

Hydrokonion, or, Catarrh and its complications : comprising the causes, symptoms, and treatment, by medical hydrokonion : with notes on diseases and treatment of the eye and ear, the cause and cure of stammering, the atmisterian treatment of deafness, new theory of the electrical relations of mind and body, in health and disease, etc. / by S. Clesson Pratt.

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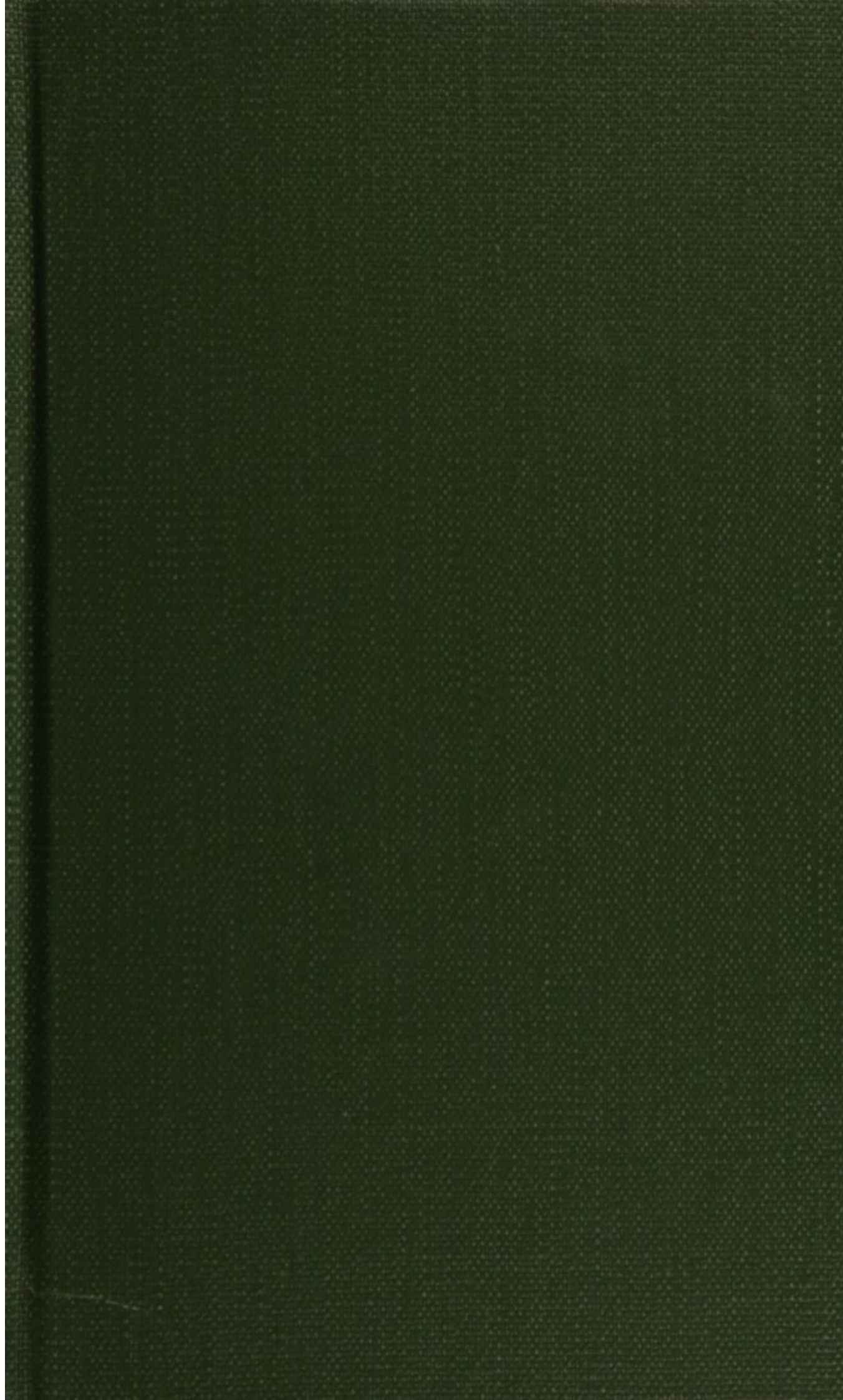
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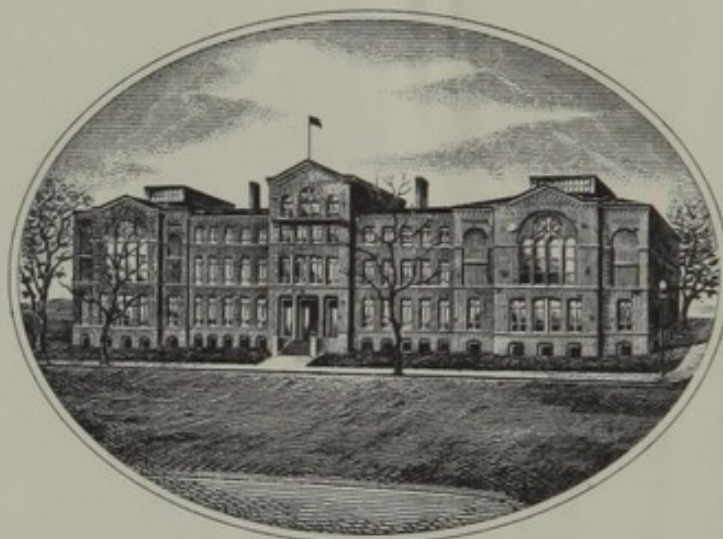
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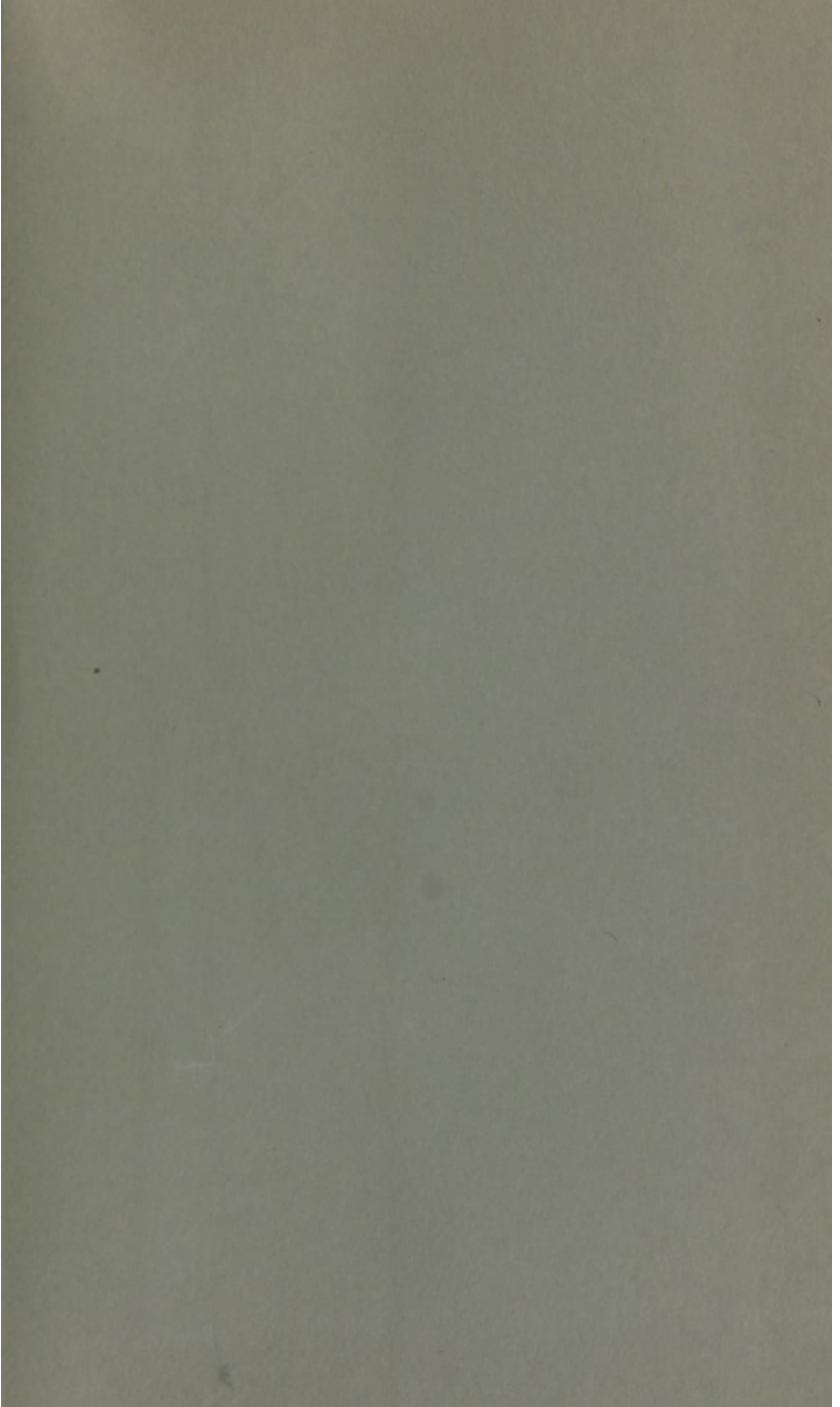


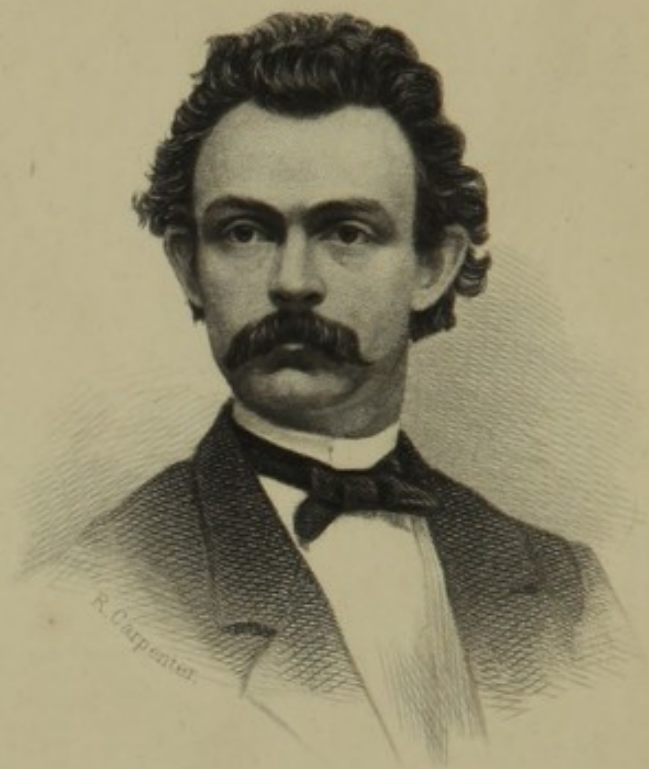
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Yours Faithfully

S. C. Pratt, M.D.

HYDROKONION,
OR
CATARRH AND ITS COMPLICATIONS;

COMPRISING

THE CAUSES, SYMPTOMS, AND TREATMENT,

BY

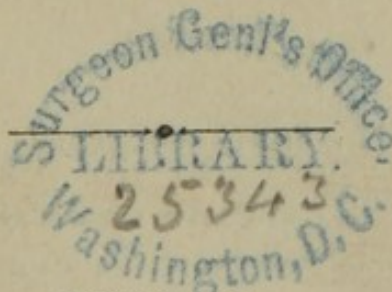
MEDICAL HYDROKONIA;

WITH NOTES ON DISEASES AND
TREATMENT OF THE EYE AND EAR; THE CAUSE AND
CURE OF STAMMERING; THE ATMISTERIAN TREATMENT OF DEAFNESS; NEW THE-
ORY OF THE ELECTRICAL RELATIONS OF MIND AND BODY,
IN HEALTH AND DISEASE, ETC.

