing through them : so in vain do we place the *chordæ tendinæ*, and the muscles, and the membranes, and the bones of the air-tubes, and of the mouth and the nose into a proper position ; words will not follow our efforts,

any more than they can issue from the moving lips of the voiceless phantoms of departed men, imagined by our ancestors. Yet, the source of this voicelessness has never been before conceived : it was, and is attributed, to a mere vicious habit (which, in one sense, it certainly is) ; to an impaired, or irregular action of the nerves, supplying the organs arising from the spinal marrow or brain (which is only sometimes the case), the brain being morbidly affected ; and finally, to an abnormal action of the organs of speech themselves, the state of the lungs being unnoticed. It is indeed true, that in some cases affections of the brain, either primary or consecutive, arising from apoplexy, epilepsy, inflammation, congestion, blows, irritations from sympathy from other diseased organs, as the lungs, stomach and bowels ; the action of narcotic or alcoholic stimulants, applied to any absorbing surface, by influencing or depraving the action of the nerves on the organs of speech, may occasion sympathetic or symptomatic pcellismus *for a time, but seldom or never permanently,* as many writers have imagined. But they all err

in supposing that idiopathic or habitual psellismus arising from the vicious habit of not expiring the breath when attempting to speak, to be occasioned by these causes.

Again, stuttering has been said to depend upon a relaxation of the frœnum linguæ, the reverse of tongue-tyedness; upon excessive size of the tongue itself; malformation of the mouth; alveolar arches, or the os-hyodes or tongue-bone; or finally, from fissures in the palate or the uvula, tumours on the base of the tongue, or its accompanying nerves; but one would think that it would be sufficiently evident that the existence of any of these circumstances, however it might deprave the utterance, could not be the cause of stammering. In fact, lispings—thickness of speech—although so many vices, and worthy of correction, should not be confounded with stammering, being entirely distinct.

In another place we are told, that stuttering consists in a difficulty of pronouncing certain letters, such as K, T, G, L; but all consonants are difficult to be uttered, and, indeed, are nearly

unutterable by stutterers, as they can do little more than enunciate the vowels; because, during their efforts, though they do not take in air enough to pronounce consonants or words, they *pant* as it were with excessive rapidity, taking in a very little quantity of air at each effort, which merely gives them time when expiring, to utter one vowel or more, as *a a a a*, or *e e e e*, &c.; the air being all gone before they can perform the mechanism of consonantal utterance. But to confound, as some have done, the difficulty of executing some sounds in one's own or in strange languages, such as the *en* of the French, the *H* of the Spanish or Arabic, or the *ich* of the German, not to mention others, with the vice of stammering, is somewhat thoughtless, not to say absurd. Each nation, or many nations at least, have peculiar sounds which it would be easy to instance, which are with difficulty uttered by the members of others, and to which the organs of speech require an apprenticeship to be able to execute them, the same as motion of the ears, or of any other parts of the body, to which they have not been accustomed.

I may, indeed, add, that capabilities for expressing new sounds, and new combinations of motion, are every day calling into play in the human body, while others, again, are lost; but the consideration of their difficulty, however interesting in itself, has certainly nothing to do with that of stammering. Authors have magnified these things into diseases, and have favoured some with a title, although, upon the same principle, they might do so with almost every sound in human language, as they are each of them (some of the vowels excepted) pronounced with difficulty by some person or another. It is, indeed, a matter that one would think ought to be evident to all, that every possible kind of malpronunciation and omission of sounds that should not be omitted, may be co-existent with an excessive degree of volubility of utterance, as any one may see in the lower classes of all nations, in the females especially; the Creator having equitably counterbalanced their general inferiority in point of bodily strength, by their superiority in another respect.

The influence of the different passions on the function of speech and voice, is, by almost all writers, confounded with habitual stammering; but this is also incorrect. Many of the passions, when excessively experienced, will take away the power of speaking altogether, or render it very difficult, even with persons in ordinary moments liable to no hesitation;—consequently, inveterate stuttering will, if possible, be rendered worse. But this is the case, not only with the organs of speech, but with those of the whole frame. In excessive fear, the limbs will not obey the influence of the will; the legs totter, and the hands tremble; and many internal bodily functions may be suspended or destroyed. Love, fear, joy, embarrassment, respect, anger, all diminish or destroy the power of speaking, in common with other muscular actions. Who has not felt the difficulty of speech experienced when haranguing a crowd; when approaching a superior, or a loved object, to the last of whom the person in vain wishes to express his sentiments of affection. The secretion of saliva diminishes, and the tongue cleaves

to the mouth ; as is also the case, when a guilty person would deny an accusation, but cannot.

How easy it would be to enumerate many bodily operations, which, as well as those of oral communication, the influence of a given passion suspends, but which cease with the removal of the cause. These, however, it will be easy for the reader to supply from his own experience. But to take one familiar instance: the corsned, or crumb-ordeal was formerly used in England,—the person accused being obliged to exonerate himself by swallowing a morsel of dry bread or cheese ; but if guilty, and not hardened as people call it, fear closed up the orifices of the salivary ducts, or the saliva was no longer secreted and poured into the mouth and fauces, so that unless the bread was moistened, it became impossible to swallow it. Of a similar nature is the rice-ordeal, in Asia ; but in this case the supposed culprit has to reject the rice from his mouth, when, if it be dry and floury, he is adjudged guilty ; but, if pasty, not. These simple mortals who practise this, never think, I suppose, of concealing a small wet sponge in the fauces.

Anger and indignation, although in some individuals they check, yet in others augment, the flow of words. Of course, this is the case with those who stammer and with those who do not, alike, at least, comparatively speaking. But what shall we say to those relations,—wherein it is stated, that an excess of terror and indignation was able even to restore the voice of the dumb; as the story told by Herodotus, of the son of Cresus saving his father's life, in battle, by requesting the soldier not to kill him? Now this youth was previously dumb; and when the father of history was telling us so good a story, he should have enhanced it by making him speak a foreign language when he recovered his voice.

M. Voisin, in a little Treatise on Hesitation, tells us, with the most naive simplicity, an anecdote of a dumb person, which Professor Esquirol had the goodness to communicate to him (*dont M. le Proffesseur Esquirol a bien voulu me donner connaissance, vide p. 17*), which dumb person was for a long time subjected to the intolerable con-

duct of a scolding wife, who, turning out one day rather worse than usual, so aggravated the unfortunate dumby, that he not only recovered the powers of speech in the fullest extent, but was able to repay the lady with usury, in her own coin !

We are not informed, by M. Voisin, whether this dumb person was also deaf, in accordance with what usually happens ; but are left to make our own conjectures on the occasion. I strongly suspect, however, that Monsieur le Professeur could hardly have believed what he is affirmed to have related, but only said so to mystify M. Felix Voisin ; but, be this as it may, I do not believe the fact alleged. I shall again have occasion to refer to M. Voisin's work ; but in thus taking notice of it I do not mean to say, with this one exception or so, that he falls into more mistakes than others who have written on the subject.

I have thus, in as few words as I could well use, explained the real nature of stammering, and disentangled it from other affections with which it has hitherto been confounded. I shall now

enter into a short history of the complaint, making, at the same time, such general observations as I may think worthy of insertion, and then proceed to the method of cure; but before doing so, it will be requisite to enter into a *resumé* of what I have before said, together with a few additional and explanatory remarks, in order to implant the real nature of this affection as firmly as possible on the mind of the reader.

Stammering, or stuttering then (for I use these as synonymous terms in those cases, and *they constitute the majority*), where it is the mere result of habit, and not produced by any organic or structural affection of any part or parts of the body, or passions of the mind; or the consequence of any sympathetic action or otherwise, of the brain or other parts of the nervous system, arises from an attempt to speak when the *lungs are in a state of collapse or emptiness*, or approaching to this state, for the lungs never become quite empty; but no air passing backwards or forwards through the trachea or its *cordæ tendinæ*, voice

of any tone cannot be uttered, and, consequently, cannot be modulated by the efforts of the organs of speech, as the glottis, tongue, cheeks, lips, palate, teeth, nasal cavities, and osseous antra, or cavities in the bones, which need not be enumerated, as there are many of them.

I made use of the expression backwards or forwards, in the preceding sentence, because we can speak or produce words or voice, not only when the air is going out of the chest, but when it is coming in; but, in the latter case, it is much more difficult, and occasionally does actually produce stuttering when the person endeavours to *speak, during an attempt to draw in breath, when the lungs are full*; being, in fact, the converse of the first proposition already stated. But, as few persons attempt to speak when drawing in the breath, stuttering from this cause is comparatively rare: still it may occur, and must be guarded against.

Those cases in which one speaks when drawing in the breath are,—during oratorical delivery, when the person does not like to interrupt the

tenour of his oration by ceasing to speak while inhaling air ; but if he attempt to continue speaking when the lungs are full, by, or during, trying to take in more air, he will find it impossible, and will necessarily exhibit all the hideous contortions of visage, accompanying an attempt to speak when the lungs are collapsed. Stammering from this cause, however, being so unfrequent, I have omitted it, and perhaps improperly, in my first definition of this *functional* disease, in order not to produce confusion in the reader's mind.

Any person may speak during inhalation or inspiration ; but it will be more or less articulate, according to the length of time which the individual has habituated himself to it ; hence, perhaps, orators might practise it with advantage. As to speech during inspiration, I once heard an ingenious physician of my acquaintance assert, that he conceived ventriloquism was effected by this means ; but this art is now universally referred by all well-informed persons, to a mere excess of mimicry or power of imitation ; and I need, therefore, make no other observation on his opinion, than that of simply expressing my dissent.

We cannot speak with the same facility when the breath is entering the lungs, because the action of the air being reversed on the organs, the latter find more difficulty in modulating it. Again, the air being impelled *against them with much less force* when entering the lungs, than when going out, the vibrations produced are more feeble; consequently, to produce a given sound, it requires perhaps, three or four times as much air during inspiration as during expiration. The reason of this is, because the mere act of inhalation requires an effort, whereas exhalation requires none, and will take place of itself, if we do not or cannot oppose it. As in articulo-mortis, the last living act is generally that of inspiring the breath, but life having passed away, the air rushing out, the chest collapses of itself; so, during the two processes, which constitute respiration, the same proportion holds good; we expire with infinitely more force than we inspire.

