

Sanborn (G. D.)

ON THE INHALATION

OF

Cold Medicated Vapors,

IN

PHTHISIS PULMONALIS;

AND THE USE OF

SHOWERING SYRINGES,

IN

LARYNGEAL AND CATARRHAL DISEASES.

BY

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To the Members of the Medical Profession:—

GENTLEMEN,—I desire to lay before you a brief account of a new method of applying medicated vapors, in diseases of the lungs and throat, of which I claim to be the originator; and which, having proved in the highest degree successful in practice, commends itself to your consideration and adoption. The results I shall present you are such as I have arrived at after long and careful study of the subject, and after the successful treatment by this method of many hundred cases of phthisis pulmonalis, together with other diseases of the respiratory organs, the details of a few of which will be given in a future section. I shall also have occasion to state the views of the pathology of phthisis on which I have based my system of inhalation.

Two facts I shall insist on in the outset;—*first*, that the treatment of phthisis by medicines introduced into the stomach, has been tried in every conceivable form, *and has most signally failed in all*;—*and secondly*, that the old methods of inhalation have proved, in practice, equally ineffectual.

A conviction of these facts led me some years since to investigate for myself the subject of pulmonary diseases; and, being guided by what I consider

to be a rational view of their pathology, and that of phthisis in particular, I have succeeded in applying to them a new class of remedies, and in a manner which, I believe, has not been hitherto adopted by the profession. The success of this method, I am happy to say, has realized my most sanguine hopes.

This treatment is now, as formerly, applied in the diseases above named, and to the great number of cases which continually present themselves, at the New York Lung Institute, No. 6 Bond Street, N. Y.; an institution of which I have the charge. The effects of the treatment have been here witnessed by many eminent physicians, as also the applications employed; and their published testimony, which I would lay before you did my space permit, fully confirms all I shall say of the rationality and the superiority of the new practice. Regular physicians of the best standing, in Boston and elsewhere, have also adopted my method of inhalation, and are now practicing it with success.

It will be proper, before I proceed, to state some facts relative to the

OLD PLAN OF MEDICAL INHALATION.

Inhalation of the vapors of various articles in pulmonary diseases, has been practiced both in Europe and in this country, for the past three or four hundred years. We shall find upon examination, however, that most, if not all, those articles have been used empirically, and not with correct views of the pathology of the disease treated, or of the indications to be fulfilled. The agents employed have, in all cases, been inhaled by being infused in *hot water*. As used, a majority of these agents have unquestionably proved mere palliatives, or have done positive injury.

The vapors of iodine, chlorine, the tinctures of conium, cicuta, opium, hyoseyamus, belladonna, stramonium, and ipecacuanha, hydrocyanic acid, sulphuric ether, balsam of copaiva, creasote, cyanuret of potash, camphor, asafetida, and vinegar, etc., have been thus used by inhalation. And these remedies have, at different times, been advocated by Boerhaave, Van Swieten, Laennec, Gannal, Scudamore, Mudge, Crichton, Thomas, Corrigan, Ramadge, and others in Europe; and by Rush, Eberle, Coxe, and others in our own country. The inhalation of the agents above named, is a subject well understood by the profession generally; and having been tested and abandoned as worthless by regular practitioners, their use is now confined to certain *itinerant* physicians and *semi-medical* men, who make their appearance in different parts of the country, and contrive to get up for a time a *furor* concerning themselves as the authors of some new and wonderful discovery! It must be borne in mind, however, that none of these remedies have hitherto had a trial in connection with a total disuse of drugs to the stomach. Some of them, I admit, properly combined and used, allowing the stomach rest at the same time from worrying drugs, may produce great benefit; but such has not been the manner of their use hitherto; and hence their total failure.

The leading articles employed by Dr. Scudamore, about the year 1830, and by physicians and pretenders since his time, have been iodine, conium maculatum, creasote, and some of the balsams, united with *hot water*. Now, the vapor of iodine, when made strong enough to produce any marked effect, proves exceedingly irritating to the lungs, so much so that the patient is often compelled to discontinue it. WOOD and BACHE, in the "U. S. Dispensatory," 5th ed., p. 396, say, "We have no disposition to discourage the trial

of new methods of treatment in phthisis by regular practitioners, but we cannot conceive of this inhaling treatment having any other than a palliative effect." It will be remembered that no judgment expressed by these authors can apply to the remedies employed in my practice, since they have had, as a matter of course, no opportunity to learn their merits or demerits. Dr. C. J. B. Williams, in his "Diseases of the Respiratory Organs," p. 396, says, "The vapor of iodine has been much extolled as a means of promoting the removal of tubercles and the cicatrization of cavities; but there is not yet sufficient evidence in its favor to warrant us in recommending it." And Dr. Clymer, in 1844, adds, "Our impression is not favorable to it [iodine]." Dr. Swett, in his excellent work on "Diseases of the Chest," published in 1852, passes over the subject of inhalation of iodine in silence. The fact that an agent once so strongly recommended, is now almost wholly unused, renders further testimony on this point unnecessary.