BY

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Organs of Special Sense; Author of the Medical Specialist, etc. etc.*



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P R E F A C E .

From ten years experience as Author, and practitioner of means special for Catarrh and its complications, it is from a sense of duty, alike to ourself and the public, that the following pages are respectfully inscribed. The great prevalence of Catarrhal disease, its tendency to consumption, and the ill success attending the popular and usual modes of treatment, are deemed sufficient reasons for a direct appeal to the practical common sense of the reading community upon the subject in question.

The subject-matter of this work has been prepared amidst the duties and responsibility of an extensive medical practice, and is, therefore, by

no means all that we could wish or desire ; but, without comment or apology, we respectfully submit its pages to the discriminate judgment of the public and the profession, to whom we are voluntarily responsible for whatever is new beyond that heretofore written.

AUTHOR.

C O N T E N T S .

	Page.
MEDICAL SCIENCE	7
MEDICAL SPECIALTIES	12
PROFESSIONAL CLAIMS	15
FACIAL CATARRH	20
CATARRH OF THE THROAT	27
CAUSES OF CATARRH	32
ANTECEDENT CAUSES	38
DRY CATARRH	45
MEDICAL HYDROKONIA	49
MEDICINE AND MEDICAL MEN	54
PHYSICIAN AND PATIENT	60
THE EYE AND EAR	65
THE SENSE OF VISION	67
THE SENSE OF HEARING	77
CATARRHAL DEAFNESS	83

ATMISTERIA	86
THE ORGANS OF VOICE	90
ELECTRICITY AND VITALITY	101
ELECTRO PATHOLOGY	109
ELECTRO THERAPEUTICS	121

MEDICAL SCIENCE.

MEDICAL SCIENCE is based upon the laws and principles of the primary elements of matter, and their relative existence in the human body. To understand the laws of these elements, and how to control their action in the preservation of health and treatment of disease, is what comprises a medical education.

Quackery, on the other hand, consists in the experimental use of medicines, without either a knowledge of their properties or the laws upon which their action depends. Such, in reality, is the difference between science and empiricism ; a distinction which the public at large are not

any too apt to discover, as is exemplified by the glaring prevalence of charlatanism, with its disgraceful pretensions and unhappy results. The truth is, the masses do not possess a physiological and medical education, and really know more of almost everything else, than of the nature and treatment of disease, or of the laws and conditions upon which health depends. Hence, the readiness of people, intelligent and well-informed upon other subjects, to be deceived in this.

Apprised of this fact, the empiric uses every possible means to mystify his dealings, and loses no opportunity to herald the magnitude of his works, by parading the names and disorders of his victims in the public newspapers, thus playing upon the feelings and misplaced confidence of the over-credulous masses, who, in their blind anxiety for relief, try, over and over again, the same impotent means under new promises, very much as the fever

patient turns over in bed, not because it's so cool on one side, but it's so hot on the other.

Some people eat patent medicines as others chew tobacco, from force of habit, and quack advertisements have come to form a conspicuous part of popular literature. Certificates of cures are measured to us by the column in the public newspapers ; they appear in circulars and pamphlets, in literary journals, and religious books. The people pay fabulous tribute to this arbitrary demand, and yet there is not an intelligent man or woman in all the land, but that knows this to be the one distinguishing feature of quackery, wherever seen, and a species of clap-trap, to which no respectable physician ever stoops.

In view of facts like these, if aught we may be able to say in the following pages shall have the effect to awaken that thought and criticism due to the

subject under consideration, then the object for which we write will not have been wholly in vain.

MEDICAL SPECIALTIES.

In this life, man is ever surrounded by a multiplicity of discordant conditions and influences, which destroy health and induce disease ; whilst practical medicine has for its object, the use of such curative agencies as shall dispel disease, and preserve health.

The work of the physician embodies the greatest scope for study and improvement, whilst it imposes the most arduous duties and responsibilities, and the practitioner retards or advances the interests of the profession, according to his intellectual and moral fitness for its practical results. And what is true in this sense as a whole, is true in part.

In the complex departments of science, art, and mechanics, it is rarely expected or hardly possible, that any individual should be found who is equally proficient in all that pertains to his or her calling or profession. One person is naturally original, another a natural copyist, whilst a third lacks the genius to invent, or the surveillance to copy, but has the faculty to criticise and improve upon the work and designs of others. In fact, we everywhere observe this preference of taste in those who follow the same vocation, and to none does the axiom more signally apply than to physicians. The world has learned, that men, equally educated are by no means equally skilled, for it is special talent and not scholarly attainments that makes the great difference among men. In justice to the medical specialist, stands the veritable fact, that there is not one general practitioner in a hundred but who has his specialty, all theory and opposing ethics to the

contrary, notwithstanding ; that is, there is some disease or class of diseases, for which he has a preference, which receives his special attention, and in the knowledge and treatment of which he is most skilled and successful. With one, it is the treatment of fevers, with another, pulmonary diseases ; with another, diseases of women, and so on, each excelling the other as special taste and qualification warps the routine of general practice. So true is this doctrine, that many a physician of marked skill and ability at the bedside has little or no success in the treatment of chronic diseases. All this is signally true in its application to diseases of the organs of special sense, where the advice, not unfrequently given, is anything but what it should be. In diseases of the Eye and Ear, it can scarcely be expected, that the general practitioner should have the experience requisite for the most rational treatment of those organs ; whilst the text-

books upon catarrh and throat diseases are a sufficient reason for those who credit them, to pronounce those complaints incurable.

Snuffing caustic solutions, and breathing camphor and iodine vapors, does not cure these diseases; and so long as educated physicians content themselves with administering these and similar prescriptions, the public need not feel surprised at any opposition to a more judicious and systematic course of treatment. But with every encouragement to all that comprises a thorough and complete knowledge of general practice, upon which each specialty depends, we look to a time, not distant, when wiser counsel shall characterize the medical profession upon the subject of special practice.

PROFESSIONAL CLAIMS.

Standard authors tell us that Catarrh is inflammation of the Schneiderian membrane; that is, the lining membrane of the nose; and to cure the disease we are advised to use nitrate of silver, sulphate of copper, acetate of lead, chlorate of zinc, nitric and muriatic acid, rhatany, tannin, chlorate of potassa, and such like powerful alkaline and astringent remedies, in solutions of different strength, to snuff through the nostrils or throw up behind the palatine arch, with a nasal syringe. In keeping with the popular practice of applying the most powerful remedies to the most delicate

tissues, the specific, usually employed in this gentle and agreeable manner, is nitrate of silver, in solution, varying in strength from two to sixty grains to the ounce of water. Of this practice we have only to say that, for every case recovered in spite of it, hundreds are made worse by it. In our judgment such treatment is never justified; it always irritates the parts already inflamed, and often astringes the membrane, suddenly checking the morbid secretion, and driving the disease directly upon the lungs.

If in this matter we claim to be wise beyond that which is written, it is only that, in the school of constant experience, we happen to know the difference between successful practice and repeated failure; and holding ourself accountable to the profession and the public, for everything pertaining to the principles and *modus operandi* governing us in the specialties which claim our attention, we assume a like

privilege to speak of the professional claims of others.

In the early part of the year 1854, our attention was first awakened to the alarming prevalence of catarrhal disease in this country; at which time no author had written upon the disease to any extent, and no physician in America had treated it as a specialty. During the year following, after a most thorough research and consultation with many eminent medical authors and practitioners, in the autumn of 1855 we published our first series of articles to the public upon the causes and consequences of catarrh, and subsequently delivered a series of public lectures upon the same subject. From then, till now, in all that we have spoken and written upon this subject, it has been our special object to familiarize the public mind with the nature, tendency, and certain consequences of catarrhal disease, and to awaken that interest, in regard to its timely and judi-

cious treatment, which its nature and importance demands.

The public manner in which we have thus treated this subject, mainly through the medium of the press, together with the happy success it has been our good fortune to achieve in this hitherto neglected department of medical practice, has had the effect to provoke a most unmerited jealousy and opposition on the part of a few from whose professional opinions we have presumed to differ; whilst on the other hand has arisen a new phase of medical charlatanism, disgusting to the intelligence and good taste of the reading community, and a species of quackery, justly despised and condemned by educated physicians everywhere, of whatever school or belief. And yet this is but a natural result. The prevalence of catarrhal disease, its almost certain tendency to consumption, the little importance usually attached to the disease

by the profession at large, and the absurd idea of its incurability, — all tend to encourage the empiric in his nefarious traffic with the health and happiness of mankind.

FACIAL CATARRH.

Among the catalogue of diseases with which humanity suffers, there is perhaps no one complaint so common, so troublesome, so offensive, so dangerous in its ultimate results, or so little understood and unskillfully treated by medical men in general, as is catarrh. One reason for this exists in the fact that physicians, in this country, are specially educated to doctor at the bedside, and not to treat chronic diseases. Hence, in the main, this disease is neglected by the subject, and overlooked by the physician, until it reaches the lungs, when all attempts at cure are at best but little better than blind experiments. Again, the little attention hitherto paid to catarrh, as a

special disease, by medical authors, has left the profession at large with but meagre and superficial knowledge of its extent and real character as well as the rational treatment; and what is often looked upon as a simple inflammation of the lining membrane of the nostrils, is really but a single symptom of a complex, deep-seated, and malignant disease. Above the bony arch which forms the roof of the mouth, there are numerous little windings, passages, and cavities, channelled into the bones of the face and anterior part of the skull, and known to the physician as the frontal sinuses, the maxillary, ethmoid, and sphenoid cells, the posterior nares, and the Eustachian tubes, which communicate with the internal ear from the upper and back part of the throat. All these air-cavities of the face, as well as the throat and nostrils, are covered with mucous membrane, which, in a state of chronic inflammation, and

ulceration, is what constitutes facial catarrh.