I cannot, however, at present state the difference, but it probably amounts to a force of several hundred pounds; this estimate will not, I think,

appear excessive, when we witness the efforts of players on wind-instruments—the powers of voice which some strong-lunged men are said to have evinced, causing their Stentorian voices to be heard a mile off or more, and thus moving many tons weight of air.

Exhalation is performed with this superior facility, by the greater number of muscles which are called into action during its performance, than during inhalation, and because the muscular fabric of the lungs, like that of all other muscles, whether *saccular* or consisting of one continuous mass, acts with more power during contraction, than expansion. Some may consider it strange, that I should thus attribute inherent muscular powers to the lungs ; but I think it highly probable, and would gladly state my reasons, did my space permit me to do so.

The rationale of speech during inspiration, will perhaps be a little better understood by those who have not previously considered it, by referring them to the process of playing on the little musical instrument called the jews-harp or trump,

which may be equally well played, by subjecting it to the influence of a current of air, either from the exterior or the interior of the mouth, so that the musician can continue his amusement with little intermission or fatigue; which has made this instrument, or others on a similar principle, great favourites with the lower classes of all nations. Reeds, in like manner, may be sounded either ways, and the numerous little musical instruments which children form from hollow herbs; in fact, the *chordæ tendinæ* or tendinous chords of the larynx themselves, are upon the principle of a double reed, nor does this invalidate the opinion of those who think the larynx itself possesses the powers of a flute.

I shall now proceed to the consideration of the circumstances which first led me to think deeply on the subject of this treatise.

Being in the city of New York, in the latter end of the year 1826, I was given to understand that a Mrs. Leigh of that city, was in possession of means, which she exercised with success, for the removal of stuttering or stammering. I did

not pay at first, nor would I subsequently have paid much attention to this piece of information (as I should have merely noticed it as a new instance of charlatanism), but it was also accompanied with the assurance, that Mrs. Leigh had obtained from several of the medical gentlemen of New York, (men incapable of lending their names wilfully to shield an imposture) certificates declaring their belief in the truth of her allegations; they were also, I was told, admitted into her confidence, after a solemn assurance on their parts, that they would not betray it. Hence they became, without the possibility of failure, competent judges of her method of proceeding, and of the results. In this indeed, they could not be mistaken; they saw that the same means invariably produced the same results, and gave their testimony accordingly, in favour of Mrs. Leigh's system.

I was much gratified at the receipt of this intelligence, as it gave me every reason to believe that stammering, which I had hitherto believed incurable, was by no means so, but quite the reverse; at the same time, I was grieved to think

that a discovery of so much importance to mankind, should be exercised only for the benefit of those few, whose time and fortune permitted their having access to Mrs. Leigh's services.

This account, indeed, greatly excited my curiosity as to the means by which an affliction so grievous, and hitherto irremediable, could be removed or alleviated; but, unless by the exercise of whatever intellectual sagacity I possessed, I saw no means of arriving at the knowledge I was in quest of, so as to be able to communicate it. My regret at this, however, was much abated, when I considered that what another had done, I might possibly do likewise.

No medical work, so far as I knew, or now know, contained the least satisfactory information on the subject, and all the means which I had ever heard proposed or read of, were equally ineffectual and useless. This ignorance I considered, and truly, as an opprobrium medicorum,—a disgrace to the science of medicine and its professors, and I earnestly desired to become the instrument of removing it.

I may indeed say, that a great portion of my time was subsequently employed in pondering on this subject, until I had arrived at the acmè of my desires; and when I considered the many thousands of those who now are, and in past times have been subjected to a malady, but one remove from dumbness, and thus for ever severed from the pleasures of eloquence, and the delights of oral communication with their fellow-creatures, it added, if possible, a fresh stimulus to my exertions.

The thought, that I might arrive at a satisfactory result, through the medium of my own exertion, was a great source of comfort to me; and I determined to proceed in the investigation, until I should have arrived, if able to accomplish it, at a satisfactory result.

It occurred to me, that the best way to begin, would be to consider the nature of the disease, and if possible, to unravel the process of its action. This I did, with the desired result; and to my satisfaction, found that the cause hitherto so inscrutable, was one not only easy to

be understood, but capable of being annihilated with the utmost facility, in a short time, by any one, who was with myself aware of the secret.

My delight at the discovery, though great, was certainly not to be compared with my astonishment, from its extreme simplicity, at its not having been sooner made.

I began my investigation with the supposition, that stammering was in general a vicious habit of speech, whose origin and real nature remained to be yet discovered. I commenced with calling to mind the mode of utterance attempted by stammerers; and I repeated to myself, with all the correctness with which my imagination was capable, the procedure which stammerers employ when speaking or about to speak. By the practice and consideration of those means, it suddenly occurred to me, that stuttering was such as I have already informed the reader, *an attempt to speak when the lungs are in a state of collapse*. But still it seemed so wonderfully simple, that although I could trace no fallacy in my deductions, I resolved not to be satisfied, until I had put them

to the test of experiment. This it was not in my power to accomplish; the remains of the passing year, and part of the next, being occupied by two successive tours in the United States; during which, the reason will be obvious why I did not choose to communicate my process to any second person by word or letter. Returning at length to Europe, in the latter end of the year 1827, I essayed the truth of my theory on more than one individual,—when my experiments were crowned with perfect success. From that time to the present, circumstances did not permit me to lay the results of my discovery before the public; but having now commenced this essay, I shall hasten to the conclusion as fast as a due attention to the subject will permit.

It is somewhat difficult to point out the circumstances under which stammering takes place; I mean, the reason why a person should attempt to speak without passing a current of air either to or fro, through the air passages, this being what must occur in every case of the kind. Indeed, after what I have before said, it may be

imagined by some, that stammering may take place, without any regard to the quantity of air in the lungs, if the person attempt to speak without passing it through the bronchial passages ; but after a careful consideration of the subject, it appears to me much more probable, that it is only as I have first stated. But even supposing that this were also possible, it does not affect the conclusions to be drawn with respect to the mode of cure. But to return, I am of opinion, that stammering (its cause, which I have before mentioned, being understood), is produced in most cases by accident, that is to say, by the action of some circumstance not always known, or constantly assignable. Were I, however, to mention any, as more constantly occurring than another, it would be the two following, to wit, *undue haste* and *imitation*.

We always find that stutterers when in a hurry are worse than at other times, and that many people only stutter on such occasions. *This arises from a want of accordance between the organs of voice and the organs of speech ; the latter being*

properly directed, while the former are either improperly directed, or not acted upon at all, the muscles of inspiration and expiration being in a kind of equipoise, each struggling for the mastery, and the will unable to direct either.

During this contention, as it were ; the pitiable convulsions, which stutterers are liable to, take place in all the muscles of respiration — the patient both in body and mind is greatly distressed — and a perspiration arising from the excess of his struggles, will frequently bedew the whole surface of his body. At length the muscular system being tired and wearied out, the patient ceases to exert himself, and he either *unwittingly* inhales a portion of his breath, as the case may be, and thus becomes able to ejaculate a word or sentence ; or is unable to do even this, and consequently remains dumb, with the exception of the *vowellic* utterance which I have before spoken of.

If this often occur, with the non-habitual stutterer, the evil habit begins to shew itself at those periods when he is *not* hurried, and probably becomes confirmed without the possibility of

relief by any efforts of mind, as the patient not knowing how to direct them, they only tend to aggravate his sufferings. This is perhaps of all others the most frequent primary cause, and will be equally the case, whether the haste be occasioned by the influence of love, hatred, fear or any other tumultuous passion, if indeed, these do not *aggravate* mere ordinary haste.

Stuttering which is contracted by mimicking, or by sympathising with those who are so unfortunate as to be affected with it, is frequent; but this cause is evidently not so common as the former, as indeed it is very possible for many stutterers never to have seen any person affected save themselves.

This mimicking, or sympathetic influence, is most common in children, though it is not rare in grown-up persons, as in the instance related by M. Desormeaux, of a distinguished individual in the republic of letters, living in his youth with one of his companions much affected with a stoppage of speech, becoming himself a confirmed stammerer from having at first merely imitated

his friend in jest; which unfortunate acquisition he retained for many years. This I have frequently witnessed myself in schools.

It may also be communicated by sympathy, from child to child, by that involuntary disposition which all human beings have to imitate the manners or habitudes of those with whom they are accustomed to associate. This being just as probable, and as well authenticated too, as those cases of children learning to squint or halt from others; or that very remarkable one related by the learned Boerhaave, of the spread of epilepsy in the hospital for children at Leyden. Hence, measures should be adopted in public schools, to prevent the *contagion* as it were, of stammering; but indeed, the means of cure which I have provided are so easy of execution, and so abundantly efficient, that were it not for the sake of saving trouble, it would be of little consequence whether the children contracted it or not.

As some writers have very wisely remarked, stuttering is not a congenital vice; and but seldom takes place until after the powers of speech are

fully matured,—that is to say, about seven or eight years of age. From this period to that of puberty, it may either go away from the cessation of the action of its causes ; remain stationary ; or, as is most commonly the case, become gradually worse until the period of manhood, when it frequently ceases from the person acquiring a greater energy of expiration, arising from his change of constitution, character, or situation in life. This, however, does not so very commonly take place, at least, as far as my observation extends, as has been asserted,—for we have only to look around us and see thousands of individuals, in the prime of life, inveterately affected. It is true, that in advanced age it fortunately decreases, from people generally taking upon them a greater emphasis of expression or expiration ; and from their conversation, when not affected by passion, being merely the expression of the recollection of past thoughts, and not new combinations of ideas ; hence, to say nothing of increased assumption of dignity, &c., their conversation is not embarrassed by rapidity of utterance or conception, and their

mind has little more to do than to direct the organs in the easiest manner of expressing its emotions. But, henceforward, no one will be forced to await the tedious coming of the period of declining years, for the cessation of so great a misfortune; and, unless it be his own fault, need hardly suffer even a very small portion of life to pass away before the administration of relief.

It is somewhat remarkable, that all the French writers who have touched upon this subject have asserted, that they have seldom seen an example of females affected with stuttering,—and one in particular, Monsieur Itard, affirms, that he never saw an instance of it in his life, nor does he even believe that they are subject to it!