THEORY OF TUBERCULAR PHTHISIS.

The general opinion of the medical profession has long been that phthisis is from the first a constitutional disease, and that the deposit of tubercle is the result of a previous morbid condition of the blood. There is no doubt that the blood is changed materially in some of its elements; as in phthisis the amount of albumen, and generally of fibrin, is found to be increased, while the red globules are greatly diminished. But this change, I claim, is merely secondary. It is the result of the filling-up of the air-cells of the lungs, or their closure in some way, so that the oxygen of the air cannot enter the blood in due quantity. The consequences are, that the vitality of the whole system is impaired, while, at the same time, the carbon of the blood is not properly thrown off. Phthisis, then, is primarily a local disease. But the blood becoming secondarily affected, and charged with superfluous carbon, this escapes in a semi-fluid state from the vessels, into and around the air-cells, and, there solidifying, forms *tubercle*, which afterward undergoes the well-known changes.

But what must occur after the deposit of tubercles has gone on to a great extent, or, ulceration has commenced? It is well understood that *vital power* acts to preserve the living solids against the *chemical* and *destructive* agency of oxygen. But when extensive tubercular deposit, or the commencement of ulceration has occurred, the vital power is greatly reduced, and oxygen not being duly resisted, seizes on the blood and tissues. A rapid breaking down takes place, the breathing becomes quick, the blood florid, and the patient wastes away. This is believed to be the actual course of the facts, as witnessed in cases of phthisis.

It follows that, so surely as we can introduce a sufficiency of *combustible material* in a volatile form into the stomach, for which oxygen shall have a greater affinity than for the fatty and other tissues of the body itself, so surely we can stay the destructive progress of this disease. And this, I shall hope to show, can be done.

In harmony with the views now presented, the three main features of my treatment are—*first*, that the remedies employed are applied directly to the seat of the disease; *secondly*, that no drugs are prescribed or allowed to be taken into the stomach; *thirdly*, that in the latter stages of phthisis, a free supply of carbon is constantly introduced into the system. The leading principle in the treatment of this disease should be, SUPPORT, NOT REDUCTION.

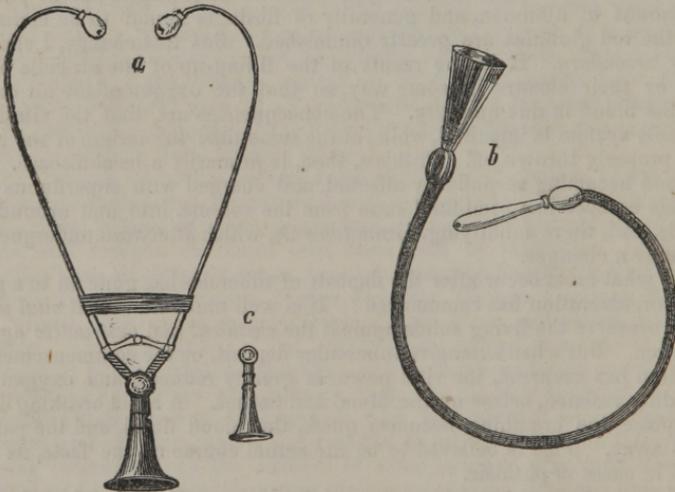
In the treatment of phthisis, two objects are kept in view. *First*, such remedies are used by inhalation as will dissolve the tubercles already deposited upon the mucous surface of the air-cells, by their chemical affinity for the substance of tubercle itself, and which thus, by liquefying it, assist Nature to remove it by her method of expectoration; and *secondly*, measures are adopted to prevent the further deposit of tubercle.

That alcoholic vapor will act upon the matter of tubercle as a *solvent*, there can be no doubt, when we consider the chemical nature of the two substances. And besides, when the substance of tubercle is placed in alcohol, a solution of it really takes place.

To prevent the further deposit of tubercle, I rely upon increasing the capacity of the lungs by the mechanical effect of inhalation, and on the invigorating effects of a generous diet, with active exercise, pure air, and alcoholic drinks.

By furnishing a free supply of carbonaceous material, in some form that readily unites with the oxygen of the air, the tissues are shielded from the destructive inroads of the latter agent. This may be done by giving suitable food, and also by the different vapors employed to the lungs. That these vapors, as well as alcohol, all contain large amounts of carbon, will be seen by the list of them given in the next section.