Again, catarrh differs from a cold by the following symptoms, viz: It consists of inflammation beginning above and a little behind the veil of the palate, and extending upward into the nose and air-cavities of the face. It creates a perpetual desire to swallow, and causes a feeling as if something were sticking in the upper and back part of the throat. As the disease becomes chronic, the matter becomes puriform, the breath is rendered offensive, and the voice often assumes a nasal twang, whilst, on rising in the morning, great effort is required to clear the head and throat. There is often a feeling of pressure across the eyebrows, causing headache, dizziness, and confusion of thought and memory. The sense of smell becomes impaired, the eyes are weak, and as the disease extends up the Eustachian tubes to the

middle ear, there is partial deafness, with ringing noises in the ear. In sleep, the puriform matter is swallowed, causing dyspepsia, and a multitude of discordant symptoms, which are often mistaken for other diseases. As the disease fastens upon its victim, one after another the vital powers give way, the appetite either fails or becomes excessively morbid; the subject craving such articles of food as serve to derange digestion rather than to nourish the body; the sleep is not refreshing, but disturbed and dreamy, feelings of gloom and despondency alternate with a peevish, irritable disposition; anon, the throat becomes implicated, hoarseness and cough set in, as the disease assumes the last phase amenable to medical treatment. And yet all this is "only catarrh;" it is "nothing but a throat disease," the "lungs are not affected;" of course not; but one step more, and see what follows. The darting pains sometimes felt through

the upper part of the chest and under the shoulder-blade, consequent upon sympathetic bronchial irritation, have now resolved into a dull aching sensation, or perhaps a pain in the side with shortness of breath; night-sweats begin, the feet and hands are cold, the pulse is feeble and irregular, and the heart palpitates in its struggles to force the crimson stream of life through the intricate meshes of the lungs festering with catarrhal matter. And now the subject wakes to feel the consequence of self-neglect; but the die is cast. On the pale cheek burns the crimson seal, day by day the symptoms become more deeply marked as the cough and expectoration keep pace with the wasting of the body. The skin begins to assume a pale yellow tinge, through which the blue veins show in singular contrast, the features grow sharp, the muscles contract, and the bones become prominent. The eye looks wild

and burns with a strange lustre ; the lips grow thin and pale, the teeth assume a pearly whiteness. At length, worn out with pain, like deepening shadows of evening hour, the pallor of death steals over the frame, the face mantles with the spirit's vision of immortal life, and the heaving breast is still forever. With palsied hopes and aching heart, we wait this side the stream to mourn the loved and early lost.

Is the picture overdrawn ? Read the weekly lists of mortality, that come from city and country all over the land ; read its signs in the faces of the living ; call it from the memories of the past ; go count the new-made graves, where, over still bosoms, the cold earth is lying, and chill winds moan their requiem over the dead. Take counsel of these, and say, if you can, the picture is overdrawn. Of the thousands dying with consumption, there is not one in ten but that can revert to

a time when it was "nothing but catarrh." Ignorant of the danger, and uninformed by those whose duty it should be to counsel and relieve the catarrhal condition which precedes consumption, step by step has wrought the transformation, from youth and health to that wasting decline from which there is no recovery.

And now, when hope has fled, and the life forces one by one are ebbing away, lingers the sad reflection of what might have been and of what cannot be.

CATARRH OF THE THROAT.

Directly beneath the roots of the tongue, giving fulness to the neck and constituting an enlargement of the upper parts of the trachea or windpipe, is the larynx. The opening into the upper and back part of this organ, comprising the entrance to the lungs, and through which we breathe, is called the glottis. It closes by muscular contraction when we swallow. Stretched across the larynx are certain ligaments called vocal muscles or vocal cords. It is the trembling of these muscles in the accents of breath, as it escapes from the lungs, that causes vocal sound.

It will be borne in mind, that all these parts are covered with mucous membrane, beneath which are embedded numerous little glands or follicles, which in health pour out a bland viscid fluid, called mucus; designed to lubricate the parts and prevent irritation. In catarrh of the throat, the secretion is changed to thick mucopurulent matter, which sooner or later impairs the voice, and if not hawked up, drops down upon the lungs. In fine, the condition, like facial catarrh, is that of inflammation or ulceration. This disease has also been called follicleitis and clergyman's sore-throat, from its supposed frequency among that class of public speakers. It is, however, confined to no class, but affects persons of all classes and conditions in life, and, as usually treated, is almost as incurable as consumption itself. Catarrh of the throat is usually the sequence of facial catarrh, although it sometimes exists independ-

ent of any other local inflammation; in either case, however, from its close proximity to the lungs, it is a most dangerous disease, and demands the most careful and judicious treatment at the hands of the experienced practitioner. As facial catarrh predicates the same condition of the throat, sooner or later, so does throat disease as inevitably tend to bronchitis and consumption; in fact, the relation of the former to the latter is simply that of cause and effect, and to neglect the one is to insure the other. It is a well-known fact, that colds are usually the beginning of pulmonary disease, and yet very seldom do the lungs receive the primary shock; it is "a cold in the head" which resolves into chronic catarrh, from which the sufferer feels no alarm until it drops into the lungs, and then strives in vain to dislodge it. Although every symptom of the disease in its tendency and progress predicates

one inevitable result, yet the subject makes hope a matter of belief until the lungs are attacked, and then but too often blames the insufficiency of science and skill, and dies a victim to the unblushing pretensions of some illiterate empiric. And yet no disease can be more unmistakably certain in its effects upon the general system; for, coupled with the purulent secretion, which characterizes the disease, there is a poison and vitiated condition of the blood and fluids of the body, which sooner or later command attention.

Catarrh, spoken of as a local inflammation, conveys no adequate idea of what the disease really is; for it is as really a consumption of the blood and fluids of the body, only in a less degree, as when, neglected, it has reached the lungs. Confined to the membrane covering the nostrils and air-cavities of the face, it is facial catarrh; when implicating the

lining of the Eustachian tubes which communicate with the internal ear, it causes catarrhal deafness ; confined to the larynx, it is catarrh of the throat ; a little further advanced and we have bronchial catarrh ; still another step, and we have that catarrhal condition of the lungs which is the prelude to consumption, and from which recovery is next to impossible.

CAUSES OF CATARRH.

Having considered the location, symptoms, and consequences of catarrhal disease, the attention of the reader is invited to some of the operating causes from whence the disease originates ; for it does not come by chance.

Although in the catarrhal subject we find the same diathesis, or constitutional tendency, which characterizes the consumptive, only in a less degree, yet there are numerous direct exciting causes continually operating to develop the disease.

One peculiarity of temperament favorable to the development of catarrh, is a morbid sensitiveness of the mucous surface of the breathing organs. The sub-

ject is peculiarly susceptible to atmospheric changes, and takes cold from the slightest exposure. With many persons of this class, certain odors inflame the membrane, suddenly developing the disease into intense feverish excitement and inflammation.

The odor of peach blossoms and of new-mown hay has this effect in many cases, hence the name "hay fever." Gases, dust, and impure air, are the universal agencies against which these persons have to contend. There are also medicines sometimes given for other diseases, as well as the diseases themselves, which aggravate the catarrhal tendency. Measles and scarlet fever often furnish the data for the first appearance of the disease ; all these, however, are but secondary agencies.

Catarrh secretes from the blood the poisonous matter which so definitely characterizes the disease, thus plainly indicating a sympathetic diathesis or condition of the

entire body. It prostrates the system, exhausts the vital powers, and sooner or later completely deranges all the normal functions of animal life. It never loses its hold when once fastened upon the system, without resort to such means as are indicated for its proper and persistent treatment; and all advice and expectation to the contrary are only hindrances to its ultimate cure. It as surely predisposes to pulmonary consumption as day precedes the night; and is, in fact, the stepping-stone to that disease in eight cases out of ten. It drinks up the vitality from the blood and fluids of the wasting frame, and electrotypes its habit of body and mind indelibly upon the parent, whilst in the pale wan features of innocent childhood we read its transmitted tendency, and wonder why man should glory in everything but health and self-knowledge.

With every incentive to enjoyment and usefulness there are hundreds all around us

dying in the morning of life with consumption, who can look back six months, a year, or longer, as the case may be, to a time when it was "nothing but catarrh." Neglected when a cure was possible, it has steadily transformed the bright, ruddy features of youth into the dull, wan listlessness of premature age. And now, when hope is vain and life but a mockery, comes the stereotyped and hackneyed advice of "a visit to the country," "a change of climate," "a sea voyage," "a return of health in the spring," etc. But, alas! the country referred to is that which lies beyond the confines of the festering grave, and the spring is the season that blooms eternal when life's fitful fever is over.

Do you believe the stupid assumption that catarrh will get well of itself; or is curable by snuffing or inhaling the impotent nostrums of some patent medicine vender? Remember that the catarrhal secretion depends upon a poison and humoral

condition of the general system, which requires a most careful and judicious treatment both local and general as well.

Do you doubt the portrayal of the nature and tendency of the disease in question? Ask the poor consumptive, whose sun of life is going down at noon. Read its signs in the faces of those you meet in the walks of daily life. A little while and you miss their coming; health and youth have faded from lips and cheek, the light from the dark eye has gone out, the hands are folded peacefully over the still heart,—they are gone.

Reader, have you the disease in question? Hope it will get well. Try “nitrate of silver,” try it thoroughly, and then hope on. Try liquid “catarrh remedies,” and “catarrh snuffs.” But when such treatment shall have failed, make no effort to discover truth from error, but delay, postpone, neglect, wait till the lungs are attacked and the blood is poisoned, till the physical body is

crumbling away and death stares you in the face, and then you will remember this lesson; to neglect the proper treatment of facial catarrh is to die with consumption.

ANTECEDENT CAUSES.

Although for each organ of the body there is a special design and purpose, yet, except in function or use, each part is like every other part; that is, the vascular system, comprising the arteries, veins, and capillaries which circulate the blood, the absorbents and expellents, which balance the ceaseless growth and decay of the body, and the muscles that give motion to every part, these several systems are represented in every organ of the entire body. It is the nerves that gives character to each separate part; and thus it is, through sympathy of one part with another, that the real character of local disease is often determined by unseen causes latent in the general system.

Any one may have catarrh, the result of a bad cold, or a series of colds neglected, but if there is no co-operating cause latent in the system, if the fluids of the body are in a perfectly healthy condition, it soon gets well of itself ; but if instead, it relapses into a chronic form, it never gets well except by the aid of appropriate medicinal and curative agencies. The one primary cause, then, is a constitutional predisposition. This comes from the multiplicity of discordant influences, which the morbid phases of our extra civilization impose upon us. Man knows more of everything than of himself, and often feels the least alarm when danger is most imminent. He knows all about politics and theology, and literature, and art, and commerce, and war even ; but when he comes home to himself, " it's astonishing how much he don't know."

He moves in society or the world of

business, in the free gratification of every fashionable indulgence and excess, which appetite or caprice may devise, until crippled by the palsying touch of pain and disease, and then seeks medical aid as he buys an article of merchandise; he wants a cheap cure, and wants it warranted. The wonder is, that we live half as long as we do.