Certes, it must be rarer, in this case, in France than in England; but I have, nevertheless, seen more than one instance of women who were stammerers, although I readily admit, that it is much rarer in them than in men; I do not, however, claim any originality in this remark. And here I may observe, that the French, in the fulness of that gallantry and devotion towards the fair sex,

for which they are so deservedly remarkable, have taken an opportunity of paying them an extraordinary compliment, by asserting that they are never subject to such a disgrace (I use their own expression). Some indeed admit, with a sort of reluctance however, that they have met, now and then in their lives, an instance of a lady subject to stammering.

The reasons, why females are less subject to the vicious habit of stuttering, are not a few. Their education is different from that of men. They think more, and at an earlier period, than men do. They are brought more into society and communion with their fellow women, and their minds are seldom perplexed by application to business or deep study; and indeed, from the peculiar aptitude of their organization, which seems expressly designed by their Creator, they in general converse with infinitely more ease than men do. Add to this, that from the nature of their lives and habits, not being distracted as men are by multitudinous occupations, they converse on a thousand things which men would not

think of doing. But there are many exceptions on both sides : there being men, whose volubility of utterance exceeds that of the generality of women ; and women, whose taciturnity of disposition is much greater than that of the generality of men. These exceptions, nevertheless, depend upon the education and disposition of the subjects ; and, I may here remark, that the mere mental distinctions between the sexes, seem to be every day gradually decreasing—which approximation may advance to a certain point, unquestionably, with advantage to both. As partly illustrating one of the preceding remarks, I may mention, that it is a subject of observation in France, that since the origin of theatrical exhibitions, there have been many more good actresses than actors.

With regard to stoppage of speech in men, M. Voisin, from whom the last observation is taken, affords me another amusing instance of a kind of pardonable egotism. He says, that in those persons in whom the habit is very slight, it adds a kind of inexpressible grace to their conversation,

which is at once both naive and attracting. M. Voisin has the misfortune of stammering himself, although he be a physician, and has written a pamphlet on the subject,—so he wisely alleviates his misfortune in that spirit which is so characteristic of his countrymen, and turns his mishap into a source of innocent and even laudable self-gratulation.

This disposition, however, is not very common in persons affected with stammering: cut off, as they are, for the most part, from a ready intellectual communication with their fellow-creatures, they become timid and reserved, and are with difficulty induced to utter their sentiments. And being subject to ridicule from thoughtless or unfeeling individuals, they not unfrequently become passionate, and apt to take offence. The force of gesture, however, with which they accompany their utterance, and with which they endeavour to supply their deficiency of speech, gives them the aspect of being affected with impatience and anger, when they are really not so. There is one advantage in their condition, as it obliges them

to concentrate their thoughts, and rely more upon their own powers of mind for comfort and entertainment, than on things without. Hence, they frequently acquire a great degree of acuteness and keenness in their powers of observation. I have more than once felt distressed, when accosting stutterers in the streets, or in society, to witness the violent agitation into which they throw themselves; the result of an amiable fear by which they are actuated, lest you should misinterpret their silence.

It is remarked by M. Itard, that he knew an instance, of a child of eleven years of age, who stuttered very much when in the presence of strangers, but who ceased to do so when not seen by them, or when he spoke to them in the dark. Here, it is very clear that the confusion of his mind was the reason why the child could not superintend the direction of his speech, and that the existing state of it had no immediate or *direct* influence, as the above gentleman supposes. The mode of cure, which was adopted with this child, that of keeping his eyes bandaged, failed.

As an instance of stoppage of speech, produced by an affection of the brain, occasioned by narcotics, the following relation by Sauvages, is curious. He mentions, that in the environs of Montpellier, some rogues, in order to effect their designs more readily and hinder discovery, caused their dupes to drink wine which was impregnated with the poisonous principles of the seeds of thorn-apple (*datura stramonium*) by macerating them in it. Not only, said he, did the victims fall into a state of drunken insensibility, but they remained for three or four days afterwards, unable to utter a word, or reply to any of the questions which were put to them. We have, indeed, abundance of stories recounted of the effects of sleeping draughts; but were not this related on such respectable authority, we might question the possibility of its occurrence. Confirmed opium-eaters, however, when under the influence of a large dose, the sedative action of the drug having commenced, from the indirect influence which it has in common with many other substances on the organs of voice and

speech through the brain, are unable to speak continuously, and are, occasionally, even dumb for the time being. All narcotics appear to share this property along with opium, more or less; and Galen affirms, that he has witnessed a case in which dumbness was the result of an opiate poured into the ear; but this is not probable, unless we admit, that the person was either previously drunk or tied down, so that he could make no resistance. As for doing it when the individual was asleep, I conceive it impossible to produce the effect, as the person (contrary to the opinion of Shakspeare, however) would instantly awake, and as naturally free himself from the annoyance, and the possibility of its consequences. Night-shade (*atropa belladonna*), henbane (*hyosciamus niger*), tobacco (*nicotiana tabacum*), foxglove (*digitalis purpurea*), nux vomica (*strychnos nux vomica*), hellebore (*veratrum album*), wolf's-bane (*aconitum napellus*), meadow narcissus (*narcissus pseudo-narcissus*), along with others too tedious to mention, are all powerful narcotics; and consequently, possess their pro-

perty of acting on the speech, when given in a sufficient dose. Many other substances, however, have this effect, although not narcotics, in a greater or less degree; of these, perhaps, it will be sufficient to mention camphor, musk, the turpentine, saffron, nitrous-oxide gas, carbonic-acid gas, nutmeg, prussic, or hydrocyanic acid, some kinds of poisonous fishes, gensing and kava. All spirituous, or, more properly speaking, alcoholic mixtures, of whatever kind, are of this nature, whether in the form of sparkling Champagne or muddy porter. The confirmed drunkard hesitates in his speech, not only when under the stupifying influence of his favourite liquors, but at other times, from the distracted and vacillating tenor of his thoughts. This is more especially observable in that terrible effect of drunkenness, *delirium tremens*, or shaking madness, wherein not only the functions of the mind are nearly destroyed, but almost every muscle in the body seems subject to intermittent convulsions. I shall never, indeed, forget an instance which I saw, of the effects of this complaint, in America, in the person of a

foreigner, the victim of his intemperate habits. He was a tall, stout young man, stretched on a pallet, every part of his body writhing in the agonies of pain, and was making vain and ineffectual efforts to speak. His sufferings were alleviated for the moment, by a dose of opium which I gave him; but such was his addiction to strong drink that, in the afternoon of the same day I had witnessed this, I saw him swallow three parts of a tumbler full of raw rye-whisky, which again occasioned a fresh attack of the disease. What afterwards became of him I know not: but these, alas! are only a very few, of the many ills arising from intoxication. In moderate quantities, and under certain circumstances, spirituous liquors may be made use of to advantage, at least without injury, notwithstanding they have been condemned by so many in the gross; but, like all other gifts of heaven, they are liable to abuse.

The suppression of any normal or abnormal customary evacuation, by determining an increased flow of blood towards the brain and spinal appendage, or by rendering the muscular struc-

ture over-turgid, will interrupt the regular supply of nervous energy, fluid, or whatever other name it may be designated by, to the muscles, and among others, to those which have the performance of speech for their function.

Monsieur Dubois informs us, that he had under his care a young woman, on account of dumbness and subsequent stuttering, produced by catching cold, when imprudently venturing to bathe at an improper period. In the course of two days, excessive head-ache and considerable fever ensued, which latter returned every day, preceded by a long shivering fit; one day when in the height of the attack, being tormented with a burning sensation in her throat, she drank a bottle of cold water. Almost immediately after, she found she could only stutter, and at the end of three days was no longer able to speak. From this to the time of entering M. Dubois' hospital, he does not specify the period however, she remained entirely dumb. This gentleman examined her with attention: he found her general health very good, there being no remains of the effects of her cold, except her dumbness. By a particular application of leeches

and the use of moxa, at different times, applied upon the shoulder and back part of the neck, she gradually recovered the powers of speech, in the course of fifteen or twenty days. M. Dubois remarks, that the first words she uttered were papa and mamma; and he further informs us, *en passant*, that when she put out her tongue, the impression of the molar and canine teeth, were to be seen on its edges. This case, it seems, M. Dubois would consider as one of the paralysis of the organs of articulation; that is to say, the tongue, lips, and cheeks, which he must mean, although he does not specify them; which he seems to infer in part, from the dumbness, and from the prints of the teeth on the tongue. But these I would attribute to the disuse of that organ; as it is plain that if it were paralysed, the patient would not have been able to thrust it out for inspection.

This opinion of M. Dubois, I saw also stated in other writers, but what I have said, is I think, a sufficient refutation of it; and although there possibly may be cases of dumbness, that is to say, absence of speech, though not of voice, arising from

lingual paralysis; yet I would consider this as one arising from that of the muscles which act upon the chordæ tendinæ, and the different parts of the larynx, which as I have said before, are in effect, the organs of *voice*,—those of *speech* being in the mouth and fauces. This latter opinion receives confirmation from M. Dubois also mentioning, that when his patient attempted to laugh, the sound was just the same, as a strong sibillation. So, in like manner, we may blow through the tubes of clarionets, flageolets, or hautboys, or the chanters of bag-pipes, if the reeds are not in order, without producing any sound. I may not perhaps be so clear in my illustrations as I could wish, as they infer some previous knowledge in the reader, of the mechanism of the human voice, and of wind-instruments, and which knowledge, if he do not possess it, he must seek in some physiological work; as a proper consideration of it, would take up the room which must be appropriated to other subjects. For the same reason, I have deprived myself of the pleasure of inserting many interesting observations on the other affections of speech, beside stuttering.