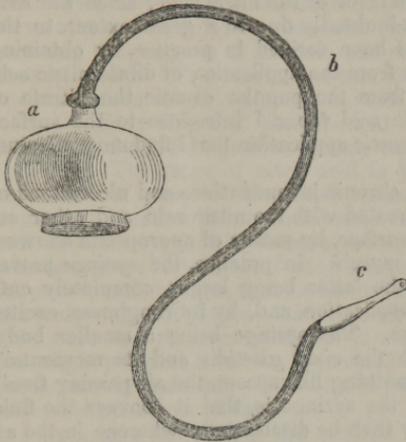
In detecting diseases of the lungs, the instrument most frequently employed by me is CAMMANN'S STETHOSCOPE, (Fig. 1, *a*), which I consider superior to



any other ever invented. Sometimes use is made of the common Stethoscope, with a flexible tube (*b*). The great advantage of Cammann's instrument is, that being capable of accurate adjustment to both ears at once, the sounds made within the chest are heard much more distinctly than they could be by one ear alone. The effect is as if the sound was made louder. In cases where the patient is much emaciated, the smaller funnel (*c*) is attached, in place of the larger one shown in (*a*)—the smaller being more easily fitted to the surface of the chest. In using this Stethoscope, the chest must be completely bare, the person quiet, and absolute stillness must pervade the room. The common Stethoscope is better for use above and below the clavicles, and about the trachea and larynx.

THE INHALER.—METHOD OF INHALATION.

In the method which I have adopted the articles to be inhaled are first dissolved in pure deodorized alcohol, and properly diluted with the same fluid. The Inhaler, (Fig. 2,) consists of a small glass globe (a,) with two openings, to one of which is attached a flexible tube (b,) with an ivory mouth-piece (c.) A fine sponge, moistened with about two tea-spoonfuls of the liquid to be used, is introduced into the globe of the Inhaler. The patient inhales the air through the sponge, which becomes saturated in its passage with the vapor used. From five to fifteen or twenty slow, deep, and full breaths, are thus drawn, each being retained a short time before expiration. The strength of the vapor can be perfectly regulated, and is uniform for each period of inhalation.



The Inhaler now described, is new both in principle and in details. It is convenient, and may be carried in the pocket, to be used when walking, riding, or traveling. Its greatest excellence, however, consists in the fact that the vapors inhaled through it always enter the lungs at the *natural temperature* of the surrounding atmosphere. Thus this method gives us the ordinary process of breathing, with the addition of stimulating, soothing, or healing qualities to the air inspired. For proofs of the efficacy of this treatment, I will refer the practitioner to the cases reported in this pamphlet, and to the testimony of physicians who have witnessed or tested its success.

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THE REMEDIES USED.

The vapors prescribed are chiefly of four kinds,—Expectorant, Anodyne, Astringent, and Asthmatic, of each of which there are different varieties, to meet the indications of particular forms and stages of pulmonary disease. To give special directions for the use of these vapors, would occupy too much space; and besides, this cannot well be done, except in the particular cases, as they present themselves.

For the inhalation of these vapors, *pure deodorized alcohol* is the menstruum invariably employed. This is, for many reasons, the most appropriate medium. It is vaporized with the substances used, and thus acts as a solvent for tubercular matters, besides contributing carbon to supply the demands of the system.

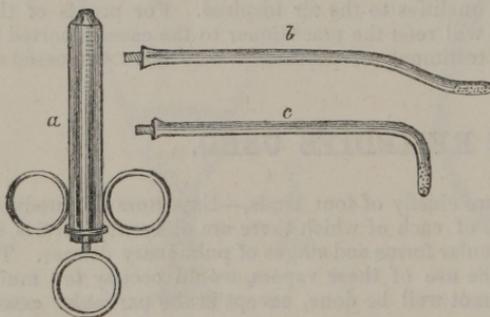
Among the remedial agents administered in the form of vapor, in connection with the vapor of alcohol, are the following: nitric, benzoic, acetic, and tannic acids; the oil of bitter almonds; the tinctures of tolu and sanguinaria; Donovan's solution, spirits of ammonia, gum camphor, arsenic, balsam of fir, creasote, and chloroform.

Among these articles I have found the vapor of dilute nitric acid to be, in cases of advanced phthisis, the most potent and effectual; and this is accordingly my chief reliance in inhalation. The solution employed is from 25 drops to 1 drachm of the officinal acid, to from 6 to 8 fluid-ounces of alcohol.

The employment of nitric acid in the way of inhalation, I believe to be entirely new. The benefit derived from the nitrate of silver, used as a caustic, constitutes a strong argument in favor of the nitric acid; since the cauterizing effects of the nitrate are undoubtedly due, to a great extent, to the acid contained in it. This opinion I have verified in practice, by obtaining more marked and successful results from the application of dilute nitric acid to ulcerations of the throat, than from the popular caustic, the nitrate of silver. Thus, by inhalation of nitric acid vapor, I introduce to the surface of cavities in the lungs the same *caustic* application that I find most effectual when applied to an ulcerated throat.