Excess in eating, drinking, working, playing, sleeping, anything that disturbs and over-exhausts the vital energies of the system, directly undermines the health, and shortens life. Man, with a diseased body, is like a city that is broken down and without walls; he becomes the constant victim of false impressions, and the dupe of every temptation that crosses his path.

How can we over-estimate the value of health? What are we without it; upon it hinges all the great and noble issues of life. What signifies splendid equi-

page, and jewelled livery, coupled with ennui and disease? To inherit a sound mind in a healthy body, is Heaven's best gift to man. It is woman's divine legacy to the child she bears. This, and whatever else, he has a mine of wealth, deep and lasting; he is strong to grapple with the duties and trials of life.

To be well born, in the true sense of the term, is a fortune and a blessing, of which the possessor has just reason to be proud. Noble blood is pure blood, and upon woman's health, more than all things else together, depends the physical salvation of the race. Subject to the same morbid and health-destroying influences of mind and body, her nature is finer than man's, as her thoughts are better than his. She is more susceptible, more easily impressed, more readily made sick, more difficult to make well.

As sister, daughter, wife, and mother, in the home, at the altar, by the couch of

suffering, in the day of his triumph, and the hour of his despair, woman's love and constancy is man's sunlight and shield, the sheet-anchor of his pride and faith ; shorn of this, and life for her is at once and forever bereft of all dignity, worth, and honor ; and yet little does the world suspect how vice and disease do hinge upon each other ; how morbid physical conditions do benumb and cloud the mental and moral perceptions. So, next to purity of thought and feeling, are temperance, air, sunlight, exercise, and cleanliness ; that without the latter the former are wellnigh impossible.

But in this we can only generalize, we cannot specify. We must live natural to be healthy, we must be healthy to be happy. Excess on the one hand, and the repression of normal faculties of mind and body on the other, are the two extremes which destroy the harmony of social life, and breed the world's disorders. When we come to know ourselves, and live in

obedience to the laws and principles commensurate with the physical, mental, and moral attributes of life, the measure of wisdom and power, and happiness possible, has never dawned upon the intellect of man. In every bone, muscle, nerve, fibre, tissue, and fascia of the body, what evidence do we behold of Infinite wisdom and power. Verily, the fool in heart has said, there is no God. Amid all the sufferings and trials of this weary world, still how beautiful is life. Man alone is out of joint. Nature, in all her appointments, is rounded to the full. The rolling of the seasons, the springtime and harvest, the splendor of the day and the solemn stillness of the night, the flower-clad earth and fleecy drapery of the sky, the cloud-tinged proclamations of the rising day, and the star-embossed glory of the departing night; how all these voices speak kindly to the human heart, and are typical of life beyond physical

decay. They are voices from God, the Father, through nature, to us, — the legitimate offspring of His creative power, the objects of His loving kindness and unwearying care.

DRY CATARRH.

It will be remembered, from the preceding pages, that the mucous membrane, covering the throat and facial cavities, is studded with numerous little glands or follicles, and that catarrh, as a local affection, is really a glandular disease. Whilst it is usually the case, that inflammation of these glands is characterized by an increased mucous discharge, which soon becomes purulent in its nature, yet in rare instances, there occurs a condition directly the reverse from this. That is a hot, dry, congested condition of the parts, known in common parlance as dry catarrh.

The symptoms of this unusual type of the disease, as they apply to persons of

different temperaments, and at different stages of its progress, are, pain over and between the eyes, dizziness, neuralgia of the facial nerves, confusion of thought and loss of memory, loss of smell, difficulty of breathing through the nostrils when the lips are closed, a parched and feverish condition of the mouth and throat, and a marked predisposition to neuralgia, and intense nervous headache. There seems a drying up of the mucous tissues and glands of the body. The subject perspires but little, even in the hottest weather ; the skin is dry, with often a burning sensation of the hands and feet. The secretory organs of the entire body become implicated, the appetite fails, digestion is impaired, and the liver and kidneys are especially affected. Not that all these symptoms apply to each individual case, but they are the symptoms of the disease as they apply to different cases, differing only in degree.

Notwithstanding the severity of this disease, as regards treatment, there stands the same unsuccessful record as well as the same popular advice and opinion as for catarrh in its most purulent type; the same local remedies, and the same unhappy results. Really, it would seem, from the commonly expressed opinions of catarrh, as being merely a local disease, as though the head were detached from the rest of the body; as though the blood from the heart never reached the head.

If medical science teaches anything, it teaches that every part of the body is related to every other part, and that local disease, of whatever name or nature, depends upon constitutional sympathy and predisposition; at least, if there are diseases not of this class, they never become chronic; they speedily get well of themselves. To those who cannot understand how medicine taken into the stomach is to affect a disease of

the head, we may observe, that there can be no medicinal effect except through the blood ; all other means of treatment must be regarded as purely mechanical.

Health and disease flow in crimson currents through the intricate meshes of the body, removing old, imparting new ; and the very condition of life is death. The human body, from the cradle to the grave, is one live mass of consuming matter. Like the flame of the lamp, which for a time presents the same aspect, so with the physical form ; still and unseen it crumbles away, and in silence is ever renewed. A burning circle of life and death ; and it is with these sublime mysteries, these subtle life forces, that the physician has to do.

MEDICAL HYDROKONIA.

The term Hydrokonía is a word of our own coinage, used to designate that method of special practice for catarrh, throat and bronchial diseases, of which it is our pleasure to be the humble author and advocate. The word is a combination of the Latin and Greek from *hydro* — water, and *konium* — shower, or spray, and following the term medical signifies medicated water spray, or as Loua of Paris has called it, water dust. Alone, the term means but little, but as coupled with the appropriate means and apparatus designed for the treatment of the diseases in question, it marks a new era in medical practice, and com-

mends itself alike to the confidence and approbation of the profession and the public. By appropriate means designed for the special purpose, proper remedies are therewith applied directly to the breathing organs in a manner hitherto undiscovered and unadvised.

The inhalation or breathing of medicated vapors is a practice seemingly justified by every known principle involved in the structure and pathology of the throat and lungs, and if this practice has hitherto failed to meet the sanguine expectations of its many able advocates, is it not possible, after all, that the fault is not in principle but in the *modus operandi*.

The universal method of using medicated vapors for catarrh, throat, and bronchial diseases, consists in drawing or forcing a current of air through a heated solution of medicated water, and there is just where the practice unhinges from

its data or principle. Every educated physician well knows that but very few appropriate remedies can be used in this way at all, and of the medicines thus used there is scarcely a prescription but that consists of from one half to two thirds alcohol. Hence the pretended astringent, alterative, and anodyne effects produced by this process exists only in name, — the real effect is stimulant. Such, in fact, is a brief summary of medical inhalation, as hitherto understood and practised.

But whatever name is used to designate the treatment of pulmonary diseases, success depends not upon local means alone, but upon a careful and discriminate use of such specific remedies as shall change the abnormal condition of the general system as well.

It is a fact well known to medical men, that with persons predisposed to disease of the respiratory organs there oc-

curs a singularly impoverished condition of the blood, a virus, a something that genders disease, weakens the vital forces, and imperils life. The blood is the crimson reservoir of cellular life, the source of nutriment to every organ and tissue. It is there disease begins, and medicine must be absorbed into the blood before it can exert any specific action upon the physical economy.

Whilst most medicines act as alteratives, to change the action or condition of some part or organ, and are then eliminated from the body, others act as aliment to supply a deficiency, an element wanting in the system, and of this latter class chiefly are the remedies indicated for catarrh and its complications.

Again, it must be borne in mind that only such local remedies as can be readily absorbed by the lining membrane of the breathing organs, are prop-

er to use by any method of topical medication. Hence the use of snuffs and the breathing of caustic powders are all more or less dangerous, often subjecting the patient to intense suffering, and never productive of real benefit. In fine, from the summing up of the whole matter, in view of the prevailing tendency and progress of catarrhal disease, we feel that its timely and judicious treatment cannot be too often and persistently urged; properly treated in due season, there is no disease more amenable to medical skill, but neglected until the lungs are attacked and ulceration begun, and then the labor of the physician, and the hope and prayers of love and friendship, are alike unavailing.

MEDICINE, AND MEDICAL MEN.

How often would humanity shudder and stand aghast at their own reckless attempts at self-doctoring, could they but know the direct or subsequent results of what are called *simple remedies*, ill-advisedly taken. There are those who renounce all faith in educated physicians, and yet, for themselves and families, presume to advise medicines, the chemical properties and therapeutic effects of which they stand in total ignorance, and whether the patient or the disease is most affected, is the chance work of the medicine and not the foreseen results of the party who gave it. Such is the *grand ethics* of all quack prescriptions, patent medicines, and fam-

ily doctor-books generally. And yet here is the prolific source from whence arises eight tenths of the evils attributed to medicine and medical men. In the main it is a matter with which educated physicians have nothing to do whatever. That medical literature and medical men are nowhere at fault, is nowhere claimed; but that the man armed with a bundle of medical recipes or a family doctor-book is equally qualified to prescribe for the sick with the physician who has spent five, ten, or it may be fifty years of his life, in studying the laws and principles governing health and disease, and is familiar with the properties and action of medicines, is a kind of philosophy unjust to the physician and unsafe for the public.

That there are practising physicians who ought to be farmers, blacksmiths, draymen, almost anything but what they are, is certainly true, but, unfortunate

as this may be for the public, it is in no sense chargeable to the profession. We know of no school of practice, diverse as they are, who pretend to furnish brains for their students, nor are they presumed to question the reasons or caprice of those who apply for instruction. Incompetency is rife in every vocation, and neither title, opportunity, nor diplomatic pretence will make a physician of the man who is better adapted to some other calling.

A more stupid injustice, we opine, was never imposed upon the non-professional public, than the publishing of the so called doctor books and family physician, giving prescriptions, and advising people how to doctor themselves. Not that we object to any one learning and knowing all that is possible of the theory and practice of medicine ; of physiology, chemistry, and the collateral sciences, of which medicine is the epitome. But the

knowledge requisite for him who assumes the solemn duties and obligations of the physician, is not written in books, — cannot be, and the sort of semi-professional ideas gleaned from this source, like firearms in the hands of children, are always operating to the risk of somebody; they are a set of incongruous opinions, unauthorized by any class, and the representative of no system.

In our judgment, what is requisite for the advancement of medical science, the honor and dignity of the profession, and the good of mankind, is the establishment of one homogeneous medical school, upon the most liberal and catholic principles. A school where each system of practice shall be fairly represented, where the respective authorities of each shall comprise the text-books for all, where each shall have its representative members of the *facultie professionale*, and where the student shall receive com-

plete and thorough eclectic education in all that is good of medical science and art.