Monsieur Jadelot, physician to the sick childrens' hospital in Paris,* relates that he has cured by means of galvanism, aphonia or voicelessness, arising from paralysis of the tongue. As the particulars of the case are not given, I cannot criticise: but if paralysis of this kind existed, I do not see how the patient was to swallow his food; of course he might have been fed by means of a tube. These extraordinary cases, should always be given along with their symptoms, that one might judge whether the inferences bestowing the name were correct or not. A mere name is nothing, and is frequently as fallacious as a mere theory, as it has more the appearance of a fact; but it may be just as baseless, as they are neither of them facts, but merely supposed consequences from facts, depending for their correctness on the soundness of judgment of their authors. We might, indeed, suppose the co-existence of para-

* This is one of the very many benevolent institutions, with which the French capital is provided, and which are to be found in no other to the same extent. Certainly in some countries in which I have been, the public money might be nearly with as much benefit appropriated to purposes of this kind, as to those which it is actually applied to.

lysis of the organs of speech and voice, but factless suppositions are worse than useless.

But the reverse of stammering sometimes takes place, of which, though not exactly in point, I shall relate a very curious instance, as recorded by the venerable and respectable Doctor Portal.

In the year 1779, there was a woman, forty-three years of age, very thin, of a fiery and irritable temper, who came to this physician, in order to communicate a misfortune which had befallen her voice, which was such, that she was unable to make it obey the dictates of her will. She made several fruitless efforts for some minutes to exercise the power of speech; but when once she had commenced her monologue, she found it excessively difficult to hold her tongue, physically speaking. She often spoke and uttered the most extraordinary noises, without in the least wishing it; and almost always, when occupied with any idea, she found it impossible to refrain from expressing it viva-voce. But in this case, in place of those sounds, however monotonous, which are used in conversation, she uttered none but excessively discordant ones, passing from the

most acute to the most grave tones, with more or less volubility, often with continuous intermediate sound, which gave her voice at one time the resemblance of a dog barking, and at another of a wolf howling. In the village where she lived, they imagined that she was a sorceress; and whether from this belief, or from the circumstance of her uttering her customary sounds in the church, the vicar of the parish thought proper to forbid her the entrance. This poor creature, overwhelmed with affliction, came to consult Doctor Portal, to whom she could not at first address a single word. Some instants afterwards having made efforts to break silence, she commenced speaking, but in a manner so strange, raising and lowering her voice in so diversified and rapid a manner, that the sounds she produced were most discordant. During five or six days, which she remained at Paris, this physician saw enough to convince him, that she was in the full possession of her reason, and that she was guilty of no fraudulent deception. He judged that her malady was the result of a convulsive action of the muscles of speech and voice, and prescribed

the long-continued use of emollient draughts, baths, boluses, and anti-spasmodic potions. This treatment being rigorously pursued during several months, her voice became more regular, and ultimately recovered its pristine condition.

If the subject of the foregoing extraordinary case, had lived in the good old times, or even at the present day in some parts of England, which might be mentioned, she would have been considered as an undeniable instance of demoniacism, and if not burned or drowned, would have run eminent danger of being pricked to death by needles and pins, or otherwise lacerated in both mind and body.

As I before mentioned, the organs of speech are subject to a sympathy with many other diseased actions of the body, of the existence of which they are frequently an unerring index ; or to borrow the words of the celebrated Bichat, the organs of speech are under the influence of the same laws, in common with all the other parts which are endowed with animal life, and hence are subject to many varieties of vicious or diseased action, including stammering among the rest. In

primitive irritations of the brain or its membranes, or when those irritations are sympathetic of lesions of the other viscera, as in the affections hitherto denominated adynamic, and typhus fevers, &c., it is by means of the vocal organs that the patient discovers his delirium, and according as he either is taciturn or outrageous, he pronounces his words low and feebly, or with energy and violence;—a hesitation, or stammering, forewarning death, is frequently produced by these affections towards their close.

Apoplexy, catalepsy, epilepsy, paralysis, hysteria, tetanos, angina pectoris, aneurisms of the heart and great vessels, and hydrophobia, all produce more or less stammering; but unless when occasioned by the first disease mentioned, and one or two others, seldom continue long.

Acute inflammation of the stomach, especially of the cardiac portion, as well as of the other viscera; of the diaphragm, and its pleuritic investiture, frequently occasion stuttering, from the great aggravation of pain which is produced by the motion of the muscles actuating the organs of speech. We are also informed by some, that

the irritation determined by worms in the intestinal canal occasionally produces, not only stammering, but actual dumbness. But although in dysentery and puerperal fever, the voice becomes exceedingly low and plaintive, I never saw an instance of either of the above supervening. It may indeed happen, that the brain sympathizing with, and irritated by, derangement of the abdominal viscera, may produce symptomatic psellismus, or aggravate it, when previously existing as a vicious habit only.

Besides the above causes of sympathetic or symptomatic stuttering, there are others, such as child-bearing, &c., which I have not enumerated; but the affection is so little constant in these, at least idiopathically speaking, that I am more inclined to suppose it arising from some other concurring cause. It is very possible too, that I may have omitted some causes, which are occasionally occurring, but I am of opinion, that there can be very few.

Doctor Voisin is of opinion, that stuttering is more sensible in the morning, when awaking from sleep, than during the rest of the day; but

although he may have had personal experience of what he affirms, yet I do not see why it should be so, as the reasons which he offers, seem any thing but conclusive. I should think it much more probable, that the difference which he asserts, was more imaginary than any thing else ; but if not so, was peculiar to him : at least, among the many stammerers whom I have known, I never perceived any difference produced in the affection, by the time of the day ; and this I think will be pretty evident, upon considering the explanations which I have given.

It is a matter of common observation to every one, — the extreme comparative facility which stammerers find in singing, and, occasionally in rehearsing, — to which may be added in reciting. In these cases, a multitude of suppositions have been imagined, to account for the difference ; almost all of which are equally absurd. The only one that can be attended to, is that wherein it is stated, that the stutterer not being confused with the mental exercise of combining ideas and phrases, is able to repeat what he says from recollection, and, consequently, to apply his

almost undivided attention to his delivery. But the true and only reason is the following, and it is one which is a necessary consequence of the explanation that I have already given of the true nature of stuttering, and which it is almost superfluous that I should point out to the reader. It is, that during singing, stutterers, like other people, accumulate as much air as their lungs are capable of containing, before they commence; or, in other and plainer words, they expire their breath strongly during the whole time they are engaged in singing. Of this they are not sensible, neither are the wondering bystanders who behold them. In recitative this takes place, I conceive, in a less degree than during singing; and, in declamation, in a still less one than in recitative; this being the probable order of succession,—I say probable, for although singing comes first, yet my experience does not enable me to say with certainty, which of the other two takes the precedence, nor is it, indeed, of very much consequence to know. Of the existing explanations of this circumstance, I shall give one as a sample, that the reader may see how

baseless they are. The continual and peculiar care which stutterers employ to exercise the agents of articulation, facilitates the action of the latter, and diminishes stuttering, enabling them to compete in quickness with the cerebral irradiations; so that if the vehement and explosive passions, which lay hold of stammerers, momentarily cause their ailment to disappear, that is owing to the lively and unaccustomed shock which all the muscles receive from them, and, consequently, those of the tongue in particular, which puts them in a harmonious accordance with the condition of the affections of the soul. So women, who think rapidly, but who have also received from nature a pronunciation so quick and pliable, that they shew themselves capable of the greatest possible volubility of words, stutter, as is well known, but very rarely. But, indeed, when the primary affection is misunderstood, it would be difficult for any one to erect a plausible explanation of its consequences.

M. Voisin remarks, that if he can believe his own daily observations on himself, sudden vicissitudes of temperature augment stammering.

And furthermore he affirms, that, in a great number of instances, he was able to judge of approaching changes of weather by the embarrassment which he experienced in his pronunciation; and that, in almost every case, his predictions were justified by the event. I am, however, given to think, that his observations were more imaginary than real, for three reasons: first, from the habit people have of connecting things of importance with themselves, if possible; second, from the circumstance, that the weather never remains long in the same condition; and third, that it does not accord with the ordinary cause of the complaint; and, besides all this, he does not seem to make his assertion with confidence.

In depriving man, more or less, of the complete power of speech (to quote the expressions of Rullier), stuttering may, according to its degree of intensity, impede the developement of his faculties, paralyse his means, and deprive him of the majority of the advantages of social life; so, he rightly remarks, it becomes then of the utmost importance to employ every available means to combat it.

I shall now enter into a few observations on the erroneous opinions which have been emitted on the immediate cause of what I have designated by the name of stuttering, not so much in consideration of any worth they may possess, but for the sake of comparison with those which have been already announced and explained; and, considering that different writers, Rullier for instance, have admitted that idiopathic, or habitual stuttering is of the most frequent occurrence, by an immense majority of instances, and that the organs of stutterers, in the greatest degree, far from presenting any lesions of structure, are frequently remarkable for their perfect soundness and integrity of conformation, both of voice and speech. And the same writer, as an argument against the supposition of sympathetic stuttering being the most frequent, remarks, that as the alleged causes are all physical, and necessarily acting essentially in one invariable and mechanical manner, they are not alone sufficient to give a satisfactory reason of the continual series of varieties exhibited in the phenomena of stuttering, according to the age, sex, and especially

to the majority of the existing moral affections. He then goes on to ask, what are the true causes of stuttering—such as form the character of this affection, and which may naturally explain its different phenomena? and afterwards remarks as follows:—

“ In remounting to the formation of speech and voice, in the physiological state, let us recall to mind, that the latter, placed under the immediate and necessary influence of the brain, finds its source in the irradiation emanating from this centre, and transmitted by the cerebral nerves to the muscles, of which the voluntary motions, so varied and diversified, concur; whether it be in producing primitive voice in the larynx,—whether it be in the ulterior modifications, which transform by the aid of articulation in the different parts of the mouth, voice into speech: so, in this series of actions necessary to the formation of language, which of them is it to which we must attribute the vice constituting stuttering?

The majority of authors have had recourse, for explanation, to a state of debility, or weakness in

the action of the muscles employed in articulation, and notably in those of the tongue. Sauvages, in placing stuttering among the *dyscinesiaë*, seems to have embraced this opinion. M. Itard, who seems equally to have adopted it, believes that it is also confirmed by the analogy which appears to him to exist between true stuttering, and that species of hesitation which is observed during intoxication, or the precursory symptoms of apoplexy, affections that very evidently diminish muscular force. But how reconcile this idea with the extreme facility with which stutters execute all possible motions with their tongue and lips? How make it square with that convulsive, or spasmodic-like condition, which is presented in stuttering by all the organs of the voice, a character which does not permit us to approximate this affection with asthenic stuttering, a symptom of ebriety or cerebral congestion? Finally, let us further add, that what we know of the average influence of advanced age; which, while it very sensibly lessens the energy of muscular action, does not the less, in most cases, procure the spontaneous cure of stut-

tering, will hardly permit us to dwell further on the idea which we combat.