I may remark at this point, that chronic inflammations and ulcerations of the fauces, trachea, and nares, are treated with the nitric acid and other solutions, introduced to the diseased surface, by means of appropriate showering (silver) syringes, invented by myself. In practice, the *syringe* proves far superior to the *probang*; since the latter being larger, completely cuts off the passage of air during its application, and, by its roughness, excites spasm and a temporary strangulation. The syringe being a smaller body, and polished, passes easily through the *rima glottidis*, and its momentary presence in the trachea occasions nothing like spasm, the air passing freely around it. Another advantage of the syringe is, that it conveys the fluid safely to the desired point, and may then be discharged; whereas in the attempt to pass the probang into the trachea, much of the solution it holds will be pressed out, in forcing it through the glottis.

The most convenient form of Showering Syringe, is that shown in Fig. 3. It consists of a barrel (*a*), in shape something like the female catheter, but



larger, with two bulbs, of different curves, either of which may be screwed to the barrel, after it is filled with the liquid used, and which, being perforated with holes, throw a fine shower of the liquid in all directions. The bulb *c* is for the posterior nares; that marked *b*, for the trachea. The entire instrument is made of silver.

It will at once be seen that the mode of treatment which has now been stated, is *not* mere routine. As carried out by me in the New York Lung Institute, it applies to each case remedies adapted to the particular form and stage of disease present. Nor do I claim that topical remedies, although necessary, will alone affect a cure. The "*vis medicatrix nature*," is the great reliance of every intelligent physician; and in applying remedies locally, I only claim that they are such as to aid in the very work which nature is striving to perform.

Nor is active treatment, of any kind, the sole reliance of this system. The cases here presented are, almost without exception, those of a long-standing

chronic character, and in tuberculous subjects, too often in the last stages of the disease. In all these cases, I insist particularly on *hygienic measures*, such as the free use of active exercise, pure air, and a nourishing and generous diet.

When we consider the unfavorable character of the cases, as stated above, on which this system has of necessity been tested, and those who have tried the whole round of the prevailing modes of treatment, without benefit, and often with direct injury, we shall be prepared to appreciate the merits and value of a system so often successful (as the following cases will show,) in arresting the progress of phthisis, and restoring the invalid to a state of permanent health. The "fruits" of this method of practice, it will be seen, are the most unanswerable arguments in its favor.

In the early stages of phthisis, and before softening has occurred, Inhalation and the other agencies already named are employed with some modifications. The vapor of nitric acid is prescribed, but of less strength, and also that of arsenic. The chief reliance at this stage, however, is on the constant inhalation of alcoholic vapor from the jacket worn upon the chest, and kept always wet in dilute alcohol, day and night. Dr. Marshall Hall, who has given to this application a persevering trial, is very enthusiastic in its praise, and declares that he has witnessed greater benefit from its use in the early stages of phthisis, than from all other remedies combined. Alcoholic drinks are also recommended, but in more moderate quantity. Active and thorough physical exercise is insisted on, and no drugs are allowed to be taken into the stomach. The diet is generous and supporting, with the rejection of all forms of fat.

I have now laid before the medical reader a brief view of the principal features in the treatment which I have adopted in the various diseases of the lungs and throat. This treatment I have up to this time applied in hundreds of cases, and with the most gratifying results. It is a mode of practice which relies on remedies acting in harmony with the known laws of human physiology; and it is not strange, therefore, that a more marked success should attend its use, than has fallen to the lot of any previous method of treatment in these diseases.

In placing this method before physicians in this country, I have been actuated by a desire to communicate to them what I deem to be information of the highest importance to them, and by a hope that many of them will be led to adopt in their own practice a course the success of which so strongly commends it to general favor. Physicians, it is hoped, will examine carefully the *rationale* of the method and remedies now presented, and test their efficacy for themselves. It has been seen that these remedies are such as aim at a *radical cure* of the diseases for which they are employed, instead of being, as has been true of too many of the remedies of the past, merely intended as palliatives; and yet, where the relief of urgent symptoms is required, or palliation is all that can be hoped for, the medicated vapors, properly modified and applied, prove to be all the physician could desire. Every necessary effect, too, which is ordinarily sought to be produced by means of medicines introduced into the stomach, can be much more directly and satisfactorily secured by the inhalation of the medicated vapors. Thus, an expectorant, an anodyne, a stimulant, a tonic, an astringent, or a relaxant effect, is directly and speedily produced, without the delay consequent on the passage of medicines from the stomach into the blood.