And what objection can there be to such a plan? Does not the form and pressure of the times foreshadow it? The various theories of medicine extant are wholly a matter of education; each has its representatives, distinguished alike for honesty and ability, and each is continually learning and borrowing from the other. All study the same collateral sciences, employ similar agencies, contend with the same forces, and work to the same end. Homœopathy has taught the world to use less medicine. Allopathy has learned to go into the water, and all have learned that the vegetable kingdom is nearer to man than the mineral. In the exchange of opinions that would ensue from such a plan, truth has nothing to fear, science has no secrets, and a free and liberal discussion of all that pertains

to the theories and practice of medicine, must prove creditable to the profession and meet the approbation of the public. Then the clannishness and petty jealousies of the schools will cease ; the opprobrious epithet of a house divided against itself, will not be repeated, and in a clearer light, a purer and more genial atmosphere, will spring a better medical literature, and quackery will die.

PHYSICIAN AND PATIENT.

That which enters universally into the experience of mankind must, in the nature of things, have a rational philosophy, and since pain and disease comprise an integral part of human experience, it becomes us to know wherein lies our individual responsibility.

For the most part, the causes of disease lie with ourselves,—a fact we are singularly prone to overlook in our zeal to be well, regardless of the many conditions and nice dependencies upon which health is possible. Man lives in wanton carelessness of the very principles commensurate with his own physical well being, until arrested by the laws he has outraged,

and then straightway excuses himself, finds fault with his doctor, puts on a sanctimonious look, and talks of the mysterious ways of Divine Providence. Not content to think of the educated physician as he judges the character of other men, he comes to regard the medical empiric as a kind of life insurance agent, sanctioned by some unknown authority, in whose public "*certificates*" and private "*prescriptions*" he reposes implicit faith; or to some unknown tongue and foreign air he prostitutes reason and common sense, and pays but too dearly for the lesson learned.

The work of the physician is with the proper uses of science; for her possible abuses he is not responsible. All he may rightfully promise is to make use of every available means which experience, and a knowledge of his profession, places at his command; and he who promises more than this only barter his reputation

for a temporary gain, which time surely reflects to his injury and disgrace. “*Warrants*” to cure and published “*certificates*,” when tested, eight times out of ten, mean simply that somebody has been *humbugged*, and somebody else is expected to be hit by the rebound of the same missile.

From infancy to old age pain is the opposite of pleasure, — the counterpart to all that makes up the usefulness and true enjoyment of life ; and whenever or however manifest, signifies disease, deformity, or death, in part or whole, to the physical body. As a warning and a blessing, it teaches obedience to the laws of our being, and the difference between health and disease, — the beauty of one, the hideousness of the other ; and as, in the moral world, duty and advantage are one and inseparate, so is the health tenor of our daily lives, tempered by the friendly hand of pain. In justice to ourselves, and as we regard the weal or woe of those who

are to come after us, as heirs to our bodily ills, are we in duty bound to make use of every rational means at our command to preserve a sound mind in a healthy body. In life, so intimately related are mind and body, that whatever influences one affects the other, and both are subject to immutable laws, the knowledge and observance of which insures the most possible good to the individual. Nature is imperative in her demands,—there are certain sanitary conditions and influences to which all are subject,—a legitimate and orderly exercise of each organ of the body and faculty of the mind, is conducive to health, to happiness, and long life; whilst the wrong and unnatural use of our faculties entails disgrace, disease, and death.

Fashion, avarice, and a morbid craving for physical pleasures,—which men mistake for happiness;—these are the universal operating forces against life and

health ; and for the just penalties commensurate with physical transgression there is no excuse.

THE EYE AND EAR.

To whatever department of physical science we turn our serious thought, nowhere are the evidences of design more munificently manifest on the part of the Creator, than the form and functions of the eye and ear ; so complicate in structure, so delicate in texture, and so important in use, these faculties bring us in happy unison with the world of light and sound, and comprise, in fact, almost the sum total of human enjoyment and knowledge. Destroy the nerves of special sense through which we see and hear, and the o'erarching sky may blaze with the light of sun, and moon, and stars ; the earth may blossom with flowers of never-

ending shade and hue, and music such as Bethooven might have heard in dreams, but never sang, may fall on the listless ear; but to all this, from the life within there comes no glad response. All is silence, — chaos, — night. From sky and sea and shore, there comes nor light, nor sound to him who living still, is already dead to the uses and beauties of the world around him.

If such, then, is the value of life to these organs of special sense, how precious their health and normal use, and how important their care and judicious treatment when diseased. For although the total loss of both these faculties seldom happens to any individual, yet the total or partial loss of one or the other, and the many diseases to which they are subject, imposes signal responsibility upon the special practitioner.

THE SENSE OF VISION.

If, in the mechanism of the human body, any one part is more complicate in its structure, or beautiful in design than any other, it is unquestionably the human eye. It is through this window of the soul we look out upon the world of sensuous things and take cognizance of its uses and beauties ; in fact, the degree of pleasure and advantage derived through this sense is incalculable, and never realized until we are deprived of its normal use by injury or disease.

This organ is nearly spherical in form, a little less than an inch in diameter, and is lodged within the orbital cavity of the skull, where it is securely surrounded by

bone, and further protected by the adipose or fatty tissue in which it is lodged. It is retained in place by the optic nerve, or nerve of vision, which enters the orbit of the eye posteriorly, by the muscles, six in number, which give it variety of motion, and by its other surrounding integuments.

The eye, externally, consists of three coats, or membranes, enclosed one within the other, and attached together by nerves and bloodvessels. Interiorly, it consists of fluids and transparent lenses, which adapt it to light, and constitute it the most complete of optical instruments ; in fact, all other optical instruments are but human imitations of this Divine masterpiece of God's handiwork. Its coats are the sclerotic, the choroid, and the retina. Its lenses are the vitreous body, the chrySTALLINE lens, and the cornea. Diseases of the eye are called ophthalmic diseases.

The sclerotic, or outer coat, commonly called the white of the eye, is a white

fibrous membrane, very tough, and possessing the necessary resistance to give protection to the more delicate parts within. Inflammation of this membrane is called sclerotic ophthalmia.

The middle, or choroid coat, is a vascular membrane, presenting upon its interior surface the black pigment which serves to darken the interior of the eye, and to absorb the superfluous light. It is really a sheet of bloodvessels, which nourish and support the eye, and as such is subject to inflammation, both acute and chronic.

The third, or innermost coat, is the retina, which is an expansion of the optic nerve, and upon which whatever we look at is pictured in the act of seeing. Paralysis of this membrane causes that kind of blindness known as amaurosis. It is the opinion of some authors that the three coats of the eye are somehow continuous through the sheath of the optic nerve with

the three coverings of the brain, called the dura-mater, arachnoid, and pia-mater.

Within the retina, and comprising nearly four fifths of the globe of the eye, is the vitreous body; it is a concavo-convex lens, enclosed in a transparent covering, called the hyaloid membrane, which meshes through the entire substance of the lens, dividing it into numerous little triangular-shaped cells. Disease of this body is not common, except with persons of a scrofulous diathesis, in which it sometimes assumes a most malignant character.

The chrySTALLINE lens is a double convex lens of unequal convexity,—is enclosed in a transparent covering, or capsula, and is lodged against the anterior surface of the vitreous body. Disease of this lens or its capsule is called cataract, and is either a changed condition of the substance of the lens, or a deposit of opaque matter, and is usually deemed incurable

without a surgical operation. This premise, however, like many others, we are happy to say, is not altogether true. There are remedies, which readily cause the absorption of this matter, producing a perfectly transparent and healthy condition of the lens, and without the least risk or danger to the patient.

The external lens is the transparent cornea, or front part of the eye, through which light passes to the inner chambers. It is a convexo-concave lens, dense, brilliant, and perhaps the finest in texture of any part of the physical body. In health, it reflects that peculiar expressive light with which the soul looks into other eyes, and, half conscious, betrays itself. This lens joins the sclerotic, or outer coat, its anterior margin, from which it receives only the white portion of the blood, its vessels being too minute to admit the red globules. Disease of this lens is called corneitis, and causes loss of brilliancy, softening, and opacity.

As we look into the eye, just behind the transparent cornea, we see the iris, which determines the color of the eye. It joins the choroid or middle coat at its anterior margin, as does the cornea the sclerotic. The iris is a thin muscular curtain, with a circular aperture in the centre, called the pupil; it relaxes and contracts in different degrees of light, varying the size of the pupil, through which light passes to the retina. Disease of this membrane is called iritis. The little space between the cornea and the crystalline lens, in which the iris is suspended, is filled with a transparent fluid, called the aqueous humor. As age advances, and the fluids of the system become lessened in quantity, the cornea flattens as the aqueous humor becomes less; hence the necessity of resorting to the use of convex glasses. It is excess of this fluid that causes myopia, or near-sightedness. In addition to the bony or-

bit in which the eye is lodged, and the fatty tissue which surrounds it, it is further protected, and vision preserved, by the accessory integuments with which it is in contact and sympathy. These are the muscles, the eyelids, and the lachrymal organs. The muscles of the eye are six in number, — four straight, which turn the eye up, down, right and left; and two oblique, which give it a rotary motion. These are thin, fan-shaped muscles, and attached anteriorly to the sclerotic coat. It is paralysis or weakness of one of these muscles that causes strabismus, or cross-eyes. The defect is easily cured, by dividing some of the fibres of the contracted muscle, which allows its antagonist to draw the eye into place. Persons afflicted with this deformity, ought by no means to neglect the advice and services of some one competent to remedy it.

The eyelids may be described as two movable curtains in front of the eye, the

upper lid having a much greater latitude of motion than the lower. They shut out the light from the eye at will, and screen it from a thousand irritating causes, which would otherwise destroy vision. The inner surface is lined with a highly sensitive mucous membrane, called the conjunctiva, which is also reflected upon the anterior surface of the eye itself. The sensitiveness of this membrane warns us of the presence of any foreign substance in contact with the eye.

Simple inflammation of this membrane is called conjunctivitis ; it is also the seat of purulent, scrofulous, and catarrhal ophthalmia.

Along the edge of the eyelids are the Meibomian glands, which afford an oily secretion, and serve the double purpose to keep the eyelids from sticking together, and to prevent the overflow of the moisture of the eye upon the cheek.

The lachrymal organs are the lachry-

mal gland, the puncta lachrymalia, the lachrymal sac, and the nasal duct. At the upper and outer edge of the orbit of the eye is situated the lachrymal gland, which secretes the tears to moisten the eye and preserve its brilliancy. The spreading of the tears over the cornea, and the simultaneous wiping of the eye, is accomplished by the lids in the act of winking.

On the tarsal edge of the lids, near the inner angle of the eye, are two little openings called the puncta-lachrymalia, which suck up the moisture and carry it to the lachrymal sac, at the sides of the nose, whence it escapes through the nasal duct into the nose, and evaporates with the breath.

Such, in brief, is the structure and functions of this delicate and beautiful organ. The treatment of the various diseases to which the eye is subject comes within the practical province of the oculist, and can

properly form no part of a work like this, designed simply for the reader's better acquaintance with this single feature of our wondrous being.