Doctor Rullier having thus successfully combated the idea of supposing, that stammering was a consequence of weakened muscular action, proceeds to embody his own explanation; to which we would now particularly call the attention of the reader.

Others, in favour of whose opinions *we range ourselves* (it is Dr. R. who speaks), refer the cause of stuttering to a higher source, and place it not in the vocal muscles,—not in the nerves which animate them,—but even in the brain itself. The reasons which support this idea are, that in the ordinary physiological state, the phenomena of voice and of speech are in a constant ratio (*rapport*) with the different degrees of cerebral excitation, and always correspond, as to their precision and facility, with the energy of the sentiments, and the lucidness of the ideas. We know, with regard to this subject, that the more or less existence of cerebral excitation has upon our language an influence so marked, that our ready words either gush, as out of a plenteous

source ; or, dragging themselves along with slowness and difficulty, fully attest the labour which they cost the understanding. Now, what we have already said, on the analogous and marked influence of the different affections of the soul, sedative or the contrary, from the nervo-cerebral centre, as fear, timidity, confidence, anger, impatience, &c., upon the phenomena of stuttering, prove, that the latter flows from the same source ; and should henceforth be referred to some modification of cerebral action. But in what does this modification consist ? Without pretending to explain it, perhaps we may hazard the following conjecture. In the stutterer, the cerebral irradiation which follows thought, and becomes the principle for putting in action the muscles necessary for the oral expression of ideas, *rushes forth with such impetuosity, and reproduces itself with such rapidity, that it oversteps the measure of mobility possessed by the agents of articulation.* Henceforth, the latter, suffocated as it were by this accumulation of the ordinary exciting cause of their motions, fall into that state of spasmodic immobility and of convulsive shocks, which cha-

racterises stammering, and which have been already noted in the exposition of the phenomena of this affection. According to this conjecture, hesitation of the tongue can be only a debility, purely relative, of the organs of articulation, resulting from a defect of the relation established between the exuberance of thought, the concomitant quickness of the cerebral irradiation which corresponds with them, and the possible quickness of the successive and varied motions, capable of expressing ideas by speech. We shall observe, besides, as serving to substantiate the hypothesis which we present, that the majority of stutterers are remarkable for the vivacity of their understanding, and the petulance of their character; that, as advancing age by degrees blunts the spur of their imagination, and ripens their intellect; they cease to stutter; and that their stuttering singularly diminishes, or altogether vanishes when the patient, freed from the cost of thought, makes a simple appeal to his memory, of which the fidelity serves him in the recitation of a discourse, of a song which he adapts to music, or of verses which he declaims; that the incessant

care which stutterers take in exercising the organs of speech, diminishes their malady, and facilitates the action of their organs, enabling them *to put their quickness in equilibrium*, with that of the *cerebral irradiation*, &c.

I imagine, I have given enough of this ; but so much I was obliged to give, in order to afford a clear idea of the theories hitherto, and still held by most, on the subject of habitual stammering ; and which I thought it best to do in the words of a partizan ; at least, I have translated them with the greatest degree of force and precision, of which I was master ; and in such terms, as the author would probably have used, if writing in the English language.

When the reader has informed himself of the true theory, which I have so often explained, he will be able to refute the preceding observations himself ; but they are nevertheless such as the greatest men in the medical profession have been in the habit of entertaining until the present day ; at least, those among them, who have taken the trouble of thinking and expressing their ideas on the subject. But, even independent of their

incompatibility, the accompanying theory is in itself, logically incorrect; as it assumes, without even the shadow of a proof, that the volitions of the will, or what the author phrases the *cerebral irradiations*, rush forth with such impetuosity (*jaillit avec une telle impétuosité*), that like fleet horses in the chase, they leave all the unfortunate muscles far, far behind. But when age reduces their speed, and increases that of their discomfited antagonists, they are reined in a little, and then the irradiations, and the muscles jog on sociably together, to the end of the chapter.

I shall now turn my attention to the means which are to be made use of in the cure of stammering; which part, although the most interesting and useful of my undertaking, could not be entered into, until I had given a preliminary notice of the exact nature of stammering, distinguishing it from other affections with which it has hitherto been confounded. And not only this, but also shewn the exact source of its origin; and pointed out the fallacy of all the explanations which have been offered, up to the present day. Of course, I am to be understood, as speaking of

habitual psellismus; and not of those comparatively rare varieties, which are at once the consequence, and the index of different organic lesions.

As to the treatment of psellismus, arising from these sources, I must inform the reader, that he must have recourse to the consideration of the diseases themselves; and that it would be in vain to address himself to the cure of the symptoms alone. The discussion of these, however, in this tract, would be quite out of place; as any one, desirous of information on the subject, may obtain it from any of the many elementary works on the practice of medicine; and, as I have nothing new to advance on this head, I shall at once pass on to the means of cure, which a knowledge of the true nature of psellismus has enabled me to provide; contrasting them, however, with the abortive ones, which have at different times been promulgated, and of which I shall give a short but necessary exposition. These latter, however, are as discordant in their nature, and so various and contradictory to each other, that it is difficult to know which to begin with.

When stuttering is the result of any form of mental action, such as fear, anger, joy, surprise, excessive timidity, or respect; it may happen to any one; and, in fact, I believe, that there are few persons who have not repeatedly, in the course of life, experienced it from some one of these sources; which act, from so confusing the mind as to disenable it, more or less, from executing those volitions necessary to actuate the muscles of respiration, voice and speech. But this, as I have said before, is not alone the case with these muscles; for any action of which they are capable, in any part of the body, may be for a time suspended from the influence of the same causes.

When stammering, begotten in this way, is only occasional, it is of little consequence; but when the mind of the individual is so constituted as to be easily acted upon, so as to produce that condition of it which occasions stammering, it becomes a great evil. The immediate cause of stammering in this case is, however, just the same as when it is in the habitual form; the patient does not expire his breath, or inhale air,

for that purpose ; he does not produce voice, nor does he articulate words. But stammering, in this case, not having become a habit, we must consider it merely as symptomatic, or indicative of the particular frame of mind of the individual affected.

In this case, then, as when it is symptomatic of organic lesion, it would be fruitless to give up our attention to the mere affection alone ; which would be just as absurd as, when instructing a musical tyro, to give up our care to the position of the hand alone, when the mind was ignorant of the art ; but, in the case of habitual stammering, the habit may be likened to that of a skilful musician attempting to play on a violin (nothing sensible of his error), without using his bow. This is obviously absurd and impossible ; but I merely desire the reader to imagine it, in order to conceive more readily the difference which I wish to express. The cure, in this instance, will fall within the province of the moralist, the rhetorician, or the metaphysician, as the case may be,—remembering, while removing the cause, to prevent the growth of mere habitual stammering, although at first only symptomatic.

It would be an easy matter to enter into a long disquisition on the ways in which stammering, produced from the above cause, presents itself. Sometimes the orator, in the midst of his discourse, is stopped for want of matter ; or the divine in the pulpit, by some difficulty in his subject, which he had overlooked in the composition of his sermon. In these cases, the parties, 'if inexperienced, begin to stammer, sometimes by way of gaining time,—to think where to strike, as the smith who beats the anvil, and sometimes involuntarily. But experienced craftsmen seldom fall into such predicaments, as these have generally a number of hacknied, meaningless phrases, which they have always at hand, and which serve to fill up the measure of their discourse.

It would be difficult to give any general rules on this subject, as each must be fitted to the particular case in which it is required ; but, to the orator, practice, and above all things a thorough acquaintance with, and lucidness of order in, his subject, together with a perfect knowledge of the language in which he speaks, will enable him to execute all his purposes without stammering ;

and, as to cases of every-day life, the conviction of the utter nothingness and futility of all human distinctions, save intellectual ones, and the possession of moral integrity, self-possession, and stedfastness of purpose, will, the influence of some passions apart, which must, I think, always more or less affect the human soul, enable every man, in whatever situation of life he may be placed, to avail himself of all the uses to which language may be applied with facility.

According to some, as Timeus, we are informed, that stuttering may be cured through the operation or intervention of certain diseases; and he is of opinion, that a child, twelve years of age, ceases to present any impediment in his speech if he have experienced a quotidean fever. But it is hardly necessary for me to observe, that although the cessation of both may be co-existent, there is no necessary connexion between the cure of the disease and its alleged cause.

Having now mentioned the means to be had recourse to, for the removal of psellismus, whether symptomatic of organic, or structural lesion of any part of the body, or the temporary conse-

quence of any passion, either by pointing them out myself, or referring the reader to the necessary source of information ; I shall proceed to instance the different methods which have hitherto been considered available in the treatment of habitual psellismus ; and next, the only true and successful one, which is the result of my knowledge of its real nature and cause.

The Demosthenic method seems, of all others, to have been the greatest favourite with mankind, since the time of the celebrated orator, from whom it has its name ; so fascinating is the sanction of great authorities, that this method has been advised by writers and practitioners in almost every form of impediment of speech, whether resembling or not, any one of the different ways in which Demosthenes is supposed, by different authors, to have been affected. We are told by his biographer, that in order to remove the weakness, or stammering of his voice, he spoke with pebbles in his mouth, and corrected the distortion of his features by looking in a mirror. To these means, he added the practice of running up the steep sides of hills, or of declaiming by the shores of

the sea, when its waters were agitated by tempests. The latter means would certainly augment his powers of respiration; but would have no more effect in removing stuttering than the absurd methods previously mentioned. If, indeed, it so happened, that he was affected with habitual stammering, which is not clearly stated by his biographer, I would attribute his cure to a mere accidental reversal of the cause. It is true, we are informed, that Demosthenes took lessons in recitation from Satyrus, a Grecian comedian, of considerable eminence. If then, as at the present day (and it seems highly probable), the verses of the different comic and tragic writers were uttered with strong expirations, I would at once attribute the cure performed, to these lessons of Satyrus, and not to the methods said to be practised by Demosthenes himself. How could they, in fact, produce any such consequence, as they were not at all calculated to strike at the root of the evil. But a cure, written in Greek, must, of necessity, be superior to one mentioned in any other language, especially when it had been used by a Demosthenes. So people ever

since, without once doubting whether Plutarch's statement were correct or not, have attributed such practices to Demosthenes, and such consequences as a necessary result, without ever stopping to inquire, whether the circumstances alleged might not have been merely co-existent, in place of being a cause or consequence one of another. Several writers, and among others, Rullier, and Itard, and Voisin, already quoted, recommend these very rational means (*ces moyens tres rationels*), heretofore used by Demosthenes, to be put in practice at the present day. And the latter says, he can recommend them from his own experience, although he does not go so far as to say that they cured him. In fact, says he, we may very easily conceive all the advantages to be derived from these singular means (*i. e.* the practice of speaking with pebbles in the mouth). The pebbles filling the buccal cavity add a new obstacle to the pronunciation, opposing themselves, as mechanical bodies, to the free motions of the organs of speech, and, consequently, occasion much more considerable efforts than if the patient had only to struggle against a natural impediment.