Yet I would not encourage the supposition (far, indeed, from the truth) that the treatment now detailed can be taken up with but little study, and at once successfully practiced by the novice. No system of practice requires a more thorough acquaintance with its details, a more matured judgment, or a nicer discrimination, than does that which has now been laid before

you. But its proper employment will in the end amply reward the intelligent and judicious practitioner, for all the effort and pains it may cost him to master the *minutiae* of its application.

Below I present you an account of a few of the cases treated upon the plan now described, with the condition in which the patients were found, the remedies used, and the results which followed their application. The cases first detailed are those in which actual cavities existed.

CASES TREATED IN WHICH CAVITIES EVIDENTLY EXISTED IN THE LUNGS.

CASE I.—MR. CORNWALL, aged 32, Bookkeeper in Genin's Bazaar, No. 513 Broadway, N. Y.

This gentleman applied to me for medical treatment, March 20th, 1854.

His general appearance was the most unfavorable that could be imagined. There was great emaciation, extreme prostration, almost constant cough, profuse muco-purulent expectoration, night sweats, loss of appetite, and every symptom of an advanced stage of phthisis. Upon physical examination of the chest, a well-formed cavity of considerable size was discovered under the right clavicle. There was also extensive tubercular deposit in the superior and middle lobes of the right lung. This gentleman had been examined by many of the first physicians of New York, who had all united in pronouncing him in the last stages of phthisis. I will add that the disease in his case was not hereditary, having been acquired by too close confinement within doors, and upon a damp floor, resting upon the ground.

Since the commencement of his difficulty, which was nearly eighteen months previous, he had been subjected to the usual system of Allopathic practice, by a very intelligent physician of this city, Dr. M. W. Gray. During three months previous to his coming under my care, he had taken upward of twenty bottles of "Cod-Liver Oil." Upon this he had evidently increased in weight and fat, but received no addition of strength, his appetite at the same time being nearly destroyed. He was also taking anodyne powders of morphine at night.

In this condition, I subjected him to the following treatment. In the first place, "Cod-Liver Oil" was laid aside, and the patient was forbidden to take any medicine into the stomach. He was required to inhale, morning, noon and night, the vapor of the following mixture:

Pure Deodorized Alcohol (95 per cent),	. . .	vi.
Nitric Acid, . . . . .	. . . . .	ss.
Benzoic Acid, . . . . .	. . . . .	ss.
Tinct. Tolu, . . . . .	. . . . .	i.
Oil of Bitter Almonds,	. . . . .	i.
Gum Camphor, . . . . .	. . . . .	i.

From one to two teaspoonfuls of this liquid were poured upon the sponge, and the patient was required to fill his lungs slowly with its vapor, from six to ten times at each period of using.

In connection with this application, I directed him to drink about four ounces of the best brandy daily, to adopt a nourishing and generous diet, to take all the exercise his strength would allow in the open air, and to have the whole body sponged over, morning and evening, with a mixture of equal parts of alcohol and water, rubbing the surface after the bath until thoroughly warmed. He was also directed to wear next to the chest a

jacket of coarse crash, which was wet as often as it dried in equal parts of alcohol and water. Two objects are secured by this application, as it causes the patient to inhale constantly and slowly the vapor of alcohol, and also quiets pleuritic pains.

This course of treatment was strictly observed for two weeks, without any alteration whatever. From its very commencement the improvement of the patient was so rapid as to exceed my most sanguine expectations. The cough and expectoration diminished, the appetite returned, night sweats ceased, and as the patient expressed it, he "felt better all over." From this time the amount of nitric acid was gradually diminished, and tannic acid substituted. The inhalations were varied from time to time, but the physical treatment remained the same, excepting a gradual increase in the amount of alcoholic stimulant used.

Oct. 1.—The patient has increased in weight nearly *twenty pounds*. At the present time, about six months from the commencement of treatment, he is able to attend to his usual business, from ten to twelve hours per day.

June 1st, 1855.—This gentleman's health continues remarkably good, taking into consideration his sedentary habits. He has lost no flesh during the winter, his appetite and digestion are good, he has but little cough, and scarcely any expectoration. On examination of his chest at this time, I find that a cavity still exists, allowing free ingress and egress of air; yet I can not detect the slightest indication of the presence of any secretion whatever. The exact condition of this cavity, or the appearance it would present, of course, we cannot know; but I have no doubt that an adventitious membrane has been formed lining its sides, contracting its size, and condensing the pulmonary tissue surrounding it. It can not be denied that the softening and breaking down of the lungs, which was rapidly going on at the time of commencing the treatment, *has been checked*; and whether this most favorable result was produced by the treatment instituted in the case, or whether by withdrawing all medicines from the stomach, I leave it to intelligent physicians to decide. I look upon this as a marked illustration of the efficacy of the mode of treatment I have adopted, in arresting the progress of this most fatal disease; and as a convincing proof of the benefits to be derived in the treatment of it from the inhalation of nitric acid and alcoholic vapors.