We may add, however, that the usual mode of treating ophthalmic diseases, by the application of powerful caustic remedies, forms no part of our practice in this specialty. There are remedies which have a most happy control over diseases of the eye, when judiciously selected and properly applied, but they are by no means of a mineral or caustic nature.

THE SENSE OF HEARING.

Of the Organs of Special Sense, perhaps next to the eye, in use and importance, is the ear, or sense of hearing.

This organ may be properly considered in three several parts, as the external, middle, and internal. The external organ, commonly called the ear, is technically called the auricle. It is a cartilaginous projection from the sides of the head, of uneven surface, and designed for the collection and direction of sound. From the auricle, inward and downward, extends a tube, from one inch to an inch and a quarter in length, called the meatus auditorius, or auditory canal. This, like the auricle, presents a curved and irregular

surface ; in fact, every part of this organ, both external and internal, presents one continued series of angularities, — of depressions and elevations.

The entrance to the auditory canal is furnished with numerous short, stiff hairs, like the eyelashes, doubtless to prevent the ingress of insects. Interiorly, it is lined with a highly sensitive membrane, beneath which is embedded the ceruminous glands, which secrete the cerumen, or ear wax.

The inner extremity of this tube is covered with a thin, semi-transparent, muscular membrane, called the *membrani tympani*, which relaxes and contracts, to graduate the volume and intensity of sound.

Interiorly, and beyond the *membrani tympani*, is the middle ear ; a small, irregular-shaped air-chamber, called the *tympanic cavity*. It is lined with mucous membrane, and communicates through the

Eustachian tube, with the upper and back part of the throat. Still beyond the middle ear, wedged into the petrous, or hard portion of the temporal bone, is the labyrinth, or internal ear. It presents a series of windings, channelled through the temporal bone, and comprises three several parts, known as the vestibule, semi-circular canals, and the cochlea, all of which channels are lined with a serous membrane, which secretes a fluid called the perilymph, in which terminates the filaments of the auditory nerve, or nerve of hearing.

Across the middle ear, connecting the *membrani tympani* with the membrane of the labyrinth, extend the ossicles, a chain of extremely little bones, covered and attached together by membrane, and called the malleus, incus, os orbicular, and stapes.

Thus employed in the function of hearing, we have the auricle, to collect the

sound, the meatus auditorius, to direct it, the membrani tympani, to graduate its force and intensity, and the little ossicles to vibrate in the air-chamber or middle ear, as they transmit it to the nerve membrane of the bony labyrinth, through which the mind listens and enjoys. In all these, how beautiful, how delicate, how wonderful, how manifest the evidence of design on the part of Him who made every normal sense for a perfect use; who "doeth all things well."

But ere we lose sight of the structure and functions of the human ear, let us remember that each of its several parts is subject to a variety of diseases, nearly all of which impair the hearing, and which require the most careful and judicious treatment, at the hands of the experienced aurist. Catarrhal deafness, consequent upon inflammation of the Eustachian tube and tympanic cavity, and specially indicated by ringing noises in the ear, is

of most frequent occurrence, and, under appropriate treatment, is readily cured; but apart from this, very few diseases of the ear are susceptible of any benefit whatever, as usually treated, and the experimentive practices of dropping oils into the ear, of inserting bits of cotton saturated with stimulating tinctures, blowing caustic powders into the ear, and the wearing of "mechanical contrivances," in the shape of gold or silver tubes, which stimulate the nerves for the time being, only to increase the deafness thereafter, — none of these means constitute any part of rational practice, but bear the universal condemnation of all educated medical men, of whatever school or belief. They are the empirical practices of those who steal the livery of truth and science, in which to serve their own selfish ends.

In fact, so little understood is the proper treatment of aural diseases by the medical profession in general, that this

feature of special practice has hitherto fallen almost entirely into the hands of self-appointed aurists, who prey upon the credulity of that class of partially deaf persons, of which almost every community has its full share.

The sufferer from loss of hearing should remember, that deafness of itself is not a disease, but rather the sequence or result of a disordered condition, from which similar symptoms often follow very dissimilar causes, and requiring great difference of treatment.

CATARRHAL DEAFNESS.

We have stated in the foregoing pages that communicating with the throat from the tympanic cavity, or middle ear, there is a little passage, called the Eustachian tube. This tube is nearly an inch and a half in length, and at its opening into the throat, just above the valve of the palate, is nearly half an inch in diameter. As it approaches the ear it grows smaller, but widens again at its entrance, so that, in fact, it resembles a miniature trumpet with the mouthpiece in the middle ear. The use of this tube is for the entrance of air to the tympanic cavity; and upon its healthy condition depends the sense of hearing in a far greater degree than is generally known. It is to afford free pas-

sage of air through this tube that we instinctively hold open the mouth when listening. Inflammation of the lining membrane of the Eustachian tube and middle ear causes catarrhal deafness. The thickening of the membrane and accumulation of purulent matter within the tube and cavity, not only excludes the air, causing deafness, with disagreeable noises within the ear, but this condition tends, sooner or later, to disorganization and irreparable injury. Ulceration and rupture of the membrana tympani, with discharge from the external ear; destruction of the little bones of the ear; disease of the labyrinth, with paralysis of the auditory nerve; and, in some instances, inflammation of the brain; — all these are among the consequences coupled with catarrhal deafness.

As for catarrh of the throat and facial cavities, the judicious treatment of this disease is fully embodied in what we are pleased to term Medical Hydrokonion. By

this treatment the parts are cleansed of all unhealthy matter, while over the entire diseased surface is gent'y diffused a warm medicated vapor, which is rendered tonic, anodyne, or astringent, as the extent of the disease and nature of the case may require ; also the smoke or fumes of certain appropriate remedies is used in the same way.

This treatment, which is without the least pain or possibility of danger, will be found to differ in every essential particular from any inhaling practice or process of forcing vapor through the aural catheter,—nothing of the kind is used.

ATMISTERIA.

What we are pleased to call the Atmisterian treatment for a certain kind of partial deafness, like Hydrokonion for catarrh, is emphatically the result of close, extensive, and long-continued observation and experience. There are thousands of persons suffering from partial deafness, of greater or less degree, with whom the most careful examination reveals not the slightest evidence of existing disease. There is neither inflammation nor disorganization, but only the result of inflammation at some prior period of life, and from which the real condition is weakness, either of the membrana tympani (drum of the ear), the membrane of

the labyrinth, or the minute filaments of the auditory nerves.

This common and somewhat peculiar phase of deafness is in most cases the result of scarlet fever, measles, facial neuralgia, and colds or catarrh, which affect the throat and internal ear through the Eustachian tubes. In these cases, when the local inflammation subsides, there remains a weakness of the parts, with slight falling off of the hearing, which either improves or increases, or varies between better and worse, as is the health and strength of the general system.

But the most significant feature of this matter is that medicine has no remedial effect, and all that thus far has proved of any avail, even as a palliative means, is embodied in the principle underlying the treatment in question.

It is for this kind of deafness that ear-tubes and ear-trumpets are serviceable. The hearing also improves, or is wholly

restored for the time, when the air is made violently tremulous, as riding in the cars, or upon entering an apartment where machinery is in motion.

It is also true that persons afflicted in this way have been immediately relieved, and even completely restored, by descending in diving-bells, in which the air is condensed to two atmospheres. The same results happen to deaf persons of this class who work in mines and in tunnels underground, where the atmosphere is partially exhausted, thus affecting the capillary circulation. Accounts of well-authenticated cases cured in this way are in our possession. Facts like these, coupled with a series of long-continued experiments carefully and thoroughly persisted in, have directed us in the design and construction of unique and elaborate apparatus, the practical workings of which have more than met our most sanguine expectations. Air is the natural element through which

sound is communicated to the ear, as light is the element adapted to the eye, and it is to restore and establish the normal relation between this element and the organs of hearing that our efforts are herein directed. By this treatment, without the least pain or risk to the patient, we are enabled to effectually control the capillary circulation, producing warmth, increased action, absorption, and a healthy condition.

THE ORGANS OF VOICE.

Important as are the functions of seeing and hearing, not less so is the faculty of speech, and any disease or defect of this sense merits the considerate attention of the scholar and the physician.

Aphonia, or loss of voice, is frequently met with as the sequence of throat disease, also hoarseness and inflammation of the vocal ligaments; but the malady to which the reader's attention is herein particularly invited, is so unlike anything else, that, but from a sense of duty, and the hope that the lesson of these pages may reflect to the benefit of some unhappy fellow-being, we should shrink from the task before us.

It is not strange, that a subject of so serious a nature as that of stammering, or impotence of speech, should have elicited the attention both of the physician and the elocutionist; and as we review the various theories extant, it is fair to presume that each in his turn has done the best he knew. But whilst with all candor we descend from theories, put forth by men whose scientific and literary attainments must ever command our respect and admiration, yet there is an incompleteness, as well as a phase of empiricism coupled with this subject, which forces itself upon our attention and demands a faithful explanation and exposure.

It is rational to suppose that stammering has always prevailed, to some extent at least, in civilized life, whilst the cause and cure has always been a matter of conjecture. The present and popular theories, however, will suffice for our consideration.

Among the most prominent of these, is that put forth by Dr. Arnott, of Paris, which consists in requiring the subject to speak in a monotonous sing-song tone of voice, avoiding emphasis or interruption between words and syllables. But the doctor's effort, thus to couple song with articulate speech, has most signally failed; for, so far as any temporary relief might attend this practice, it is virtually by substituting, for the time being, one habit in place of another.

Directly opposed to this theory, is the method introduced by Dr. Serre of Paris, and approved by the French Academy of Medical Science. It consists in what the author calls "Equasyllabism," coupled with muscular motion or gesticulation; that is, to speak each word and syllable in perfect time to an accompanying motion of the finger, hand, or foot. This is the *secret* practice so often advertised for the cure of stammering. At once a deceptive

fallacy, it has led to unhappy disappointment in thousands of cases, and cannot be too severely condemned.

Of theories more strictly elocutionary in character, that of W. W. Cazalet, of London, approximates more nearly the truth than any we have hitherto seen, although his views are faulty, wherein he substitutes effects in place of the approximate cause. The distinction he makes between speech and voice is all very true and proper. But the supposition that stammering results from want of uniform action between the motions of the tongue and the motions of the lips, the advice to speak with the lips, to talk through the teeth, to exhale when speaking, etc., is all wrong, and can have no possible bearing upon the cause of the defect whatever.

Of surgical operations for this complaint, little can be said in their favor. Incision of the palate, and cutting away the tonsils has often been resorted to; but, as might

have been expected, with no benefit. At one time Dr. Arnoult, a French physician, claimed to have discovered the cause of stammering in a diseased condition of the motor nerves of the tongue, and instituted, as a means of cure, the introduction of silver needles through the tongue. Although this barbarous practice was soon abandoned by its author, it has since found favor at the hands of empiricism.