These prodigious efforts, resulting from a lively cerebral excitation and firm resolution, terminate, by causing the muscles of these parts to acquire a strength superior to what less violent exercises would have given them.

The mere statement of the preceding will, I think, satisfy the reader, without attempting a formal refutation of what indeed conveys no definite meaning.

But this is not all; the pebbles being found rather troublesome to use (the patients occasionally swallowing them I suppose), M. Itard, with laudable sagacity, and the greatest ingenuity, invented an instrument combining all their good effects without their drawbacks; consisting of a kind of gold or platina fork, about an inch in length, placed in the concave centre of a flat short stalk, of the same metal, and applied by its convex surface to the cavity of the alveolar arch of the lower jaw. This fork, placed horizontally, close to the *frœnum linguæ*, receives it in its bifurcation, and supports itself by the extremities of its two branches, each terminated by a small button, upon the inferior surface of the tongue,

in the retiring angle, which it forms with the superior parietes of the mouth.

The effect of this instrument, says M. Itard, is to give to the voice the obscure and confused sound, which it has in persons in whom the roof of the palate has been divided by any cause. It renders the articulation of sounds difficult; and M. Itard says, prevents them from being repeated. Furthermore, says he, in order that it may produce all the good effects which we may expect, it must be kept constantly in its place, and only removed during meal-times and sleep, and the patient must not speak without it.

M. Itard informs us, that he, by this means, with the addition of medicated gargles, performed *two cures*; during which, one of the subjects used this instrument for a *year and a half*, towards the conclusion of which period, he did not even remove it to eat; and in the other case, the habit of stuttering was considerably diminished, after eight months only. I would not recommend this method.

But, although an instrument of this kind would be useless in curing stammering, I may inform the

reader, that it might be employed with advantage in those cases of dumbness which arise from the want of the tongue, as it would afford a point of support for the stump, enabling it to articulate ; and thus in some measure, supply its want of contiguity with the teeth and roof of the mouth. The first application of this kind, has been described by the celebrated Ambroise Paré, in his interesting works.

M. Itard also tells us, that by means of a method much practised, that of confiding two children, who stuttered, to the care of a governess, who spoke a different language, he succeeded in removing the habit. The success in this case, from the means employed at least, appears to have been as equivocal as in the former ; for we are not told how long the children were under cure, or whether advancing age had not some share in the change. But, although stammering might accidentally cease while learning to speak a new language, there is no necessary reason why it should do so ; but even supposing for an instant that this plan *were* efficacious, it would be almost always a very inconvenient one.

M. Rullier, recommends the burning of moxa on the integuments, covering the os hyodes and the larynx, as a good auxiliary in curing stuttering. He might just as well recommend it in the case of a person learning a foreign language, or any thing else, in which the organs of speech are concerned.

Others recommend perpetual silence, at least for a year, upon the principle, no doubt, that the child would in that time forget how to speak, and thus have a chance, when learning again, to articulate without impediment. This method, however, is at once absurd, cruel, and impracticable, I need therefore dwell no longer on it.

Another and more recent method has been recommended, which I have not as yet spoken of, namely, making the stutterer close his teeth, whenever he attempts to speak. This, I suppose, was promulgated, merely because that being new, it must be in possession of some efficacy. The author, whoever he was, for his name is not on record, deserves some credit for his ingenuity in imagining a new means at all, when so many were previously in existence; but this I believe is

the only merit which can be awarded to him; since, with regard to the cure of the disease under consideration, his plan can be of no manner of use.

Having now gone through a statement of all the methods of cure, which have at any time been proposed, I shall next proceed to those which a correct knowledge of the disease, its nature and cause, enables me to point out with unerring certainty. And I have the satisfaction of assuring the reader, that habitual stuttering, however severe and inveterate its form may be, will invariably yield to his efforts, in a greater or less space of time, if he employ with constancy the means which I shall dictate. It would, no doubt, be very desirable, that some mode of cure could be devised, whereby the patient might get rid of his malady, while he himself remained passive the while; but it will be evident to him, after a careful perusal of the foregoing pages, that he can expect the operation of no magical or mysterious agency in his favour, as the quickness of the cure must depend solely upon the earnestness of his own exertions.

The majority of individuals who are affected with stammering, will, I dare say, be but too happy to have any clew afforded them by which they can, to a certainty, cure themselves; but doubtless, among them there will be found some who will be dissatisfied with the simplicity of the mode. By these, a charm, a hidden nostrum of some kind, or a long journey to the residence of some wonder-working wizard, would probably be preferred; but I can only tell them, that if they do not value the acquisition at the price at which it is offered, they must even be contented to remain as they are.

If the person, who is affected, be very young, he will need another to direct him and superintend the process; but, if not, the help of no second individual will be requisite. The main thing to be attended to, and which, in fact, is the ground-work of the whole system of cure, is, to expire the breath strongly each time when attempting to speak, the lungs being previously filled to the utmost, or, in other words, to reverse the habit of stuttering, which is that of trying to speak without expiring any air.

I shall suppose the patient to be an adult, and desirous of curing himself; in this case, let him attend to the following directions. As it will be some time before he can husband the air of his expirations, so as to say all he would wish in one breath, he must not commence by repeating sentences during each exhalation, but only simple monosyllabic sounds of any kind, no matter in what language. This must however be prefaced by the practice of respiration, or that of drawing long breaths, and then expelling them again; but this need only be done, when the patient stutters very badly, and when we would wish to make him acquire a continuous habit of respiration with force and ease. The practice of this may also precede each lesson in speaking, which the patient prescribes to himself; and with the latter, should be continued as long as the organs can bear it, without fatigue. During the intervals, conversation of any kind should be sedulously shunned, until the cure is somewhat advanced.

The person having practised respiration for some time (and he need not attempt it, unless when very badly affected), will then proceed to utter

the different vowels, drawing in his breath each time, before he attempts to begin, and then prolonging the utterance of the one vowel, during the whole time of the expiration, or while breathing out the air contained in his lungs, which must be done with force, slowness, and equability, and not in fits and starts, or by jerks. This effected, taking care to exhaust the lungs completely, during the expiration, (I speak comparatively) he is again to draw in his breath in an equable manner, and then expire the name of another vowel in the manner which has been just described—say, in the order of *a, e, i, o, u*. This is again and again to be repeated, until the patient is able to utter them with ease and distinctness, one by one, during each expiration. If however, he tire, owing to weak lungs, or any other cause, he will re-commence his exercise, when sufficiently rested, or at the next interval of leisure, until able to repeat all the vowels perfectly, and in the manner mentioned. This done, he will again draw in his breath as before, and instead of uttering one vowel, he will utter two (as *a e*), during each expiration, sharing the time

equally between each. Having done this sufficiently often, to be able to repeat the vowels two by two, with facility and ease, he will then try them three by three (as *a-e-o*), then four by four (as *a-e-i-o*), and five by five (as *a-e-i-o-u*), in the same manner, always taking care not to proceed on to the next step, until he has perfected himself in the first.

The patient, being now able to utter the five vowels, in as many consecutive expirations, or consecutively in the same expiration, will be in a condition to proceed a step further on. But before he attempts to do so, he must assure himself that he is perfect in his exercise, nor let impatience or laziness prompt him to its deficient performance; for he must consider himself in the light of a child learning to speak, in order that he may the more effectually reverse his evil habit; for even in the most confirmed stutterers, it is nothing more. Let the stutterer act in this case as he would in any of the other concerns of life—having committed a false procedure; namely, begin again and endeavour to do better. The slightest examination will convince him, that his organs

are the same as those of other men, and therefore designed for the same purposes ; the more especially, as he may perceive from what I have said, that the evil does not rest in their structure, but in their discordance of action with regard to each other.

The stutrer may now proceed to the enumeration of the different consonants, or what is better, the repetition of the alphabet at large, using the same precautions as he did before with the vowels, namely, drawing in his breath each time to the uttermost, and expiring the word or name denoting the consonant ; *b*, for instance ;—taking care to repeat it again and again until he is able to enunciate it perfectly, before proceeding to the next letter. In this way, the whole alphabet is to be gone over repeatedly, until the patient can pronounce the name of each letter in a plain and articulate matter. He may then try them two by two in a breath ; then three by three, increasing the number at intervals, until he is able to repeat the whole alphabet in one expiration. This, however, is not necessary ; and the patient may limit the number to as many as he can readily utter during

one expiration, without straining. There it will again be necessary to observe, that the stammerer must be careful to complete each clause of the method, before he proceeds to the next, as upon the perfection with which he accomplishes the subordinate parts, must depend the progress which he will make in a given time. A strict attention to this is the more necessary, as a partial neglect would only subject the essayer to a subsequent disappointment, and consequently a re-commencement of the whole process. It might also have a still worse effect, namely, that of weakening his faith in the method here proposed, which is the *only* possible means by which he can attain the fulfilment of his desires. Thus, patience and unwearying industry must be constantly employed until the desired change of habit is affected, be the time long or short.