CASE II.—WM. ROWORTH, aged 20; residence 31 Division st., N. Y.

This patient came under my care June 19th, 1854, his features and general appearance indicating advanced phthisis. His expectoration was purulent in the highest degree, exceeding in quantity anything which I have ever witnessed, before or since, with a most intolerable odor of sulphuretted hydrogen. An immense cavity existed in the right lung, involving the middle and upper lobes. The left lung gave symptoms of the presence of tubercles, but not softened. The digestion was good. His previous treatment had been decidedly eclectic; as during two years he had tried almost every known mode of treatment.

This patient was required to make use of the same vapor as that given in the case previously detailed, but with the addition of tannic acid; and this was continued during ten minutes, and repeated four times daily. The jacket for the chest, and daily bathing, as in the previous case. Diet, exercise, and air, the same; with the use of from four to six ounces of brandy daily. No medicine was allowed by the stomach. After the lapse of a month, the proportion of nitric acid in the vapor was increased; and to correct the very disagreeable fetor of the expectoration, creasote was added.

The favorable effects of this treatment were marked, from the first. The cough was soon in a great degree relieved, and the expectoration rapidly

diminished in quantity. The offensive odor of the *sputa* was wholly removed. The patient improved in appearance and in general comfort, and gained within a short time six pounds in weight. But recovery, in a case so far advanced, was hopeless; and he gradually failed at the last, and died in November following. Yet this case is one of much interest, as proving the power of the inhalation of cold medicated vapors in connection with suitable hygienic remedies, withholding all medicines from the stomach, to *arrest the progress of cavities in the lungs*, in a case of advanced phthisis, and in which the powers of the system were rapidly failing. Thus where cure is impossible, this system affords the most valuable relief.

CASE III.—MRS. W., aged 27, residence in Cayuga Co., N. Y.

This lady applied to me for treatment June 7th, 1854. Her disease was phthisis, of five years' standing, and in her case unquestionably hereditary. In this instance also, a large cavity was found to exist in the upper part of the right lung (although in this country cavities are more commonly first observed in the *left*.) The cough was violent and expectoration profuse. The larynx also was ulcerated, and the fauces much congested. There was great emaciation and debility, and the bowels were usually relaxed.

The compound vapor already given was prescribed in this case, with an increase in the amount of nitric acid, and the addition of tannic acid. In other respects the treatment was the same as in the cases already detailed. The patient was required to take brandy or wine, generally the former, three or four times daily; in all from four to six ounces per day. The results of this treatment were marked and satisfactory in the highest degree.

June 9th.—The cough and expectoration were much diminished; the breathing more easy and free. The patient declares that she feels better than at any time for six months previous. An application of nitric and tannic acids was made to the throat, and the other treatment continued.

June 12th.—Great improvement is manifest. The expectoration has still further diminished, and cough occurs in the morning only.

June 21st.—Expectoration has nearly ceased. The stomach and bowels are regular.

June 29th.—At this date the patient left for home. Since this time she has continued constantly under medical care, taking some slight treatment, but increasing the quantity of alcoholic stimulus used internally.

June 15th, 1855.—Mrs. W. returned to this city; and upon examination the following was found to be her condition. The cough has become trifling, and expectoration has ceased. The general health has been better for the past year than for many years previous. The original cavity is still to be discovered in the right lung; but it is evidently empty, and its sides only healthily moist. Its size has not increased. The portions of the lungs which had been tuberculated, are still slightly dull, but give no evidence of the progress or softening of tubercles. It is plain, therefore, that the course of the disease has been completely *arrested*, although it cannot yet be said to be cured. The throat is materially improved. The patient has spent most of the past year in making short and easy journeys from one place to another,—a very appropriate manner of life for an invalid in her condition.

CASES OF CHRONIC BRONCHITIS.

CASE I.—A. W. CAMPBELL, aged 69; residence, Hackensack, N. J.

Mr. C. came under my treatment Oct. 13th, 1854. He had been suffering from chronic inflammation of the throat and air-passages for the past ten years. His system was much debilitated, and in part from loss of appetite induced by the great amount of medicines he had taken. He had night-sweats, harassing cough, profuse expectoration, and all the symptoms of the last stages of bronchitis.

I placed him upon the use of the following compound, in the way of inhalation: Deodorized alcohol, ℥vi.; nitric acid, ℥ss.; to which were added tolu, camphor, oil of bitter almonds, and tannic acid. Alcoholic stimulus was given freely, and the surface sponged in dilute alcohol once a day. The use of the vapor was continued, with occasional changes, to meet the symptoms arising, for one month; at the end of which time there was much less expectoration, no night-sweats, and, in all respects, the patient was decidedly better.