Some years since, the late Dr. Valentine Mott, of New York, through the medical journals of the day, assigned, as the cause of defective speech, a diseased condition of the motor muscle of the tongue ; and, as a means of treatment, advised incision of that muscle. In a correspondence with Dr. Mott, upon this subject, he assured us that he had operated for more than one hundred cases of stammering, by dividing the motor muscle of the tongue ; but that, out of that number, he saw permanent benefit follow in but two or three cases.

In addition to the above, we have carefully examined and practically tested the several theories, as set forth by Gardner, Urling, Fenwick, Russell, Barber, Hart, Bishop, McNess, Bronson, Comstock, Vanderhoff, Mandeville, Sargent, Gilmette, Smith, and others, neither of which, as appears to us, merits the title of anything beyond a speculative theory, and in all of which the *cure* is the one thing ignored. Now it cannot for a moment be supposed, that the anatomy and physiology of the vocal and articulating organs have not been generally understood by those who have advanced this multiplicity of conflicting theories, and which shows conclusively that stammering is not a structural defect. In a correct pathology of the vocal and articulating organs is suggested the cause and only possible cure of the malady in question, which is purely a functional defect, and not the result of any structural derangement, or malformation,

which admits of relief from any medical, surgical, or mechanical means or device whatever.

It is a well-known fact, that stammering is always intermittent in character. Every victim of this defect, however slight or aggravated the case may be, well knows that there is a principle somehow, by virtue of which, at times, he speaks with perfect ease and fluency. To know what that principle is, and how to make it available at will and at all times, is what the subject requires to know, and wherein lies the only possible chance of cure.

It will be found, that whatever varieties of defective articulation may be met with, they are all traceable to one proximate cause, viz: *force*, coupled with wrong action and position of the vocal and articulating organs, in the endeavor to speak. Articulate speech depends upon uniform action between the former with the latter, the air from the lungs being the motive power.

With the stammerer this uniformity of action is broken by a forcing explosive effort, which closes the glottis and thus holds in suspense the sound, whilst the effort to articulate is prolonged. This may take place by direct volition, as when attention is called to the subject, from fear or embarrassment, or it may occur from sheer carelessness; for, in either case, with the stammerer, intonation and accentuation, the two primary elements of speech, are deficient. Whatever symptoms may appear however defective utterance is always proportionate to the *force* used, which also explains the intermittent character of the malady and its total disappearance when the vocal *measure* is changed, as in singing.

Voice is natural whilst speech or language is acquired; we are born into the world with the organs of voice perfect and complete; in fact, it is almost the first function of voluntary life; the baby can

cry, and laugh, and sing, but it cannot talk until it gets old enough to understand the meaning of words and to imitate the sounds they represent. The organs of voice are the larynx (throat) and vocal chords, whilst those of speech are the lips, the tongue, and the teeth. Now, what takes place in stammering is this, viz: it is a total or partial suspension of sound as it escapes from the larynx, through the glottis (opening of the larynx), which in form resembles the letter V. The lips, or edges of the glottis, approach and recede, to graduate the volume of voice, and it is the forcible, spasmodic closure of this opening that suspends vocal sounds. Stammering, however, assumes three distinct characteristics, according to the temperament of the subject and the severity of the case. First, we have the total suspension of the voice, by the complete closure of the glottis, whilst with grimace of countenance and unnatural

effort the subject tries to talk without voice until he gets tired of holding the breath ; when the effort ceases, the muscles relax, the glottis opens, the voice flows, he speaks the sentence, and then he inflates the lungs, and does the same thing right over again. Next, instead of the constant straining, the effort is intermittent, the glottis opens and closes spasmodically, whilst the voice seems to jump out, and, with more or less distinctness, is articulated into words. Lastly, with less force but more steady, the lips of the glottis come close together, so that but little sound escapes ; not enough to talk with, but just enough to stutter on. Such, in fine, is the whole philosophy of stammering ; there is no organic disease, no malformation, only *force*, and the degree of stammering is always proportionate to the force used. Every sufferer from this complaint talks best when he tries the least, and as he wholly forgets the impediment it entirely disappears.

From the foregoing propositions, then, we faithfully proffer the following means of advice, as the only rationale of cure. First, abandon *force*; remember that speech is only vocalized breath; hence, in talking, breathe naturally and easily, for stammering and holding the breath are simultaneous and almost identical. Next, do not speak hurriedly, nor with fear, but with a calm, self-reliant resolve to master the defect, which, after all, is more a habit than disease. And, lastly, learn to give each word the proper *pressure* and no more; fix in the mind the philosophy of stammering as herein set forth, and with hopeful determination, and self-control, go forth into society master of your own voice, which will never fail you except *through fear and trembling*. In a word, the *only cause* is a voluntary forcing together of the glottis, the *only cure* is to abandon force, speak gently, *and fear not*.

ELECTRICITY AND VITALITY.

Man is an individualized microcosm, made up of the primary elements which exist in the world around him. Electricity, air, water, and combustible matter, are essential to his existence as an organized being; and as in all nature the higher elements control the lower, it becomes us to know something of that element which is the vital principle within us. Air, water, and food, these are compound substances, subject to analysis at the hands of the chemist and microscopist; but the vital principle, the plastic, subtle power, that forms, controls, and fashions these material elements of our bodies, this is an imponderable agent, neither mind nor matter, but

the invisible something that unites the two. And that something is electricity. Essential to life as the food we eat, it is spontaneous as the air we breathe. In a latent state, this agent pervades all substances in the world of matter. When the proper means are employed, its presence may be detected in all solids and fluids, and in the atmosphere. It is the natural element of the brain and nervous system, the vitalizing force, and, in the hands of Deity, the animating, organizing, and sustaining power of the universe.

Surely the relational importance of such an agent as this challenges our thought and faithful consideration. For it must needs be that an element so nearly allied to life itself sustains important relations, both in health and disease, to the physical and mental organism of man.

It is from a knowledge of the laws and principles of this mysterious agent, as manifest in the mineral, vegetable, and

animal kingdoms, that we arrive at just conclusions respecting its influence upon human life and health. It not only exercises the various forms of attraction for the preservation of all organized bodies, but, in the mineral kingdom, geology furnishes a multitude of examples of its power and wonder-workings upon the primary elements of mineral matter. By its attractive and repellent forces it increases or diminishes the chemical affinities of crystals, ores, and precious metals; and dissolves, or condenses, and moulds, the crude formations of the earth's crust. Acting upon the finer particles of matter, it silently extracts and collects the gold, silver, copper, and other metals, and in the dark recesses of the slumbering earth it lays these shining trains of wealth for the use and happiness of man.

But electrical phenomena increase in interest as we advance in the scale of being, and extend our observations over the

field of organic nature. That which appears as magnetism in minerals, when acting upon the constituents of vegetable matter, comprises all that we see or know of vegetable life. It is the germ-principle of all trees, plants, and flora, and is ever being evolved, or set at liberty, with their growth, development, and decay. It is God's vicegerent in the world of matter, the directing principle by which every seed produces its kind. The little acorn contains within itself this latent power to form and fashion the branches, leaves, and blossoms of the future oak; only certain conditions are necessary. Placed in the warm, moist earth, it attracts the elements to which its own life-principle responds, and straightway the embryotic life of the future tree begins. And this principle is true of all grades and forms of organic life. The seed and the ova receive alike their identity and individuality from the mother stalk, and by the principle of in-

duction each is quickened into life. To the chemist and the microscopist there is no difference in the germ-cell, of the vegetable, the animal, and the human, yet each possesses the electrotyped image of its kind, and is developed or not as each is acted upon by other elementary principles; for all organic life is conditional, and the manifestation of this agent depends upon the relation it sustains to other proximate elements for the time; hence what appears as attraction or cohesion in minerals, becomes the principle of vitality in the physical body, where it is further modified by its relations to *mind*; for the reader must not confound vitality with mentality. The principle of vitality is essentially the same with vegetables, animals, and men, — it is an automatic principle in each. The growth, development, and decay of all organized bodies is in no sense a matter of volition; tis true we *must* eat, or our bodies die, but having eaten, life continues

independent of the will, and our physical growth is as automatic as the growth of a tree. Electricity is the presiding power in each, and through which God paints the opening flower, as in the human face of health and beauty he blends the lily and the rose.

In the structure of the human body we find the stomach and digestive organs, with all the lacteal vessels and secreting glands, perfectly adapted to the manufacture of those material elements which build up and sustain the physical economy. By the most beautiful and mysterious processes are solids and fluids blended or separated, directed and adapted, to the osseous, muscular, and vascular system.

And then we have the lungs and breathing organs, adapted not to solids and fluids but to atmosphere; and in this ocean of life-giving element we move, unconscious of what effect its changing character may have upon human life and health. Charge

it with a noxious gas, and we become oppressed; inspire it with some stimulating odors, and we are elated; impregnate it with narcotics, and we yield to the charm of sleep; sweeten it with the fragrance of flowers, and a glow of pleasure and delight tingles through the capillary network of the body; and thus do we change the effect produced upon our systems, our senses, or our lives, as we vary in its elements the very air we breathe. But controlling the two great functions of digestion and respiration, we have the ganglionic nervous system, and of which electricity is the natural element, as is food to the stomach, and air for the lungs; every organ of the body is supplied with nerves, and nerves are not self-operating, but, like the lungs or stomach, are dependent upon the element in nature to which they are adapted. Principally by digestion and respiration electricity is furnished to our system, and as the agent of mind in the nerves, it feels the

shock of disturbing influences and writes its changes in legible characters upon our bodies, where they become the infallible index of disease.

ELECTRO PATHOLOGY.

Ere we can speak understandingly of electricity as a therapeutic agent, we must know something of the exact relation it sustains to our bodies in life and health. To this end the reader's attention is asked to a brief summary of facts and phenomena connected with the anatomy and physiology of the brain and nervous systems ; in which it will be shown that we have two distinct systems of nerves, performing distinct and opposite functions, and in whose active and reactive forces are reconciled some of the most mysterious phenomena apparent to the casual observer.

First, the brain and spinal column, from which proceed the nerves of sensation and voluntary motion, is called the cerebro-spinal system. Of these, there are twelve pairs of cranial nerves, comprising the nerves of special sense, and thirty-one pairs of spinal nerves. It is through this system that the mind, the soul, the life-principle produces all voluntary motion, receives and transmits all impressions and sensations, whether of pleasure or of pain.

During our waking hours these nerves are always subject to the direct influence of the will, as they have to do with all mind operations; and every mental effort is attended with a proportionate expenditure of nervous power. It is not the function of this system to strengthen and vitalize the body, but to use and expend vitality. Moreover, the active and inactive states of this system correspond to the mental condition of consciousness and sleep. Pain, pleasure, consciousness, the

manifest existence of mind, all depend upon the condition of these nerves, whose special function is sensation and voluntary motion ; in a word, it is through this system that we live, and move, and have our being, in a world of material and sensuous things.