It may happen, that the patient is ignorant of the method of constructing the sounds denoting the names of more or less of the consonants; this, however, is a defect totally unconnected with stuttering,—but as this ignorance may aggravate this affection, and retard its removal, I shall give

a few observations on the subject of the formation of letters; premising, that any mistakes which I may commit in doing so, arise from my not having turned my attention, in a special manner, to the mechanism of utterance: but, it is a thing which is so abundantly well-known in general, and so copiously treated of in the elementary works on rhetoric or elocution, that any error will be very immaterial; indeed, I would not attempt the subject at all, but that I presume some information of the kind would be acceptable; and that it may, perhaps, save the reader the expense and trouble of seeking for it elsewhere. The stuttrer will, however, do well to make his trials in the presence of some intelligent person, from whose example he will generally learn sooner than he will from any isolated directions, however minute; recollecting all the while, when he has achieved the method of putting the organs into the proper position for uttering the first consonant, *to expire his breath with force*. In this way the air, leaving the lungs, will, in its passage through the trachea and larynx, receive, or be endowed, with the im-

press or modulation, constituting voice, of whatever tone ; which voice will afterwards, by the action of the organs of speech on it, namely, the curtain of the palate*, the palate itself, the tongue, the teeth, the lips and the nose, be so changed as to become speech, as in the instance of a given consonant. In the mean time, let the reader recollect, that speech and voice are nothing more than the result of certain impulses, communicated to a current of air, passing through the throat and mouth. If it be acted upon by the organs in the throat alone, it is voice ; and if by those in the mouth also, it becomes speech, whether it be evinced in the form of a single letter, or a sentence. But there are some sounds, such as the interjection O, and, indeed, the rest of the vowels, which, when the lips and tongue are put in the requisite position, previously, for each, and voice uttered, do not require any motion in the organs of speech to accomplish them during the transition of the voice. This, then, is the great distinction between consonantal and vowellic utterance ; the latter, individually require no

* Also called, the soft palate.

motion or change in the relative positions of the organs of speech, during the utterance of voice, whilst the consonants do,—and why? because the consonants are the characters which serve as the signs of the different modes of pronouncing the vowels.

Before I proceed farther I should mention, that I have stated, in the course of the preceding pages, that speech cannot take place without voice, which position I shall here modify. In whispering, voice is not uttered, as the air, in pressing through the windpipe, receives no impression from the organs there; but then it is acted upon by the organs of speech. It would have been more correct to have said, speech, independent of whispering, cannot be performed without voice.

Before I commence to point out the method of forming the different letters, I may state, that my observations will principally apply to the sounds used in the English language. It will, however, be very easy for those who have an inclination to do so, to enlarge or modify them so as to suit any other.

All the different possible manifestations of language, as Messrs. Fournier Pescay, and Begin, have well observed, only consist in the numerous changes or modifications which we cause the five fundamental sounds or vowels to undergo; but in my opinion, the vowels might be reduced to one radical *a* or *o*, which forms the basis, and the origin, of those sounds, of which the assemblage is called language. So that in truth, there is but one vowel, *a*, parting from which all vowels and consonants originate. The number of variations of this elementary sound, are different in different languages, and in the same languages at different times. The English language admits five, or as some assert, six vowels; the French five, although the Port-Royal grammarians, and some of the writers in the French Encyclopædia, endeavoured, but without success, to increase the number, in the first instance to ten, and in the last to eight. Duclos went even farther, augmenting the number to seventeen. The Greek language contains seven vowels; and the Romans, as Martial informs us, when they adopted them, reduced the number, in the first instance, to six,

and then to five. But in truth the enumeration might be increased, as Rousseau observes, *ad infinitum*, (or rather the number of signs, for very many more vowels do exist, than are actually provided with them), if all the shades of difference were accommodated with a separate character. In the French language, the several powers of each vowel, are marked by an accent, or by uniting it with another, so as to form a diphthong ; or to two, as in a triphthong ; but in English, no accents are made use of, and the diphthongs are very imperfect, so that a foreigner is greatly embarrassed in learning our language. The Germans arrive at the same end, by placing an *e*, over an *a*, *o*, or *u*.

The utterance of the vowels were the first and easiest step which man took towards the acquisition of language, and he was prompted to this, in my opinion, by the sudden occurrence of sensations of either pleasure or pain ; hence the origin of interjections, which are preserved in nearly the same original form, in all languages. The articulation of consonants came afterwards ; and as their utterance, like the product of complicated

muscular action, in any other part of the body, resulted but by slow degrees, and with the progress of the mind itself, as a combined consequence of the powers of reasoning, reflection and art; it is only in states of comparatively advanced society, that we see their enunciation brought to a great degree of perfection. Hence, as a consequence of this general rule, the languages of most savage nations are remarkably liquid and musical. This I have found to be eminently the case, in the many different languages which I have had an opportunity of hearing spoken by the aborigines of America and Africa; and a long list of voyagers and travellers have added their testimony to the truth of this fact. Indeed, I can fancy that I now hear the Crewmen, natives of the western coast of the latter continent, sounding in my ears their widdy-widdy-o, crickery-crickery-o, adjeo-adjeo, with a volubility and vivacity of utterance not easily imagined unless heard.

From what I have said, it will at once be evident why I commence with shewing the manner of producing the vowels, of which I shall take the

five most common, *a, e, i, o, u*. To begin, the first of these vowels, or rather voices, and which is the most common one in the French and Italian languages, and, probably, in most others, is produced by expiring the air from the lungs with a moderate degree of force, without altering the ordinary position of the tongue more than what is sufficient to render the anterior half of it somewhat hollow, and with whatever opening of the mouth, the degree of which, provided it be not less than enough, is immaterial. The *a* is the most guttural, if not, in fact, the only guttural one among the vowels. The *e*, which is said to be the most common sound in English, is produced by keeping the teeth and lips at the same distance as when uttering the *a*; but the point of the tongue is to be pressed upon the alveolar arch of the lower jaw, or against the bases of the teeth, while its anterior edges and surface, except that part close to the point, are to be inclined upwards, or towards the roof of the palate, so as to diminish the passage of the current of air out of the mouth. The *i* is produced precisely in the same way as the *e*, only the tongue is approx-

imated still closer to the vault of the palate, or roof of the mouth, which is the same thing. The letter *o* is produced much the same way as *a*, with this difference, that in *o* the point of the tongue is not so often pressed down to the roots of the incisor teeth of the lower jaw (this, indeed, may or may not be done when sounding either letter), and that the lips are pursed up and thrust forward, so as to present a kind of tube for the exit of the breath. *U* is produced by keeping the lips in the same position as when uttering *o*, but the volume of air passing through, is previously reduced, by pressing the tongue closer to the roof of the mouth, and by thrusting it forward, presenting much the same relation in this respect as between *a* and *e*. But in persons who are tongueless, or who do not use the organ in pronouncing *u*, the still further constriction of the lips would probably produce the same effect.

Some have imagined that, in uttering the vowels, a greater or less interval between the teeth was necessary for each ; but, that this is not the case may be easily proved, by placing any solid substance between the teeth, as the end of

a cane, when it will be found, that all the vowels may be uttered with the same facility as if it were not there.

Having thus explained the manner in which the mechanism for the utterance of the vowels is effected, it will be necessary to proceed, in a similar manner, with regard to the consonants.

These are divided into mutes or consonants, properly so called, and semi-vowels. The latter consist of *m*, *n*, *l*, and *r*, of which the two first are sometimes called nasal, and the two latter vocal. This distinction, however, is very imperfect, as it excludes *f*, *h*, *s*, and *x*, which are as much semi-vowels as those which have been first mentioned. Consonants are also divided into guttural, or those which are said to be formed by the action of the fauces and glottis, as *h*, *q*, *g*; labial, as *b*, *p*, *f*, *v*, *w*; dental, as *c*, *d*, *t*, *z*; and nasal, as *m*, and *n*. But the preceding division of consonants, like the other, is faulty, inasmuch as it assumes, from the epithets by which each class is distinguished, that certain parts only are employed in their respective formation, which is not the case; but these are useful so far as they

give a general idea of their particular origin. Of the two divisions, however, if we admit the proposed amendment of the first, it will be the better one. The semi-vowels, then, are those consonants in which certain of the vowels, while in the act of being uttered, are interrupted and modified in a certain manner by the organs of speech; the method of doing so differing with each. Of these, seven belong to the letter *e*, or are produced from it, as *f*, *l*, *m*, *n*, *s*, *x*, and but one from the letter *a*, or *r*. In the mutes, the mode of production is as it were reversed by a kind of impress effected by the vocal tube on the voice, at the instant it is produced, in a manner much more easy to imagine than describe. This class ranks the following consonants in its list, *b*, *c*, *d*, *g*, *k*, *p*, *q*, *t*, *v*; as for *y*, *z*, and *ſ*, they are not letters, properly speaking, but words represented by particular characters. The *y* having at one time the power of *i*, or *ee*; and at another, of the diphthong *io*. As for *z*, it arises from a particular power or enunciation of the *s*. Of these consonants, *b*, *c*, *d*, *g*, *p*, *t*, and *v*, belong to *e*; *k* to *a*, and *q* to *u*.

I shall now explain the production of the different consonants, whether semi-vowels or mutes ; beginning with the former.

M is produced by suddenly closing the lips during the utterance of the vowel *e*. It can be uttered a little clearer when the teeth are separated than when they are in close contact ; but the difference is not great, nor does any thing interposed between the lips prove an impediment, provided they touch it on either side. N is formed by interrupting the voice or vowel *e*, by the sudden and forcible application of the tongue against the fore part of the palate and the roots of the incisor teeth, the action of the lips or teeth not being required. These consonants are called *nasal*, because they reverberate or re-echo through the cavities left by the internals of the turbinated bones and cartilages of the nose, and also through the two antra of Highmore or malar sinuses. The articulation of *l* appears to be effected in much the same way as *n*, only, that the tongue seems to be applied in a larger mass, and its sides are more depressed. The *r* is pronounced by interrupting the sound of the vowel *a*, by bringing

the point of the tongue very near the roof of the mouth, still prolonging the sound ; at least, this is the way it is done in the English language, by the better informed classes ; but in the lower classes, to the north of England especially, and all over Ireland and Scotland, the *r* is articulated the same way as in all the continental languages I am acquainted with ; namely, by a more or less rapid and vibratory motion of the end of the tongue against the palate and front teeth. In London, however, all classes seem to have given up the use of this letter, by common consent, substituting a long *a* in its place ; thus helping to pervert and destroy the structure of the language by their absurd affectation. I should except the Stage, however, where the use of it is still fortunately retained. A Frenchman finds it very difficult, and frequently impossible, to give the *r* the soft English sound ; which difficulty is experienced in a still greater degree by an Italian, and in the greatest by a Spaniard or Portuguese, who give it, what appears to me, at least, an excessively harsh, rude sound.