Since that time he has used the same vapor, containing, however, less of the nitric and tannic acids. This has been inhaled, from time to time, up to this date, and with continued improvement. Mr. C. now enjoys tolerably good health, and, for a man of his age, is quite comfortable.

CASE II.—N. HOUGHTON, Esq., aged 63; residence, Avon Springs, New York.

This was a case of bronchitis, of twenty years' standing. Came under my care, November 3d, 1854. This case was a marked one, on account of excessive expectoration, night-sweats and debility.

The patient was required not to take any more medicines into the stomach. He was placed upon the same vapor as that given in CASE I. At the end of two weeks he had decidedly improved in strength; expectoration and night-sweats had entirely ceased, and the cough was much less harassing. At the end of two months this patient had so nearly recovered as to be about and quite comfortable. He is now enjoying as good health as one at his age could expect.

It should have been remarked, that in both these cases, the patient was put upon the use of Jamaica rum and milk, drinking it four or five times a day; and in all cases of bronchitis, in patients at this age, I prefer Jamaica rum to any other form of alcoholic stimulus.

CASE OF CHRONIC CATARRH.

Mr. H. M. McKenzie, a well-known merchant of Charleston, S. C., applied for treatment, Feb. 7th, 1855. This was a very severe case of catarrh, although the patient had been treated by various physicians for tubercular consumption. His cough was extremely hard and racking, but was really caused by the dropping of muco-pus from the posterior nares upon the epiglottis. One nostril was completely closed. The patient was under treatment by me during three months—the nares being showered every other day, by the use of the syringe shown in Fig. 3. The liquid at first used was nitric acid; but in this case reliance was especially placed on frequent changes from the caustic application already named, to the nitrate of silver, acetate of zinc, tannic acid, etc.

When this patient left, the cough and discharge had nearly ceased, and

he suffered very little in any way from the disease. He left for home after three months, but continued the use of the syringe as before. His general health was now quite restored.

This case is merely given as a sample of the results which have been witnessed after similar treatment, in a great number of cases. In this difficulty the nasal showering syringe acts very finely—the liquid being readily injected into the posterior nares from the mouth, and allowed to escape anteriorly.

ALCOHOL ACTS TO PREVENT THE FORMATION OF TUBERCLES, AND TO FAVOR THEIR REMOVAL WHEN ALREADY DEPOSITED.

In the plan of treatment I have now detailed, alcohol, in some of its forms, is prescribed in all chronic diseases of the lungs and throat. I am aware that the announcement of this fact, at the present time, is calculated to excite the prejudices of many physicians who have not given to this agent a persevering and satisfactory trial; and I therefore deem it proper to state, in few words, the grounds on which its use, in my practice, is based, believing that those who candidly and impartially examine the subject, will find their objections removed.

In order to decide as to the propriety of the internal use of brandy, wine, etc., in phthisis and bronchitis, we must ascertain what are the effects of alcohol, taken in moderate quantities, on the living system, and what are the facts that have been observed, independently of any theories whatever, in regard to the subject.

Upon examination into the effects of alcohol, then, the most marked fact we observe is, that it is an *antiseptic agent*—that it *powerfully resists change or decay*. In the living body this effect takes place in two ways. *First*, it unites with and hardens the fibers; and, *secondly*, it offers itself to oxygen more readily than the fatty and other tissues of the body, and thus shields the latter from rapid decay. This is well stated by YOUMANS, in his treatise on "Alcohol," in which he says, "Alcohol prevents decomposition, or alteration. * * * In the living system, so long as its presence continues there, it acts antiseptically to check the proper transformations of the body." It will be remembered, that I have already shown, that in the active stages of phthisis, *transformation takes place too rapidly*; and hence, any agent that will check this process, must be in the highest degree valuable.

Dr. J. G. Atkinson, physician to the Wakefield Dispensary, England, who has had the opportunity of making extensive observations upon the subject of tubercular deposit, and who attended there every patient afflicted with phthisis during five years, and witnessed the *postmortem* of each when dead, has given us his testimony on this subject. After remarking that the victims of this disease are chiefly taken from among those classes of individuals "whose general tone of system is lowered," cases in which too rapid breaking down of tissue would take place, he adds, "A remarkable fact exists, strange as it may appear, that in consumptive families, the most dissipated and irregular in their habits, and those who have habitually exposed themselves to many of the causes liable to engender this diathesis, have yet frequently enjoyed longevity; whereas, in the same families the most virtuous, and those who have guarded their lives with the greatest care and prudence, have fallen early victims." I give place to this fact, simply as a fact, which the experience of many will corroborate, not to sanction or recommend habits

of drunkenness. It has been long and generally observed that drunkards seldom or never die of pulmonary consumption. Yet it is the *moderate*, and not the *excessive* use of alcoholic drinks for which I contend, as a preventive of this fatal disease. All the benefits to be derived from the use of alcoholic stimulus, may be secured without going to an injurious excess, while, on the other hand, *the immoderate use of this agent produces diseases of the liver and nervous system, although it shields the lungs.*