Next, we have the ganglionic system of nerves. Upon either side of the spinal column, extending from the base of the brain to the base of the spine, there are a continued series of nervous ganglia, or nerve-centres ; and from these miniature brains proceed the nerves of involuntary motion to every living tissue and organ of the physical body. Self-operating, and almost independent of volition, these nerves control the functions of organic life. Circulation, nutrition, secretion, the action of the heart, lungs, spleen, liver, in fine, all the functions of organic life, are controlled and sustained, both in health and disease, by the presiding element,

which operates through this system of nerves.

Thus, it will be seen, we have two distinct nervous systems, the cerebro-spinal and the ganglionic. The former is to the mental what the latter is to the physical; one is subject to the will, the other is self-operating. We cannot give expression to our thoughts without a mental effort, but the liver secretes bile, and the stomach gastric juice, whether we will it or not. These results take place without our consciousness, the same when we sleep as when we are awake,—the same with the lower animals even as with man; for, as we have said, the principle of animal and vegetable life is essentially the same, and the presiding agent in either case we believe to be electricity.

But what reasons have we for this belief? Let us see. We know that this element is furnished to our bodies with the solids we eat, the fluids we drink, and the

air we breathe ; hence must, in the very nature of things, fill some important office in the economy of life. And then, we know the natural element of the nerves to be an imponderable element, operating precisely as we might expect electricity to operate. Again, the nerves, in their structure or anatomy are perfectly adapted to receive, retain, and expend this agent ; for the outer surface of every nerve-fibre in the body is a non-conducting sheath, perfectly fashioned to confine and direct electricity ; and, finally, is the process or *modus operandi* by which it is received and stored up by the brain and ganglionic nerves. In studying this subject, we discover that the arteries, which convey the blood from the heart, laden with nutriment and vitality, to build up and repair the wasting tissues, are accompanied by nerves, whilst the veins, which take back the impoverished blood to be reoxygenized at the lungs have no such accompaniment.

Now, experiment shows that electricity is the life of arterial blood ; and Sir Humphrey Davy assures us that it is also the essential principle of oxygen, or the life-principle of the air. A natural element of the blood is iron, which attracts and collects the electricity furnished by digestion and respiration, and as it flows in the arteries this element is given off to the accompanying nerves, whilst the ganglia, or nerve-centres, become the reservoirs of this vital force.

In keeping with this philosophy, let us observe some of the facts and phenomena which follow. Although the functions of the two nervous systems, as heretofore described, are entirely different in their operations and effects, yet the nerve-fibre of each so intercommunicates with the other as to establish the closest sympathy between both ; and herein is the key to a multitude of semi-conscious mind operations, projected through the sympathetic

action of the involuntary nerves. Through this channel the individual effects sometimes produced upon the bodily functions are truly wonderful, inasmuch as the subject is wholly unconscious of this transfer of power from the voluntary to the involuntary nerves.

Herein is reconciled all the phenomena of psychology and animal magnetism, as well as the power possessed by some persons to relieve pain and even cure disease. The ganglionic nerve-centres are the reservoirs of this electro-vitality, and over which we have no conscious will-power, and yet we have a limited volition in this direction, which, fully understood and properly directed, is productive of the most salutary results. Especially is this power of service to the physician, who has continually to do with the abnormal, physical, and mental conditions of the sick. Moreover, there is a singular charm in this power, which secures to its possessor a

positive and almost irresistible influence over the minds and conduct of his fellow-men; it is the real power of eloquence, which has no standard model, no form of expression, but springs spontaneous from the soul, electrifies the common heart, and permeates the whole.

We have stated that the action of mind upon the cerebro-spinal nerves is attended with constant expenditure of nerve-power; hence the necessity of rest, and restoration of that power, and to which end is the act or condition we call sleep. When the mind has exhausted the cerebro-spinal nerves of their surplus vitality, their action ceases, and they no longer respond to the summons of the will; in which case they become subject to the automatic action of the ganglionic system, and this is sleep. Whilst the brain and spinal nerves are in this passive receptive condition, the positive reflex action of the ganglionic system restores the wasted vitality, the

brain and spinal nerve-centres being the reservoirs of that force ; this accomplished, and we awake. Such, in brief, is the philosophy of that mystery called sleep ; and here we may observe that we never dream when asleep ; dreams occur in that intermediate state between consciousness and sleep, and their philosophy is this : All the mental impressions received by the registering ganglia of the brain during the journey of human life are somehow ineffaceably electrotyped in the mind ; and it is in that condition of modified sensibility, when present events make no impression, that these latent thought-vestiges of old impressions come forth, and we dream. And this dream-state, which is only modified sensibility, may be produced in a variety of ways. Solitude, monotonous sound, fixing the mind intently but passively upon one subject, — anything intended to harmonize the feelings and suspend voluntary thought, will produce this

condition ; and, whilst in this dream-state, through electro-mental sympathy, we may unconsciously read the latent thought-vestiges of other minds, and yet not recognize the source from whence they come ; for, as in all dreams, however real and tangible, we are never conscious that we are dreaming at the time. Consciousness of material things is a physical function, and depends upon sensation, as through the sense of seeing we become conscious of light and colors, or of sound through the sense of hearing.

Paralyze the optic nerve and you destroy one fifth part of consciousness ; the subject is one fifth dead ; so of each and all the senses, and yet you have destroyed no part of the mind. The old man, who has been blind for fifty years, dreams of things he saw when a child ; but the man who was born blind never dreams of seeing, of light, nor of colors. Dreams, intuitions, psychometry, and clairvoyance, all these

are but different types and phases of precisely the same condition, differing only in degree, and which condition occurs from a surrendering of the voluntary nerves to the automatic action of the involuntary, in which state of semi-consciousness the mind operates direct through the medium of electro-sympathy, instead of the usual channels of physical sensation. And in these relational laws of mind and body, as revealed by this system of electro-vitality, we discover a philosophy which reconciles and explains much of the most mysterious phenomena connected with human life.

We are taught that blended with the osseous, muscular, and vascular systems, we have a complete nervous system, the exact correspondence of our physical appearance were all other matter removed from the body; we are taught the duality of this system, and the active and re-active influence of the voluntary upon the invol-

untary; we are taught that electricity is the natural element of this system, the connecting medium between soul and body, the shining garment of the indwelling spiritual self. And, moreover, herein do we learn that through the nerves are all impressions and pictures of outer life ineffaceably electrotyped in the sanctuary of the soul; and that, upon the condition of the nerves, will depend the character of the impressions made, — the beauty or hideousness of life's lessons learned. For this life-record will endure when the lip falters, the eye dims, and the muffled voices of loved ones recede in the distance. No iconoclast shall enter here, but these soul-images will survive the wreck of time and sense, imperishable and immortal.

ELECTRO-THERAPEUTICS.

It is true that electricity, as a remedial agent, has hitherto received but a tithe of that attention from medical men, which its nature and importance demand, or which its universal existence as an imponderable agent would seem to suggest.

The random experiments of the so-called medical electricians, has done little to prepossess the public in favor of any haphazard use of this agent, whilst the little experience of the better-learned has not been sufficient to outweigh the feelings of doubt and hesitancy, but natural to the public mind; and yet, in the whole range of physical science, there is no subject fraught with such interest to mankind, as this agent has to do with all other

elements in the world of matter. The one thing requisite, then, is the proper manner of application, coupled with a correct understanding of the laws and principles upon which it is possible to control electricity as a remedial agent; for herein lies the error of the past. Although electricity is unquestionably the natural element of the brain and nerves, yet the common supposition that we can surcharge the human body with this element, or direct it upon the nerves, as along telegraph wires, is a most stupid assumption, and argues for its claimants a very superficial knowledge of the anatomy of the nervous system.

In all remedial uses of electricity, we affect first and directly the blood and fluids of the body; secondly, the muscular system; and, last, the nerves which secure it, by a kind of induction, or electro-vital affinity. The common use of what is termed medical electricity, consists in stimulating the skin, exciting muscular

contraction, or subjecting the subject to the risk of being paralysed with shocks; and whether the result is favorable or otherwise, is rather a surprise to the operator, than any foreseen result of a systematic procedure.

In the proper and judicious use of electricity for the treatment of those diseases to which it is specially applicable, it should always be directed upon the parts or organs affected, by the hand of a second person, never subjecting the diseased parts to contact with a sponge or any metallic substance. Again, only the most gentle and finely tempered currents should be employed, and those directed with a carefulness which shall preclude all possibility of pain, or unpleasant sensation; and, in all applications upon the surface of the body, water, acids, or alkaloids, with which to moisten the parts, will be found an almost essential auxiliary measure in the accomplishment of favorable results,

whilst we are thus enabled to direct and concentrate the power used, as well as to effect electro-chemical and vital changes — otherwise impossible — for frictional, chemical and vital, are terms applicable to the changes wrought by the use of this agent.

It has been stated, in another part of this work, that medicines cannot reach disease, except as they operate through the blood. The same may be said of electricity as a remedial agent. Although the natural element of the nerves, it is through the medium of the blood and fluids of the system that our efforts must be directed; and whilst this practice becomes the rational means for all diseases strictly nervous in character, it is especially in the treatment of uterine diseases that electricity becomes a sovereign remedy when and where all other known means and methods have proved unavailing.

Woman, from the peculiar nature of

her physical organization, is subject to a class of diseases to which man, as a sex, is a stranger, and those too hinging upon all other diseases incident to both sexes. The degree of suffering, physical and mental, the pain and discomfiture endured, the disturbing element in social life, the severing of domestic ties, and the propagation of weakness and disease; all these find their source in the diseased organs and perverted use of feelings and faculties destined for the propagation of the race, — the happiness and well-being of mankind. And it is over this department of woman's nature, that electricity, as a remedial agent, has signal control. In fact, there is no disease to which this system is subject, whether characterized by pain, weakness, or inflammation, for which it is not the remedy indicated. Here it is that new electro-vital forces are generated, controlling the functions of conception and gestation, and influencing the embryotic life

of a world unborn. And it is with these solemn life-mysteries that electricity is God's vicegerent, blending spirit with matter, in the creation of new life, the consummation of marriage, the ultimate for which the sexes were made.

But it is not our purpose here, to explain the *modus operandi* for the treatment of uterine diseases with electricity, but simply to direct attention to the importance of that agent, as such.

The value of woman's health cannot be over-estimated. The hand that rocks the cradle, holds the septre that sways the destinies of nations and empires. As we read the history of the past, and observe its dark outline, how marked is woman's influence upon the lives and characters of the men who have ruled the world. Through the laws of physical and mental impressibility, she projects crime and disease, or sets the seal of health and beauty upon childhood's years, and manhood's

prime ; her influence begins with life in embryo ; it never dies ; how important her duties, how blessed her mission, how needful her health for the good of mankind. What sublime hopes and possibilities make sacred the name of mother. Amidst the stern realities of life's conflict, man's heart may grow cold ; hers never ; other loves may change, and other friends may fail us, adversity may come and darkness gather round us, but

As shining stars light up the night,
In the over-arching blue ;
So does the love-light in her heart,
Burn steadily and true.





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