F is produced by interrupting the passage of

the sound of *e*, by raising the lower lip to the upper, either quickly or slowly. The same vowel commences the consonant *h*, which is formed by permitting a very narrow passage of air over the tongue, then interrupting it suddenly by smacking the tongue with force against the roots of the incisor teeth and the front part of the palate. We form the *x* by an application of the whole upper surface of the tongue against the palate and basis of the incisors, and then immediately retiring it a very little; when, if the sound be continued, a sibilation or hissing is produced, which is represented by the letter *s*. *X*, however, is the representative of four letters, forming the word *ecks*.

To begin with the mutes,—*b* and *p*, which are labials, and the easiest and soonest pronounced of all the consonants, are produced by the discharge of air from the mouth, by suddenly opening the lips. In *b*, these organs appear to vibrate more. Hence, *papa* and *baba*, also *mamma*, are the first and sweetest sounds which little children utter; these consonants and vowels being the most easy of enunciation of all others. *C* is the reverse of *s*, the organs being placed in the same position;

the sound of the letter *s*, being suddenly interrupted, produces *c*. *V* is very nearly the reverse of *f*, and the difference is so very easy to imagine that it will not be necessary to dwell upon it. *D* very nearly resembles *z*, and I should be inclined to place the latter among the semi-vowels, and say, that *d* was the reverse of its termination, at least. This letter is, however, formed by suddenly detaching the tongue from the surface of the palate and incisor teeth, when ejaculating air. As for *k*, it is formed by suddenly depressing the tongue when at a certain distance from the palate, a little lower.

I have now described the mechanism of the production of all the letters of the alphabet, omitting only *w*, which is merely two *u*'s. They can all be uttered, as I have before observed, when drawing in the breath; but, produced in this manner, they have a hoarse and disagreeable sound. This indraft, as it were, of words or sounds, is used occasionally, as before stated, by the orator, to avoid a cessation of his discourse when inspiring air. Some have imagined, that this could be done by speaking with what air the

mouth would contain, and, in the meantime, inhaling by the nostrils, as is done while using the blowpipe, or a reed-furnished instrument. But the very terms of this proposition convey its refutation; for the current of air must go the same way, both past the organs of speech and voice, whether while speaking during inhalation or exhalation.

I am sorry to have been obliged to take up so much room with these details; but I did so, that in case the stut-terer were interrupted by any particular letter, he might be enabled to enunciate it by the means thus afforded. As for the stut-terer, however, to whom the utterance of all the consonants is an easy task, he may omit the preceding disquisitions, and at once proceed to the means, which I shall now point out, for effecting his perfect cure.

I have already given directions as to the pronunciation of the vowels and consonants, to which I will add that the stammerer must take the greatest care in effecting their respective enunciation, both as regards the perfect position of the organs of speech, and the expulsion of the letter

with all the force of his breath. When able to do this with all the letters, in the manner which has already been mentioned, he will proceed to learn how to effect the utterance of monosyllables or words of one syllable. The names of the first ten numerals will answer for a commencement. Let the patient draw in air to the utmost,—say *one*, the sound of which is to be continued during the whole time of the expiration; then *two*, and so on, until the whole ten be repeated seriatim in the same way as the first. This done “*one, two*” is to be uttered in a breath, then “*three, four,*” and so on, increasing the number, after each repetition of the ten, until able to say the whole in one breath or expiration. With those who stutter very much, this may be practised for some hours successively; but when the reverse is the case, a few repetitions will suffice.

The common spelling-book used for children will be found useful here, for those who cannot recollect a sufficient number of monosyllables, and the patient may go for some days through the columns of monosyllabic rhymes, expiring his breath carefully with each word, until able to

repeat words of one syllable with perfect ease. Words of two syllables may now be commenced, by dividing the exhalation into two periods, to suit each syllable, avoiding to take in a fresh breath in each syllable, but saying the whole word at once. When words of two syllables have been learned so as to be uttered with perfect ease in one breath, then only is the patient to commence with those of three; then four, five, and six syllables, or the longest words the language may contain. But I cannot too much impress on the reader's mind, that before he commence with an ulterior procedure, he must be able to accomplish the one in hand with all possible ease and facility.

The patient being now able to utter words of any length, will proceed to the art of reading, or of joining them together, so as to form sentences long or short. It will be best to begin with a prose work, to avoid the sing-song, recitative kind of utterance, which may be acquired by reading either poetry or prose translations of it. But if this, however, be not considered any disadvantage, the patient may not only read out

of these works ; but recollecting, as I have before stated, the reason why stammerers do not hesitate in singing (namely, because it is necessary for them to expire the breath with force, in order to produce the vibrations in the larynx and chordæ tendinæ, or vocales, in the different states of contraction and relaxation in those parts required in singing); may for some time convert what he says, into a kind of song or recitative, by running up and down a whole octave with his voice, while speaking. I do not see any objection to this being done by those who understand music during their first attempts, as it will certainly prevent them from stammering for the time being ; but in the case of persons, who have no musical ear, and in those who have, at an advanced period of their cure, I prefer the method already pointed out. To this end, he will commence with first drawing in a long breath at the beginning of the sentence, and then slowly and deliberately pronouncing each word contained in the first clause of the sentence ; if it be a long one, while exhaling his breath, timing it so as to arrive at the comma, and the end of his breath together.

The same process is now to be undergone, as at the beginning of the sentence, until the next stop and so on. But if it so happen, that long phrases occur without stops, the patient having ascertained this previously, will divide the clause into two parts, for his better convenience. The utmost care is now to be taken to avoid stammering, which will be easily done, by always taking in the air at the proper intervals, and by gradually and slowly expiring it in a constant and *unintermitting* stream, during the whole time of utterance. If, however, the patient should perceive in himself, the least tendency to stammer, either by trying to read when there is no air in the lungs —while taking in breath — or finally, by interrupting the passing current of air constituting his breath, he must instantly stop, again fill his lungs, by inspiring air, and then repeat the sentence. This will very seldom happen with a careful person; and if it do, a little attention will soon remove the disposition to it. It is indeed consistent with reason, that a habit, the growth of so many years, should be found difficult to remove, without some little labour;

the organs by which speech is effected, being more inclined to obey its dictates, than the new ones which we prescribe.

It is hardly necessary to observe, that the stammerer must constantly practise his lessons with a moderately loud, full voice, and rather slowly at first, until the *new habit*, which he wishes to impress on his organs, be firmly acquired, without even any disposition in them to relapse into their old habitudes; as, indeed, unless this be done, and in the fullest sense of the expression, the cure cannot be said to have been effected. But surely, in doubling the advantages to be derived from the use of speech, the stammerer can require no further excitement, than the prospect of the benefit which will result. If, indeed, there can possibly be any who will not deem the acquisition worth the trouble, we may safely pronounce, that it will be of little consequence to the world or themselves, not only whether they do not cease to stammer, but whether they speak at all.

The method of uttering sentences being now perfected, the patient will proceed to occupy him-

self for some hours every day, in reading aloud ; recollecting that, according to the time spent in this way, the vice will be the sooner extirpated. If his lungs be weak, he must not fatigue them too much, but should have recourse to the practice of the different means which are calculated to strengthen them ; such as walking, running, riding, swimming, the use of the dumb-bells, and in fact, of every athletic exercise which is calculated moderately to increase the circulation and organization of the blood. In speaking, he must practise, as he did while learning to read ; restricting all his conversation to monosyllables at first, then to short, then long sentences, and finally advancing to prolonged discourse. Every sentence which the patient would express, must be preconceived in his own mind, and then *slowly* uttered with force, while the breath is expiring. Nor must these cautions be ever for a single instant laid aside. Intemperate habits, or indulgence in the violent passions, will very much retard, or altogether preclude the possibility of a cure, if indulged in, as they always prevent the mind having a sufficient control over the whole

bodily organization, and especially that part of it which belongs to the organs of speech and voice. The reason of this will appear evident, when we consider that the vocal apparatus is the most wonderful and surpassing thing in the whole human frame, and the only instance wherein, mere beauty of appearance and reason excepted, man excels the lower animals ; and also that the guidance of it requires the constant superintendence of the mind (of which it is the special minister), which is, perhaps, not the case with any other muscular action.

To those who stutter only in a very slight degree, the practice of expiring their words with force, after having first learned to form any consonant they may be deficient in, will be quite sufficient. These, then, will *instantly cease to stutter the moment they make the attempt in a proper manner*. Confirmed stutters will, however, have to study the preceding observations carefully, several times. As to the period which they may occupy in effecting a perfect cure ; it will depend upon the age of the patient, the strength of his lungs, the degree of the affection,

and, more than any thing else, upon the ratio of his own care and industry, which must be unremitting and incessant. With the requisite attention, the cure will in no case occupy more than a few weeks; but when favourable circumstances conspire, even where the hesitation is severe, a few days will probably suffice. In slight cases, a few hours; and, as I have above said, the *mere effort*, when well directed, will generally prove sufficient. I may mention one more caution; that is, when a stutterer has succeeded perfectly in throwing aside his evil habit, he must, though he no longer stutter, be for some time on his guard, as the organs will, on the shortest remission or relaxation, relapse, for the moment, into their old habits; but having, at length, vanquished even the proclivity or disposition in them to do this, the ex-stammerer may now rest assured that a new habit is formed, and that, for the future, he will experience no inclination to stutter, unless he begin, *de novo*, to learn the same habit over again; which he cannot do unless he wish it himself.

I have thus put the reader in possession of

every thing on the subject of stammering, which either the trifling information scattered through different works, or my own self-acquired knowledge, could supply. I shall now conclude with hoping, that the knowledge conveyed in this little work will be speedily and extensively communicated to all those, in whatever part of the world, who may require to be benefited by it.

THE END.

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