Dr. Atkinson states, that in prisons, where alcoholic drinks are, of course, rigidly excluded, "four-fifths" of the deaths occur from tubercular disease; while among publicans, butchers, seamen, brewers, and others, who take alcoholic stimulus regularly, the deaths from phthisis are much less frequent than in the community at large. The absence of pure air and exercise under which the former class suffer, will, of course, have some effect in producing this result. The following are among the conclusions at which Dr. A. arrives: "That in phthisis the body is rapidly consumed by the consumption of its elements with oxygen," the vital power being too low to resist its chemical action; and, "That it is probable the rapid oxidation of the body may be checked, or entirely prevented, by the use of alcohol, or of some agent acting in the same way."

Cod-liver oil, which has been much used for the same purposes it is here shown that Alcohol is so well fitted to accomplish, is like the latter, essentially composed of *carbon*. The advantages of alcohol, however, are many and obvious. It contains carbon in a volatile form, and hence better prepared for diffusion through the system, and for ready union with oxygen, than cod-liver oil, which is a fixed oil, can be. It has been supposed by some that the oil affords actual nourishment. This cannot be so, since it is simply fatty or combustible material, and contains the elements of neither blood, bone, nor muscle. It is deposited in the cellular tissue, giving the patient more fat, but neither muscle nor strength. Now it is very evident that all of this substance which goes to form fat, is *lost* for all protective purposes at the time of use; since it is *only by its own decomposition and removal, that it can save the tissues from undergoing the same fate.* Alcohol *does not fatten*, but it may improve the *flesh*, at the same time that it is itself wholly consumed and removed by oxygen. Besides, the oil almost invariably destroys the appetite, and thus, in the end, only aids in reducing the vital powers. Alcohol not only readily suffers oxidation, but at the same time it hardens the fibers of the body, and in this way also prevents change, while cod-liver oil has no such power.

The late Professor Swett, of the New York University, one of the most distinguished of American practitioners and medical authors, says, in his excellent work on "Diseases of the Chest," p. 238, "Two medical gentlemen, attached to the public dead-house in this city (New York,) in which bodies are deposited which are found in the streets, or without friends, discovered in about seventy *postmortem* examinations of those who had died of the most confirmed and aggravated intemperance, *not a single case of tuberculous lungs.* A most surprising result, when you remember that this unfortunate class have, probably, long suffered from poverty, bad nourishment, and exposure to the weather; influences which are regarded as predisposing to the tuberculous deposit." This is very strong testimony to the prophylactic influence of alcohol against tubercular disease, and it comes from a high source. Prof. Swett also recommends alcoholic drinks in the treatment of the later stages of the disease. Prof. Mussey, of Cincinnati, Dr. Charles M. Jackson, of Boston, Prof. Metcalf, of the New York University, Prof. W. H. Parker, of the New York College of Physicians and Surgeons, and Dr. Edward H. Dixon, Editor of the "Scalpel," are avowed advocates of the internal

use of alcoholic stimulus, in some form, in phthisis; and to these distinguished names we may add those of Dr. Marshall Hall and others, in England.

My practice differs materially, however, from that of the physicians above named, in this important particular, namely, that I prescribe this agent more generally in chronic diseases of the lungs and throat, than has been done by any previous practitioner. Thus, I find benefit to be derived from a moderately free use of brandy, wine, gin, porter, or some other form of spirituous liquor, in all these cases; and I accordingly insist on my patients' using whichever of these I find best adapted to the nature and stage of the disease present.

I am well aware that the foregoing pages present a very brief and imperfect outline of the subject of Medical Inhalation, according to the plan which I have adopted; but it is my intention to present to the profession, from time to time, farther observations upon this method and its results, and upon the use of alcohol in the treatment of pulmonary diseases, in the hope of calling the attention of physicians to the merits of this system of treatment, and of eliciting an expression of their views in return. To those who are willing to "prove all things, and hold fast that which is good," I feel that the reputation of the new method of inhalation may be safely intrusted.

 The Instruments figured in this Pamphlet may be ordered by Physicians from the Institute. PRICES as follows: Cammann's Stethoscope, silver plated, \$7; the ordinary Stethoscope, with flexible tube, \$2; Showering Syringe, with bothbulbs, \$3; Inhalers, complete, \$10 per doz. Address

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